

The extent and effects of tied aid



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Hannes Rydén

School of Business, Economics and Law

University of Gothenburg

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Contact author at hannes.ryden@gmail.com.

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Abstract

This thesis examines statistics of tied bilateral ODA commitments (“aid”) between 1973 and 2009 using the *Creditor Reporting System* (CRS) and the *DAC annual aggregates* (Table DAC 7b). It also evaluates the impact of tied aid through a literature review and discusses the topic.

During 1984-2009, tied aid decreased from 41% to 15% and total aid increased substantially. Historically, the United States was the largest donor of tied aid, Egypt the largest recipient, and *developmental food aid* the most tied sector. In 2009, \$17 billion (15%) of the world’s aid was tied, half of it by the United States. Iraq received the most tied aid, *post-secondary education* was the most tied sector, and 25% of all tied aid was tied free-standing technical cooperation (FTC), half of it by Germany. Informally tied aid is likely more widespread than this.

On average, tied aid is at least 15-30% more expensive than untied aid because of overpricing, and likely leads to longer delivery times. It might also lead to missed opportunities to strengthen local markets, gain local expertise, respect local preferences, avoid political tension and provide a sense of ownership. Tied aid was not found to increase donor exports, although informally tied aid was. Public support for aid does not seem to rest on donor interests but on aid efficiency. To improve aid efficiency, donors should formally untie their aid, invest in reaching out to international providers, transfer responsibilities to recipients, NGOs and multilateral agencies, and use local and regional procurement whenever possible.

Tied aid is a broad topic, part of a larger discussion on aid organisation. Aid can be tied at various levels and untied to various degrees, indicating that tied aid should be regarded as a scale rather than a dichotomy. For future studies, I recommend a shift from the topic of tied aid towards more in-depth discussions on aid organisation in general. A shift from vague recommendations to untie all aid to concrete guidance on how to better plan, organise and implement aid projects.

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List of Acronyms

- CRS Creditor Reporting System
An OECD database containing detailed statistics of individual aid activities.
- DAC Development Assistance Committee
An OECD forum for discussing aid, development and poverty reduction in developing countries.
- FTC Free-standing technical cooperation
Technical cooperation that is not part of specific aid projects.
- LRP Local and regional procurement
Buying goods and services directly from developing countries or nearby countries in the same region.
- NGO Non-governmental organisation
An organisation that operates independently from any government but is not a conventional for-profit business.
- ODA Official development assistance
OECDs official definition of aid.
- OECD Organisation for Economic Co-operation and Development
An international economic organisation of 32 countries founded in 1961.
- TC Technical cooperation
The transfer of technical and managerial skills or of technology aimed at development.

1. Introduction

1.1 Background

Tied aid is aid in which goods and services must be provided directly by the donor country or a limited group of countries. This includes when products must be produced in the donor country and shipped to the recipient, such as tied food aid, or when only firms from donor countries are hired to undertake aid projects, like in tied construction projects. Tied aid can be seen as a geographical limitation on how aid money is used, a conditionality that excludes whole countries as potential providers of aid-related goods and services.

Generally, donors tie aid to firms in their own country. The motives can be economical, based on the belief that tied aid creates jobs and increases exports in the donor country, thus benefiting both the donor and the recipient, possibly an argument to increase total aid spending. Critics argue that tied aid is an inefficient aid channel that reduces value for the recipient because of overpricing of goods and services that could be bought much cheaper in developing countries, that it does not strengthen recipient markets or provide opportunities for their own workers and firms to develop, and that tied aid projects might not reflect local priorities or provide a sense of ownership of the final product. There are also evidence of informal tying, i.e. aid not restricted by formal contracts but still tied in practice, possibly as a result of risk aversion or a limited effort to consider international firms by the donor.

1.2 Purpose

The purpose of this thesis is to provide an overview of the topic of tied aid by investigating the extent and effects of tied aid. The *extent of tied aid* refers to the statistical facts of how much of the world's aid is currently tied and the trends of tying aid throughout history, but also the extent of informal tying practices not registered by statistics. The *effects of tied aid* is a normative topic and refers to the potential

positive and negative impacts of tied aid on different actors, and which effects are the most dominant. The extent will mainly be explored through statistical data while the effects will be evaluated through a literature review.

As a bachelor’s thesis, this study might not be as encompassing as a full scientific study, but will still try to reach some conclusions on how widespread the practice of tying aid is, in which direction we are going, and if this is a good or a bad thing. Additionally, it might be able to highlight specific sectors and countries that need extra attention, and topics that deserve further discussion and research.

1.3 Definitions

This thesis will use the OECD DAC’s definition of tied aid, which separates between three categories of tying status (Clay et al., 2009b):

Untied aid: “Loans and grants whose proceeds are fully and freely available to finance procurement from all OECD countries and substantially all developing countries.”

Partially untied tied: “Loans and grants which are tied, contractually or in effect, to procurement of goods and services from a restricted number of countries which must include substantially all developing countries and can include the donor country.”

Tied aid: “All other loans and grants are classified as tied aid, whether they are tied formally or through informal arrangements.”

In short, this means that untied aid allows purchases of goods and services from all countries, partially untied aid from at least all developing countries, while tied aid is limited to a group of countries that do not include all developing countries¹. Tying can be both *formal*, i.e. caused by restrictions written into contracts, or *informal* when the aid is formally untied but still tied in practice.

It is important to note that tied aid is often assumed to be tied to the donor country only, although according to the official definition it can refer to any restrictions that exclude one or more developing countries as potential suppliers. Thus, tied aid mainly refers to aid that does not allow local and regional procurement (LRP) of goods and services in all developing countries.

¹It is unclear what “substantially” refers to.

This thesis will use the term *aid* according to the OECD’s official definition of aid, which is *official development assistance* (ODA)². ODA is defined as follows (OECD, 2008):

Official development assistance (ODA): “Grants and concessional loans for development and welfare purposes from the government sector of a donor country to a developing country or multilateral agency active in development. A loan is considered sufficiently concessional to be included in ODA if it has a grant element of at least 25%, calculated at a 10% discount rate. ODA includes the costs to the donor of project and programme aid, technical co-operation, forgiveness of debts not already reported as ODA, food and emergency aid, and associated administrative expenses.”

This means that to qualify as ODA (or *aid*) resource flows have to be:

1. issued by the government of a country,
2. sent to a developing country or a multilateral development agency,
3. aimed at development and welfare purposes,
4. having a grant element of at least 25%.

Other resources flows to developing countries will not be covered in this report, such as *other official flows* (OOF, “flows from governments to developing countries that do not have development as their prime goal or have a grant element of less than 25%, e.g. military assistance”), *private grants* (“grants by private non-governmental organisations for development or welfare purposes”) and *private market flows* (“private sector flows for commercial reasons, e.g. foreign direct investments or bank loans”) (OECD, 2008).

A distinction is made between bilateral and multilateral aid³:

Bilateral aid: Aid sent directly from one country to another, or through NGOs,

Multilateral aid: Aid sent through multilateral institutions, i.e. organisations governed by a group of countries, such as the UN and the WTO.

²See <http://stats.oecd.org/glossary/detail.asp?ID=3795> (accessed on June 3, 2011).

³See http://www.oecd.org/document/50/0,3746,en_2649_34447_14987506_1_1_1_1,00.html (accessed on August 16, 2011).

Finally, a distinction is made between commitments and disbursements, two different ways to measure and register aid flows⁴:

Commitment: The expected value of the aid activity when the agreement is signed, but before the aid is delivered,

Disbursement: The actual delivery and transfer of aid resources to the recipient.

This thesis will only deal with commitments, as tied aid statistics are only reported as commitments (OECD, 2011).

⁴See http://www.oecd.org/document/50/0,3746,en_2649_34447_14987506_1_1_1_1,00.html (accessed on August 16, 2011).

2. Methods and data sources

This chapter will summarise the methods and data sources used to determine the extent and effects of tied aid.

2.1 The extent of tied aid

Exploring the extent of tied aid means exploring how much aid is currently tied and how this has changed over the years. Thus, we are interested in both current and historical data of ODA by tying status. There are two main databases for such statistics (Clay et al., 2009b, p. 9), both maintained by the DAC¹:

The **DAC annual aggregates** database, specifically Table DAC 7b (“Tying Status of Bilateral ODA”), in which DAC member countries annually report the total amounts of untied, partially untied and tied bilateral ODA commitments, excluding administrative costs and technical cooperation (TC) expenditures. It has data since 1979 and is the source used for the annual Development Cooperation Report² (Clay et al., 2009b, p. 9),

The **Creditor Reporting System (CRS)** database, in which countries report annual detailed data on individual aid activities, including the amounts of untied, partially untied and tied commitments. CRS has data since 1973 with a more comprehensive coverage of tying status than the DAC annual aggregates (Clay et al., 2009b, p. 9). Because it contains detailed data on individual aid activities it also allows for more advanced data filtering.

¹For the official description of and access to these databases, see <http://www.oecd.org/dataoecd/50/17/5037721.htm> (accessed on May 29, 2011).

²Available online: http://www.oecd-ilibrary.org/development/development-co-operation-report_20747721 (accessed on May 29, 2011).

There are some limitations of both of these sources:

- They mainly cover aid from the DAC member countries³,
- The tying status of multilateral flows is unavailable⁴, probably because they are often assumed to be untied (Jepma, 1991, p. 37),
- Historical data is subject to a high rate of under-reporting (Clay et al., 2009b, p. 9),
- They only measure formally tied aid.

Thus, statistics in this study will be limited to formally reported bilateral ODA commitments from DAC member countries. The extent of informally tied aid will be investigated through a basic literature review (see below).

Shares of untied, partially untied and tied aid will be calculated as percentages of the total bilateral ODA commitments reported each year. Often, these shares will not cover the full total, as not all aid has its tying status reported. Thus, the remaining percentage points with unspecified tying status will be referred to as *not reported*, and will reflect its donor's ability to report the tying status of its aid projects.

It is unclear whether the donor "EU Institutions" is classified as a bilateral or multilateral donor, as it is not included in Table DAC 7b but shows up in CRS data for bilateral activities.

DAC annual aggregates, Table DAC 7b

The *DAC annual aggregates* database, maintained by the DAC, collects annual aggregate data for all donors that are DAC members⁵. It includes Table DAC 7b ("Tying Status of Bilateral ODA"), which reports the total amount of untied, partially untied and tied bilateral ODA commitments in current USD millions from 1979 to 2009 (as of

³Table DAC 7b in the DAC annual aggregates only cover DAC members, excluding the EU institutions. In 2010, the United Arab Emirates became the first country outside the DAC's membership to report aid data on activity level to the CRS (see <http://www.oecd.org/dataoecd/37/0/47283752.pdf>). The DAC is officially working towards more openness and cooperation with outside parties, with projects such as Open Donors (see http://www.oecd.org/document/29/0,3746,en_2649_33721_46886749_1_1_1_1,00.html). However, as of 2010, statistical data on tying status from non-DAC members is rare. URLs were accessed on May 29, 2011.

⁴Table DAC 7b only reports bilateral ODA and the downloadable version of CRS contains almost no data on the tying status of multilateral ODA flows as of May 2011.

⁵An up-to-date list of DAC members is available at http://www.oecd.org/document/38/0,2340,en_2649_33721_1893350_1_1_1_1,00.html (accessed on May 29, 2011).

May 2011). As of May 2011, it covers twenty-three DAC member countries⁶, excluding the “EU Institutions”. Administrative costs and technical cooperation expenditure (TC) are by convention not reported⁷.

Surprisingly, the column “500: 4. Total Bilateral Commitments” is only the sum of the columns for untied, partially untied and tied aid and not the real total aid⁸. This should be clarified by the DAC as it can easily be misleading. Unfortunately, this means that we lack a reliable source for overall total bilateral ODA commitments, regardless of tying status, and will not be able to calculate shares of total or amount with no reported tying status⁹.

Availability

Table DAC 7b as well as the remaining DAC annual aggregates tables are available online via the OECD.Stat browser¹⁰.

Usage

Because Table DAC 7b collects *aggregate* data of donor countries, search and filtering options are limited. Although there are some filters for special types of aid, the table does not let you explore individual aid projects or view the data from alternative perspectives, such as by recipient groups or sectors. It is clear that Table DAC 7b is only meant as a crude measure of overall tying status from a donor country perspective. Nevertheless, considering the lack of data on the topic, it remains an important source of statistics on the extent of tied aid.

⁶Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Japan, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, South Korea, Spain, Sweden, Switzerland, United Kingdom and United States.

⁷“Table DAC 7b is used to report the tying status of bilateral ODA commitments. Members have agreed that administrative costs and technical co-operation expenditure should be disregarded in assessing the percentages of tied, partially untied and untied aid. These items should therefore not be included in the data reported in this Table.” From its metadata description available by clicking on the info icon (“i”) next to the table’s title on the online version at OECD.Stat. Also, according to an email from DAC: “For years prior to 1994, only administrative cost were excluded from table DAC7b.”

⁸This is self-evident when doing calculations on it. Besides, in the DAC Questionnaire Excel document, this column is referred to as "TOTAL BILATERAL COMMITMENTS (a+b+c)". See <http://www.oecd.org/dataoecd/4/53/45682244.xls> (accessed on May 29, 2011).

⁹In an email, DAC writes that DAC7b can be compared to DAC1, which has data on total aid, but not DAC5: “You should only compare DAC7b with bilateral commitments in table DAC1 (excluding TC and admin costs) and not with DAC5 as some countries report disbursements instead of commitments in this table.” Such a comparison will not be covered in this study but could possibly result in a reliable source for total aid to be used with DAC7b data.

¹⁰See <http://stats.oecd.org/Index.aspx?DataSetCode=TABLE7B> (accessed on May 29, 2011).

Creditor Reporting System (CRS)

Also maintained by the DAC, the *Creditor Reporting System (CRS)* database collects comprehensive yearly data of individual resources flows to development countries, with information such as type of flow, total commitments and disbursements, the amount of untied, partially untied and tied commitments, sector, recipient, channel of delivery and a short description of the project. According to Clay et al. (2009b, p. 9), the CRS has more comprehensive data on tying status than the DAC annual aggregates. The CRS has been extended (date unknown) to also cover multilateral OOF and private flows. This new version of CRS is referred to as *CRS++* (OECD, 2011, p. 3).

Availability

Although the CRS database is accessible online via the OECD.Stat browser¹¹ and their alternative QWIDS browser¹², these online interfaces lack options for viewing aggregates of untied, partially untied and tied aid. This poses a severe restriction on its use for determining the extent of tied aid on a broader scale, which is unfortunate as the data is clearly available and is being referred to by many reports (Clay et al., 2009b). The problem seems to lie in DAC's web implementations of the CRS database.

The solution applied by this study was to download the raw CRS database and perform custom searches using the statistical software Stata. The CRS database is available for download from DAC's homepage¹³. The main problem with this method is the lack of documentation on variables. However, there are some indirect documentation available in OECD (2011), the official guidelines for reporting data to CRS++, which was used as the main reference by this study.

Usage

The CRS database files were downloaded in May 2011, imported into Stata as "ASCII data created by a spreadsheet" with the delimiter set to "|", and merged into a single file covering all years from 1973 to 2009. A basic tabstat filter was created to filter out bilateral ODA commitments, based on the conditions defined in OECD (2011, p. 20), which contains references for compiling the DAC annual aggregates tables

¹¹See <http://stats.oecd.org/Index.aspx?DataSetCode=CRSNEW> (accessed on May 29, 2011).

¹²See <http://stats.oecd.org/qwids/> (accessed on May 29, 2011).

¹³See <http://stats.oecd.org/DownloadFiles.aspx?DatasetCode=crsnew> or go to the online version at <http://stats.oecd.org/Index.aspx?DataSetCode=CRSNEW> and click on the icon labelled "Ready-made files". URLs were accessed on May 29, 2011.

from CRS++ data. The compiling rules for Table DAC 1¹⁴ was chosen as a reference because it includes all bilateral ODA, and was checked against other tables to ensure consistency¹⁵. Table DAC 7b was not used as a reference because it excludes administrative costs and technical cooperation. As this report seeks to cover the full extent of tied aid, administrative costs and TC will be included and investigated as well. Please note that this might lead to higher rates of under-reporting of tying status compared to conventional reporting standards.

From this basic tabstat query, additional filters and groupings were added to examine different years, donors, sectors and so on in detail. Both total commitments as well as the amount of tied, partially untied and untied commitments were analysed, generally using the deflated variables in constant 2009 prices. This method was used to retrieve all CRS data and most of the statistics in this study.

Informally tied aid

This thesis will mainly focus on statistically reported data on formally tied aid, but will touch on the issue of informally tied aid, i.e. aid that is reported as untied but remains tied in practice. The findings of Clay et al. (2009b) will be used as a starting point, complemented with additional literature found through searches on the Internet.

2.2 The effects of tied aid

The effects of tied aid were investigated by examining the available literature on tied aid. The latest and most comprehensive literature review on the impacts of tying aid, as identified by this study, was written by Clay et al. (2009b, p. 25). Their review will be used as a starting point, complemented with additional sources found through searches on web sites like Google Scholar and EconLit, using simple keywords such as “tied aid”. All findings and their respective sources will be presented in the next chapter. Both quantitative and qualitative sources will be considered, and newer sources will be given higher relevance.

¹⁴ Everything under “I.A. Bilateral Official Development Assistance by types of aid (1+2+3+4+5+6+7+8+9)”.

¹⁵The reference for Table DAC 5, which also measures total bilateral ODA, produces the same filter as DAC 1, excluding finance number 610, defined as “Offsetting entry for debt forgiveness (ODA claims, principal)” OECD (2011, p. 23), which only has very minor effects on the results.

3. Results

3.1 The extent of tied aid

The extent of tied aid was determined by examining two statistical databases from the OECD DAC: the *Creditor Reporting System* (CRS) and the *DAC annual aggregates* (DAC7b). Because of the much more flexible search options of the CRS, it will be used as the main source. Both historical trends between 1973 and 2009 as well as a cross-country comparison using the latest available data (2009) will be presented. All figures but only limited tabular data will be presented in this chapter.

The CRS includes data on administrative costs and technical cooperation (TC) while DAC7b does not¹. *Total aid*, regardless of tying status, was accessible in the CRS but not DAC7b. Because total aid was used to estimate the shares of tying status as percent of the total, this will only be available for CRS data. The same goes for *not reported*, which refers to the amount or share of aid that is not covered by tying status reporting, i.e. that is neither marked as *tied*, *partially untied* or *untied*. It is calculated by subtracting tied, partially untied and untied aid from total aid. Further details on how the data was retrieved can be found in Chapter 2.

When interpreting the statistics, please keep in mind that not all donors and aid activities are covered, and varies between years. There is also the possibility of human errors, such as misunderstandings and input mistakes. In short, the data should be interpreted very carefully, with a good dose of neutrality and common sense.

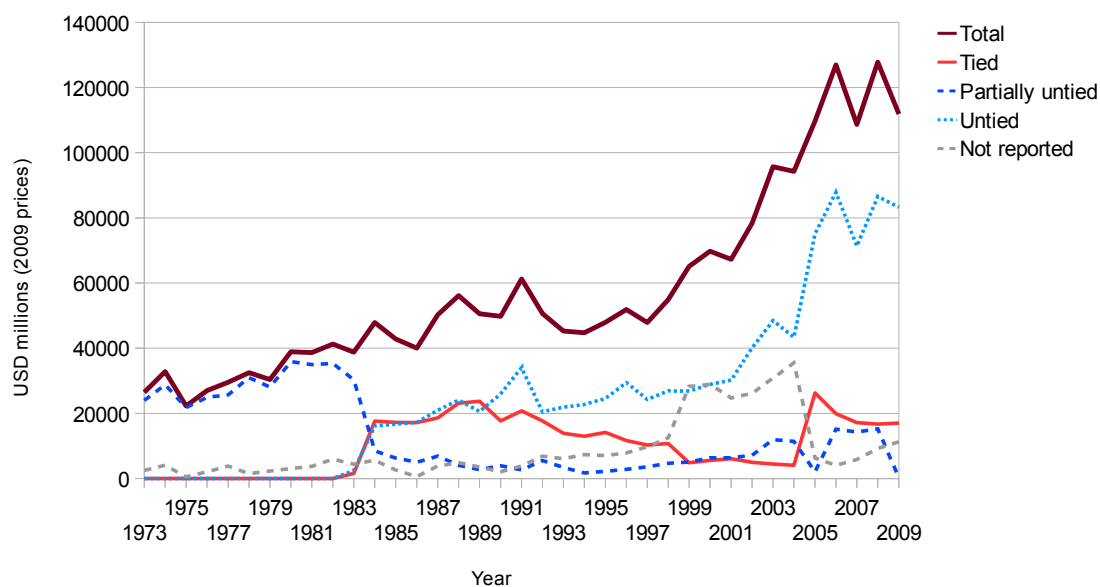
3.1.1 Tied aid between 1973 and 2009

We will begin by examining the overall trends of tied aid. To identify general trends, time series data from both CRS and DAC7b was examined. CRS reported all amounts in both current and 2009 prices, while DAC7b only reported in current prices. Unfortunately, as concluded in Chapter 2, a reliable source for total aid was missing from

¹Note that according to an email from DAC: “For years prior to 1994, only administrative cost were excluded from table DAC7b.”

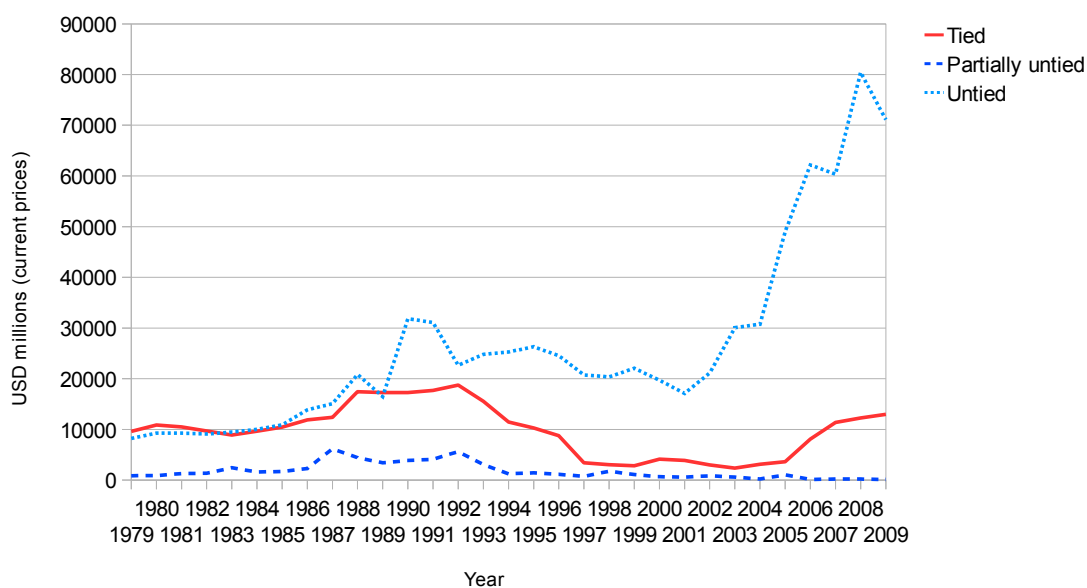
DAC7b and will therefore be omitted from these figures, meaning that we cannot estimate shares or non-reported tying status from DAC7b data.

Figure 3.1: Total bilateral ODA commitments by tying status, 1973-2009, USD millions (2009 prices)



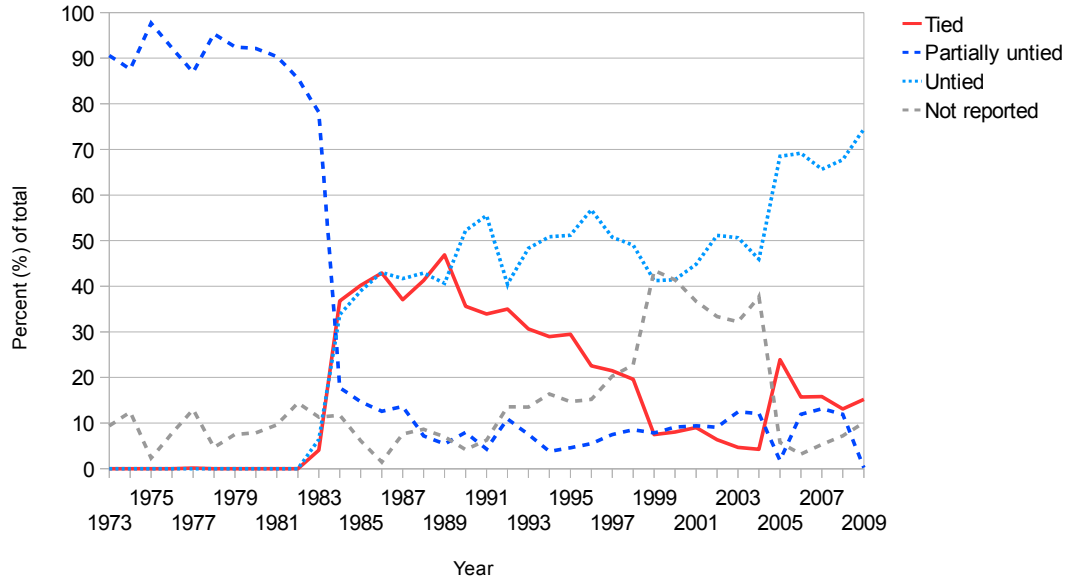
Source: CRS

Figure 3.2: Total bilateral ODA commitments (excl. administrative costs and TC) by tying status, 1979-2009, USD millions (current prices)



Source: DAC7b

Figure 3.3: Total bilateral ODA commitments by tying status, 1973-2009, percent (%) of total



Source: CRS

Some apparent oddities were found in the database, as practically all reported resource flows were labelled as partially untied between 1973 and 1983 according to the CRS. Detailed data from this period shows that all donors were involved. However, the dramatic changes in 1984 and the fact that this is not reflected in the DAC7b numbers (Figure 3.2) implies that this is just a major data error in the CRS database. This should be looked into further and possibly clarified by the DAC. Until then, this report will not consider CRS data prior to 1984.

As seen in Figure 3.3, there appears to have been an overall trend of untying aid between 1984 and 2009, with tied aid as a share of total aid decreasing from 41% to 15% and untied aid increasing from 33% to 74%. The absolute numbers in Figure 3.1 suggest that total aid doubled from 1999 to 2009, although it could also mean that more aid was reported to the database.

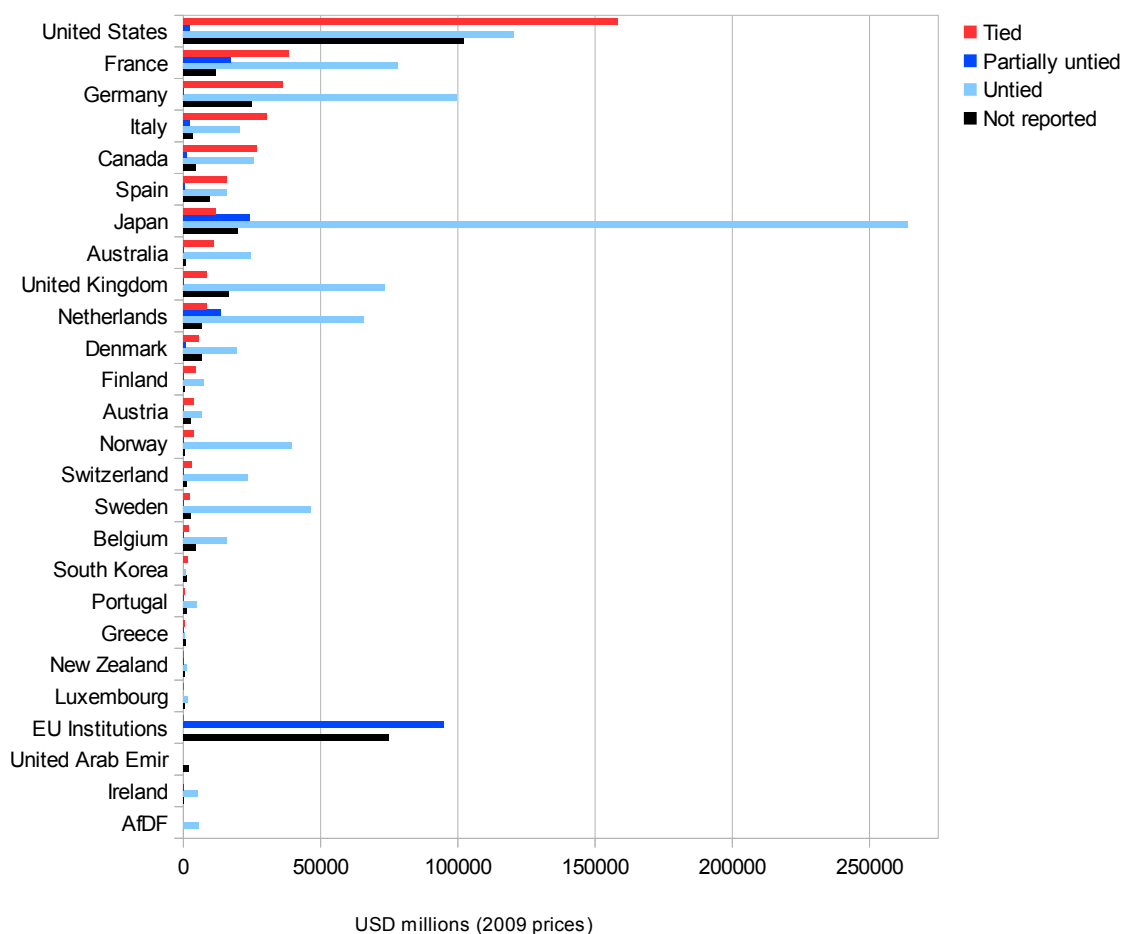
Both the CRS and DAC7b showed a steady drop in tied aid during the 1990s, low levels of tied aid around 2000, followed by a sharp increase in 2005. At the same time, a peak in under-reporting was seen in 1999-2004 in the CRS. Detailed data from the CRS and DAC7b attributes both of these changes exclusively to the United States, which dropped almost all of its reporting on tying status during 1999-2004 (1997-2004 according to DAC7b). As it is the world's largest donor with a significant part of the world's tied aid, its impact on these figures was huge. Exactly why the United States did not report any tying status in this period should be looked into further.

The minor movements in partially untied aid as seen in the CRS Figure 3.3 during the 2000s could be traced to the donor known as “EU Institutions”, which was responsible for practically all partially untied aid the last decade, although the CRS showed no data for it in 2009².

By donor

In this section, all bilateral ODA commitments between 1984 and 2009 were summed up for each donor. This lets us view the largest donors of tied aid historically. The period before 1984 was excluded by the reason explained in the previous section. The sum of *tied*, *partially untied*, *untied* and *not reported* corresponds to the total amount of aid given by each donor over this period.

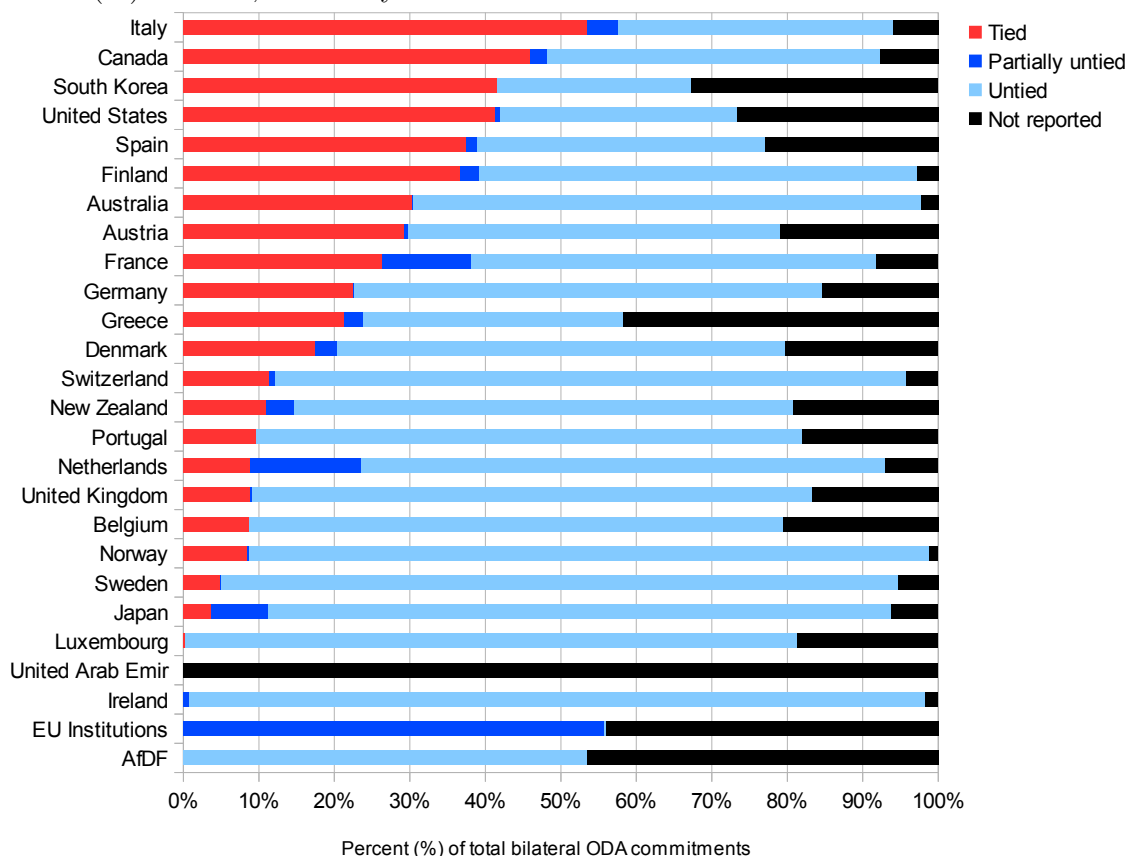
Figure 3.4: Donors’ bilateral ODA commitments during 1984-2009 by tying status, USD millions (2009 prices), sorted by tied aid



Source: CRS

²At least not the downloaded version. The online version does show data for “EU Institutions” in 2009, so the 2009 drop in partially untied aid in Figure 3.3 might not be accurate.

Figure 3.5: Donors' bilateral ODA commitments during 1984-2009 by tying status, percent (%) of total, sorted by tied aid



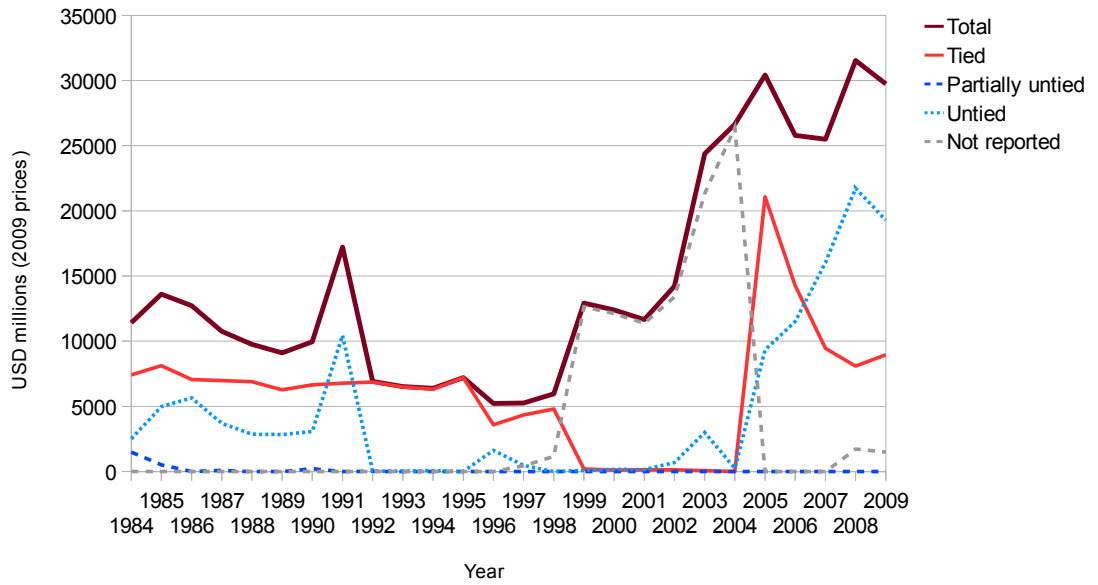
Source: CRS

Between 1984 and 2009, the largest donor of both tied aid and total aid in absolute terms was the United States. However, comparing countries by share of tied aid puts other donors at the top like Italy, with over half of its aid tied over this period, followed by Canada and South Korea. Japan had contributed the most untied aid over 1984-2009, almost twice as much as the United States, and its share of tied aid was very small. Partially untied aid was dominated by reports from the EU institutions. Aid without tying status reporting was dominated by the United States and the EU institutions in absolute terms, and by the United Arab Emirates, EU Institutions and Greece in shares.

It is important to note that not all countries have been reporting all years. South Korea, for example, joined the statistics in 2006, and the United Arab Emirates in 2009. AfDF is assumed to be the African Development Fund, but it is unclear why it appears in the statistics as it is a multilateral organisation. AfDF only appears in 2006.

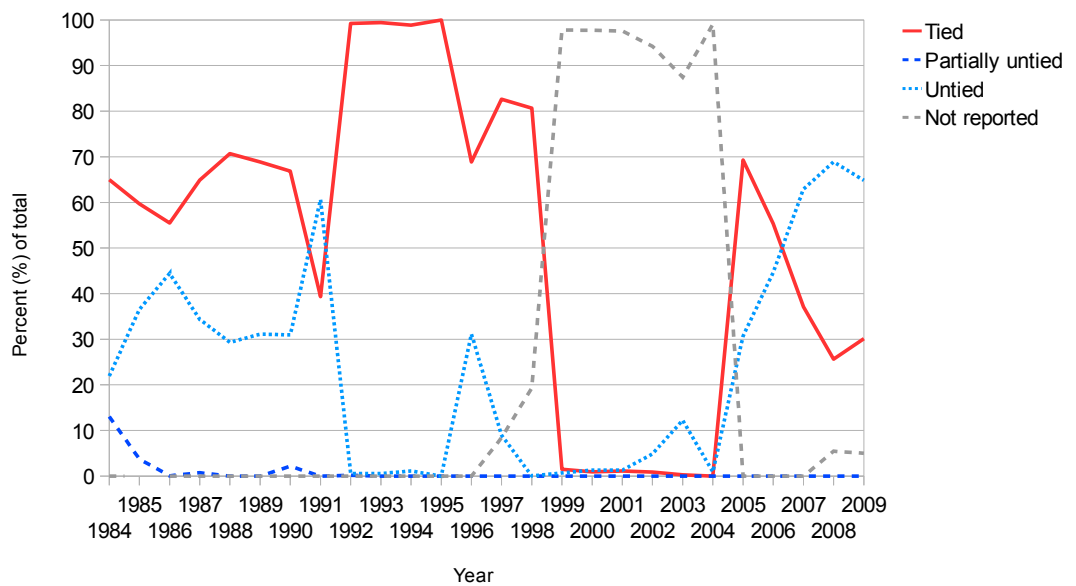
Because of its significant contributions to tied aid in absolute terms, the United States was examined closer using CRS data.

Figure 3.6: United States bilateral ODA commitments by tying status, 1984-2009, USD millions (2009 prices)



Source: CRS

Figure 3.7: United States bilateral ODA commitments by tying status, 1984-2009, percent (%) of total



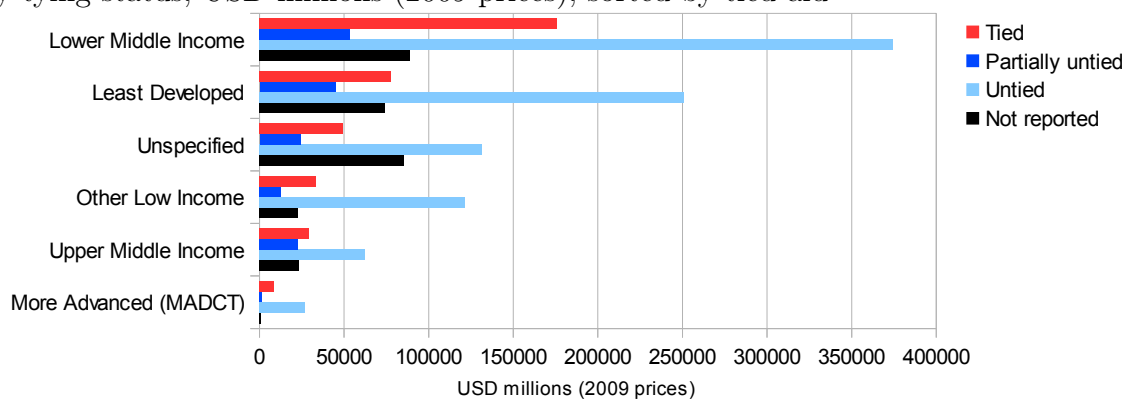
Source: CRS

The United States has always had a large share of tied aid. Almost all of its aid was tied in the 1990s, and it has generally sent more tied aid than untied, except in the late 2000s. Notable events include a large increase in total aid since 1999, a rising trend of untying in recent years and the same peak in under-reporting of tying status from 1999 to 2005 that was noted in the previous section. The reason to this period of under-reporting should be looked into further.

By recipient

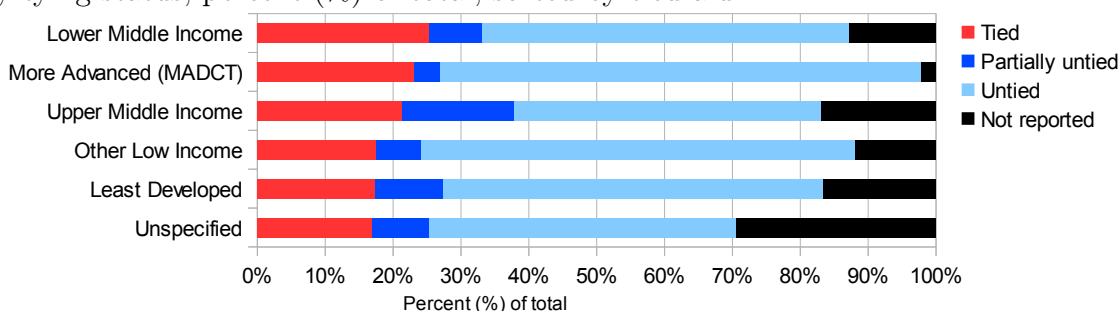
Again, the sum of all bilateral ODA commitments over the period 1984-2009 was examined, this time grouped by recipient income groups and countries. This gives us an historical overview of who has received the most tied aid between 1984 and 2009. Income groups refer to countries by level of income, and only the top 20 recipient countries of tied aid will be presented.

Figure 3.8: Recipient income groups' bilateral ODA commitments during 1984-2009 by tying status, USD millions (2009 prices), sorted by tied aid



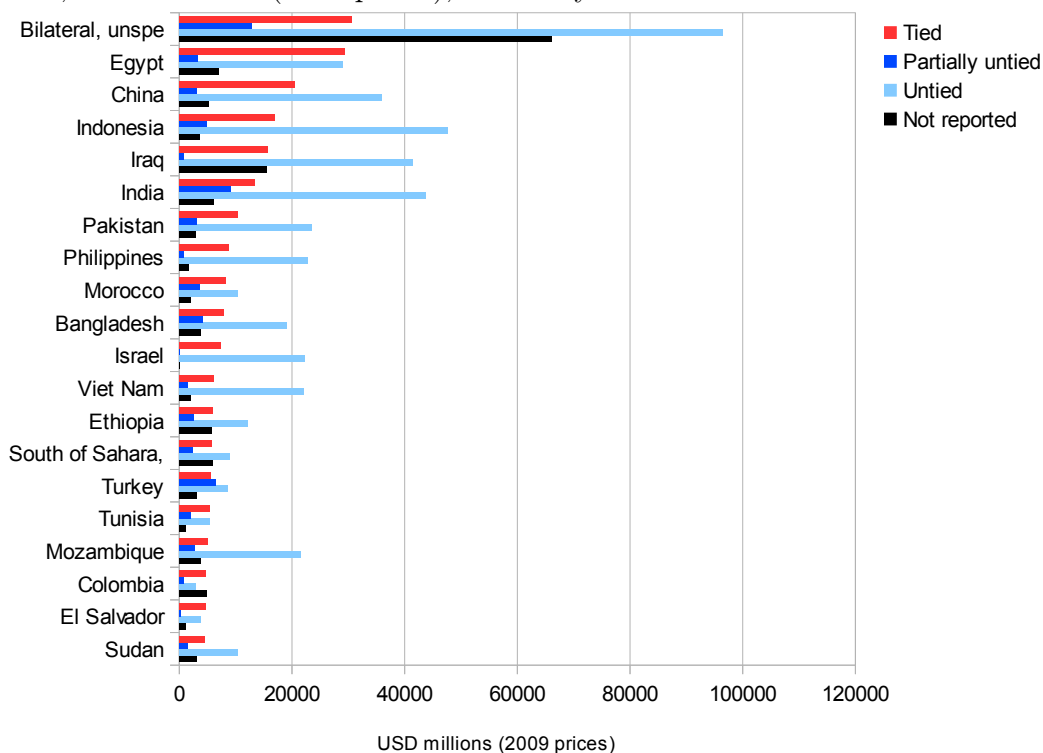
Source: CRS

Figure 3.9: Recipient income groups' bilateral ODA commitments during 1984-2009 by tying status, percent (%) of total, sorted by tied aid



Source: CRS

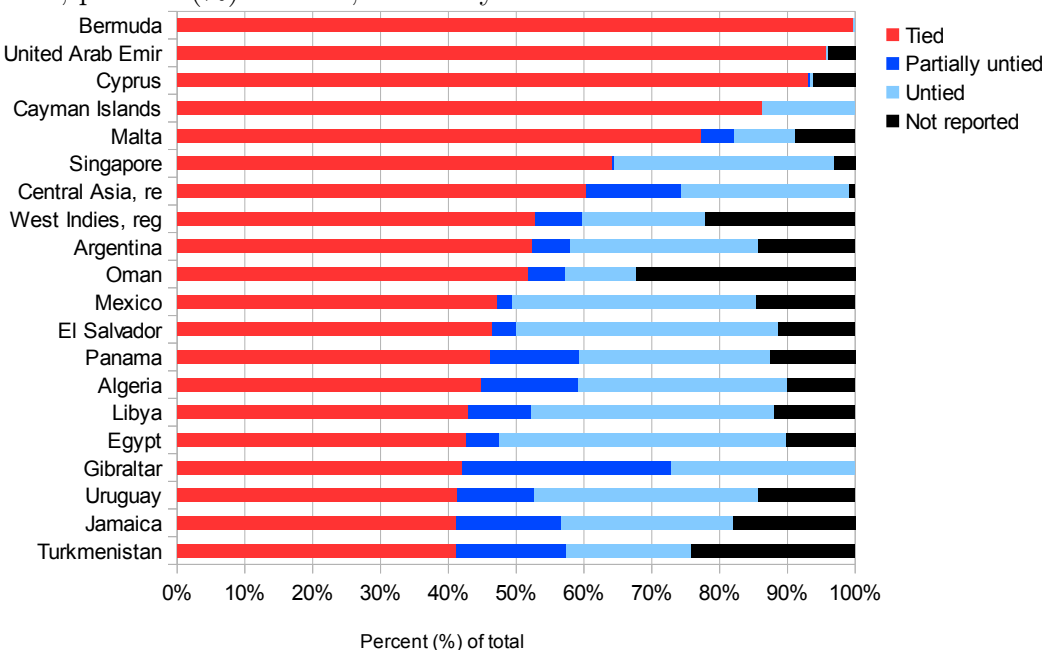
Figure 3.10: Top 20 recipients of bilateral ODA commitments during 1984-2009 by tying status, USD millions (2009 prices), sorted by tied aid



USD millions (2009 prices)

Source: CRS

Figure 3.11: Top 20 recipients of bilateral ODA commitments during 1984-2009 by tying status, percent (%) of total, sorted by tied aid



Percent (%) of total

Source: CRS

As seen in Figure 3.8, lower middle income countries (LMICs) have received the most aid and tied aid in absolute terms during 1984-2009, followed by least developed countries (LDCs). LMICs have also had the largest share of tied aid, as seen in Figure 3.9.

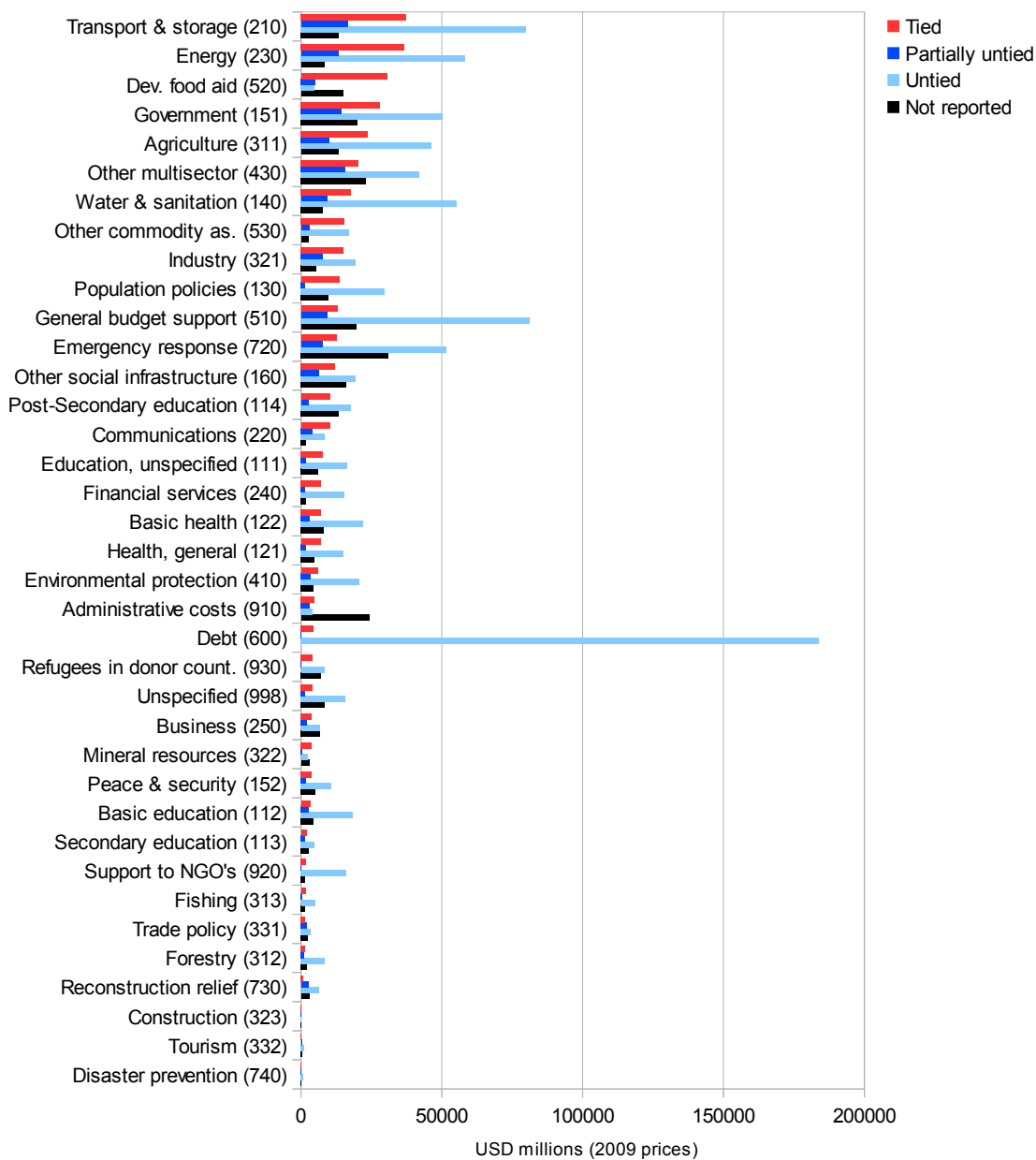
Figure 3.10 and 3.11 lists the top 20 recipients of tied aid during 1984-2009, sorted by absolute numbers and shares. When looking at these figures, it is especially interesting to note countries that have received both a lot of aid in total in combination with large shares of tied aid, i.e. countries that appear in both figures. Egypt is one such country, as both the single largest receiver of tied aid overall, and with over 40% of its total aid tied over this period. When examining Egypt in detail, it appears to have on average received about \$2-4 billion in aid per year in constant prices between 1984 and 1998, much of it tied. In 1991, its aid peaked temporarily at \$11 billion, although most of it was untied. After 1998, it has received less aid, about \$0.5-2 billion per year, with a bit larger share untied.

By sector

By examining which sectors have had the most tied aid between 1984 and 2009, we can identify if certain practices have been more susceptible to tying than others during this period. We will use the broad sector categories defined by OECD (2011, p. 46) specifically for their statistics, who also provide detailed descriptions of each sector. In the figures below, the numbers in parenthesis after each sector is their associated code used for identifying the sector in the above documentation.

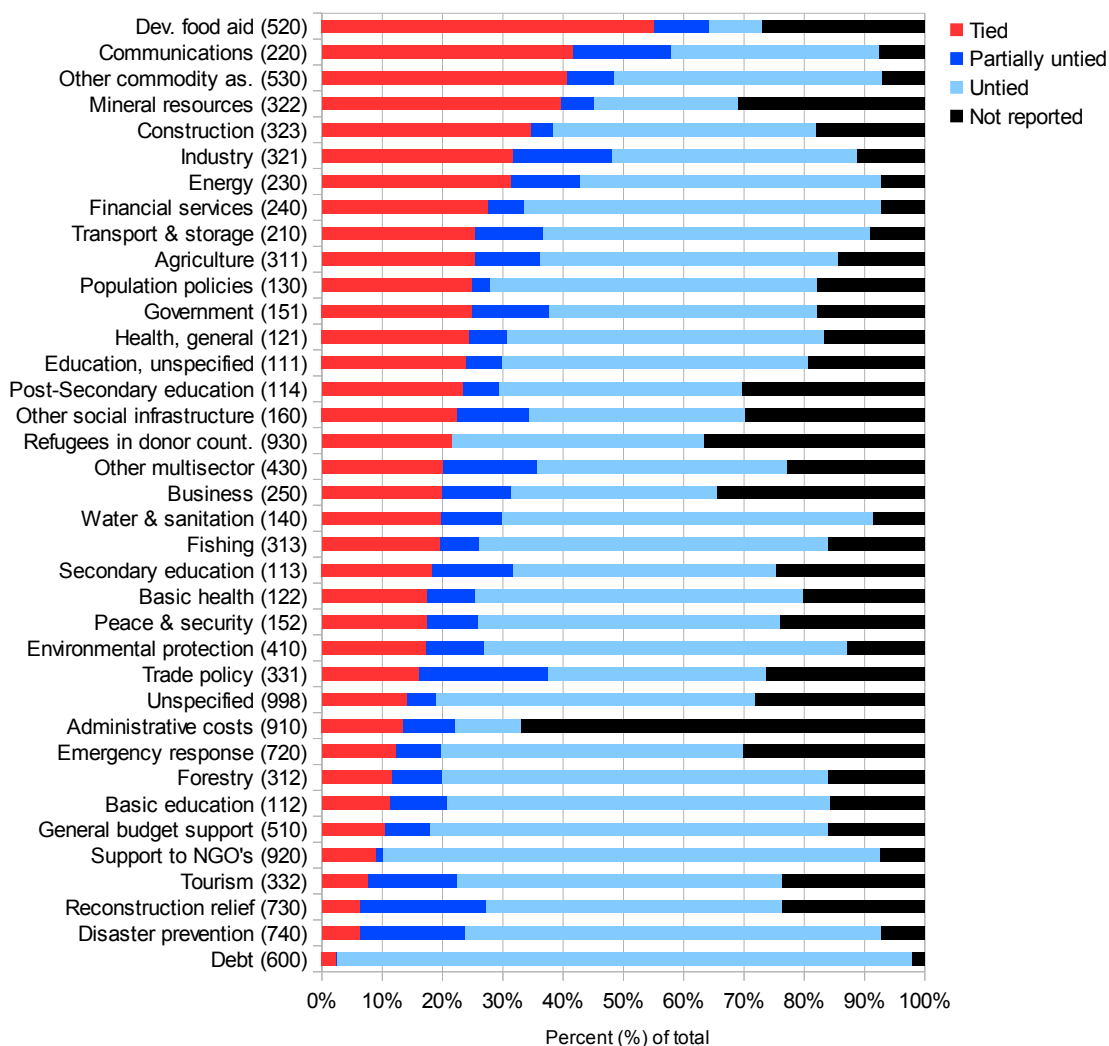
According to Figure 3.12, the sectors with the most tied aid in absolute terms between 1984 and 2009 were *transport & storage* (210), *energy generation and supply* (230) and *developmental food aid/food security assistance* (520). Not surprisingly, Figure 3.13 shows that the sector with the largest share of tied aid historically was developmental food aid, with over 50% tied. This sector is defined as “Supply of edible human food under national or international programmes including transport costs; cash payments made for food supplies; project food aid and food aid for market sales when benefiting sector not specified; excluding emergency food aid.” OECD (2011, p. 65). Emergency food aid is not included but falls under *emergency response* (720). Food aid has often been the main target of tied aid critics, arguing that it is often tied, that bringing food from outside markets is more expensive than buying it locally and that it does not support local farmers in the developing countries.

Figure 3.12: Sectoral division of bilateral ODA commitments during 1984-2009 by tying status, USD millions (2009 prices), sorted by tied aid



Source: CRS

Figure 3.13: Sectoral division of bilateral ODA commitments during 1984-2009 by tying status, percent (%) of total, sorted by tied aid



Source: CRS

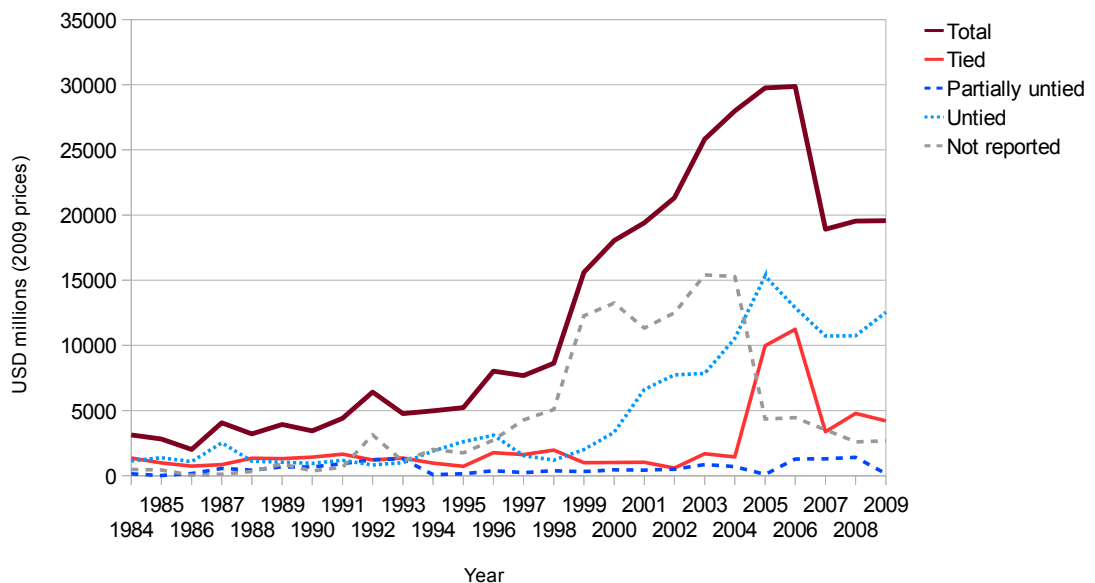
According to detailed CRS data not presented here, the most developmental food aid (about \$2-6 billion per year) was sent between 1984 and 1991, when almost all food aid was tied. Since then, it has declined somewhat and been subject to higher degrees of under-reporting of tying status. The United States was responsible for more than 50% of the \$56 billion total developmental food aid during 1984-2009, and 75% of the \$31 billion that was tied. Annual levels of emergency food aid, when singled out, has surpassed developmental food aid in the late 2000s, but was almost non-existent prior to that. One might think that emergency food aid would be more tied, as it is delivered in times of crisis when local markets might not be functioning well, but this seems not to be the case as only a fourth of the \$24 billion total emergency food

aid during 1984-2009 was tied. The United States had about the same influence on emergency food aid as developmental food aid.

Besides food aid, other sectors have also had large shares of tied aid over the years, such as *communications* (220), *other commodity assistance* (530) and *mineral resources and mining* (322), with 40% tied. *Action related to dept* (600) was the least tied, which is not surprising as dept relief programmes are likely considered mostly untied as they are strictly financial services. *Administrative costs of donors* (910) suffered from the largest share of under-reporting of tying status, which is probably because donors have not been encouraged to report it as it is excluded from the DAC annual aggregates Table DAC 7b.

Technical cooperation and administrative costs

Figure 3.14: FTC as bilateral ODA commitments by tying status, 1984-2009, USD millions (2009 prices)

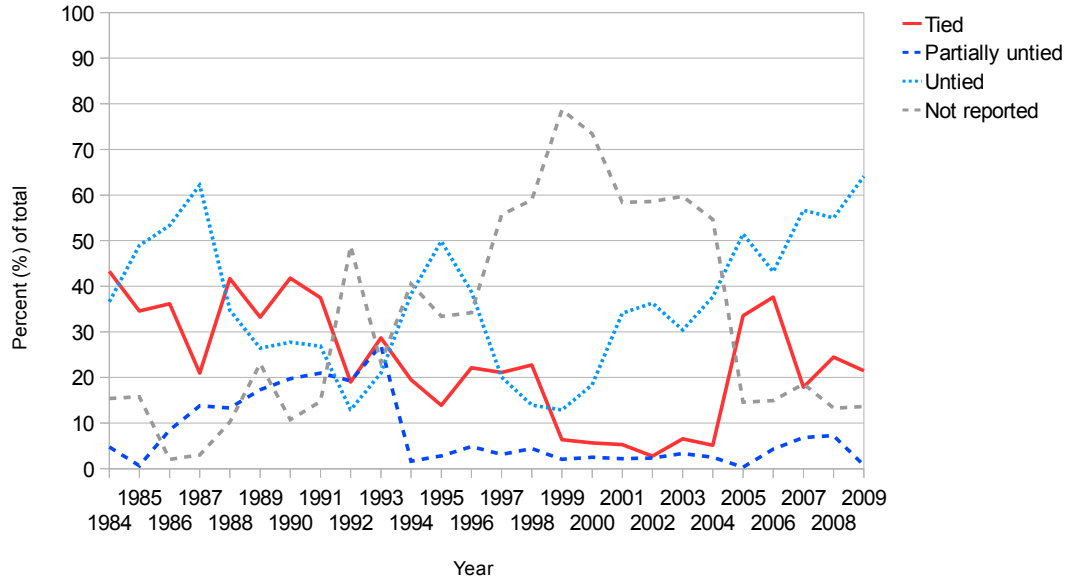


Source: CRS

Besides the CRS database, Table DAC7b is considered the official source of tied aid statistics from the OECD. However, by convention it excludes technical cooperation and administrative costs. As these are often claimed to be tied, they are important categories for this study, even though they likely suffer from high rates of under-reporting. The flexibility of the CRS allows us to study them in detail.

Technical cooperation (TC), also known as *technical assistance* (TA), refers to the transfer of technical and managerial skills or of technology to developing countries.

Figure 3.15: FTC as bilateral ODA commitments by tying status, 1984-2009, percent (%) of total



Source: CRS

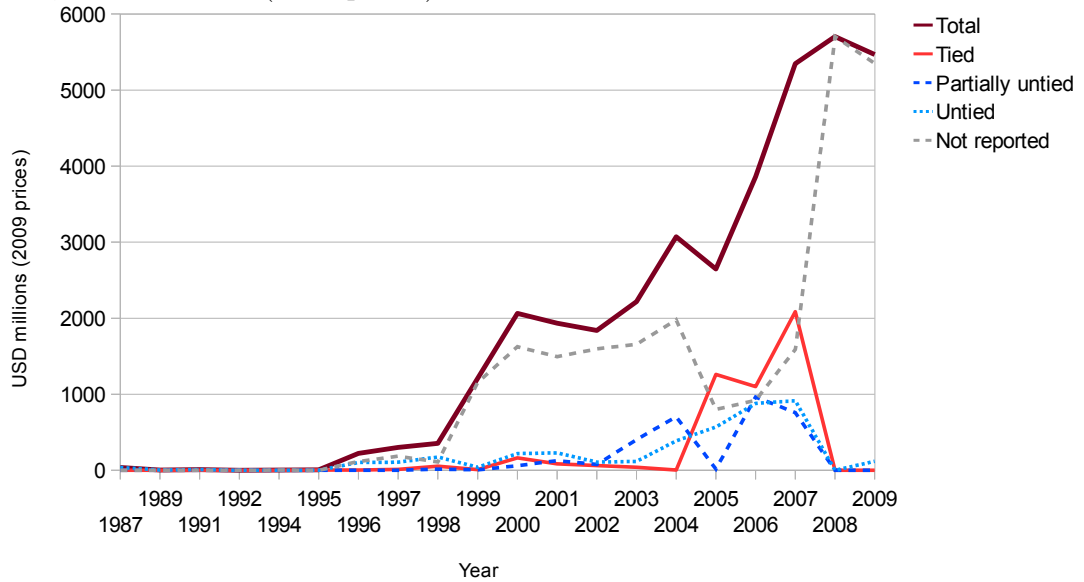
TC consists of both *free-standing technical cooperation* (FTC), i.e. TC not part of specific projects, and *investment-related technical cooperation* (IRTC), i.e. TC that is part of specific investment projects³. The CRS allows us to filter out all aid flows marked as FTC.

Judging from Figure 3.14 and 3.15, FTC seems to follow similar patterns as the overall trends discussed earlier in Figure 3.1 and 3.3. This includes a large rise in total FTC after 1998, non-reporting peaking in 1999 that can be traced to the United States, and increased untying in recent years. However, it should be noted that non-reporting for FTC was significantly higher than average, and that FTC had more tied aid than average in recent years. Yet, the general claim that the major part of TC is being tied (Jepma, 1991, p. 12) is not confirmed by these formal statistics. FTC might, however, also suffer from a large degree of informal tying (ActionAid International, 2006, p. 35).

The major deliverers of FTC between 1984 and 2009 (in 2009 prices) was the United States, with a total of \$70 billion FTC of which \$20 billion was tied, Germany, with \$43 billion of which \$10 billion was tied, and the United Kingdom with \$38 billion of which zero was tied. They all had large amounts of FTC with unreported tying status.

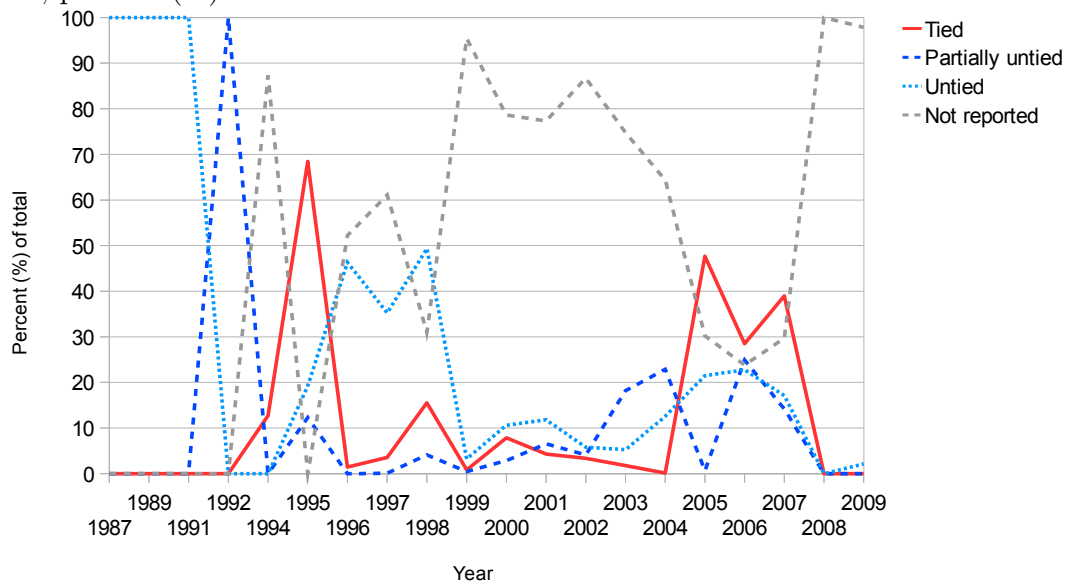
³See <http://stats.oecd.org/glossary/detail.asp?ID=6022> (accessed on May 31, 2011).

Figure 3.16: Administrative costs as bilateral ODA commitments by tying status, 1984-2009, USD millions (2009 prices)



Source: CRS

Figure 3.17: Administrative costs as bilateral ODA commitments by tying status, 1984-2009, percent (%) of total



Source: CRS

The total administrative costs of donors, as reported to the CRS, has increased dramatically since 1998, as seen in Figure 3.16. As expected, it has mostly had unreported tying status, except in the 2000s when it had similar amounts of tied, partially untied and untied, with tied aid peaking between 2004 and 2008.

3.1.2 Tied aid in 2009

Table 3.1 shows the overall levels of aid by tying status in 2009 according to two sources: the CRS and Table DAC7b. In 2009, according to the CRS, a total of \$112 billion were given in aid, including technical cooperation (TC) and administrative costs. Of these, \$17 billion (15%) was tied, \$0.3 billion (0.3%) partially untied and \$83 billion (74%) untied. The remaining \$11 billion (10%) lacked tying status reporting. According to DAC7b, which excludes TC and administrative costs, \$13 billion was tied, \$0.1 billion partially untied and \$71 billion untied. Total aid was unavailable in DAC7b, so the remaining fields could not be estimated. DAC7b's exclusion of TC and administrative costs explains why the numbers are lower than the CRS.

Table 3.1: Total bilateral ODA commitments in 2009 by source and tying status, USD millions

	CRS	DAC7b ⁴
Total	111850.7	
Tied	17008.57	12957.93
Partially untied	286.95	135.03
Untied	83249.07	71102.88
Not reported	11306.11	
Tied (% of total)	15.21	
Partially untied (% of total)	0.26	
Untied (% of total)	74.4	
Not reported (% of total)	10.11	

Source: CRS and DAC7b

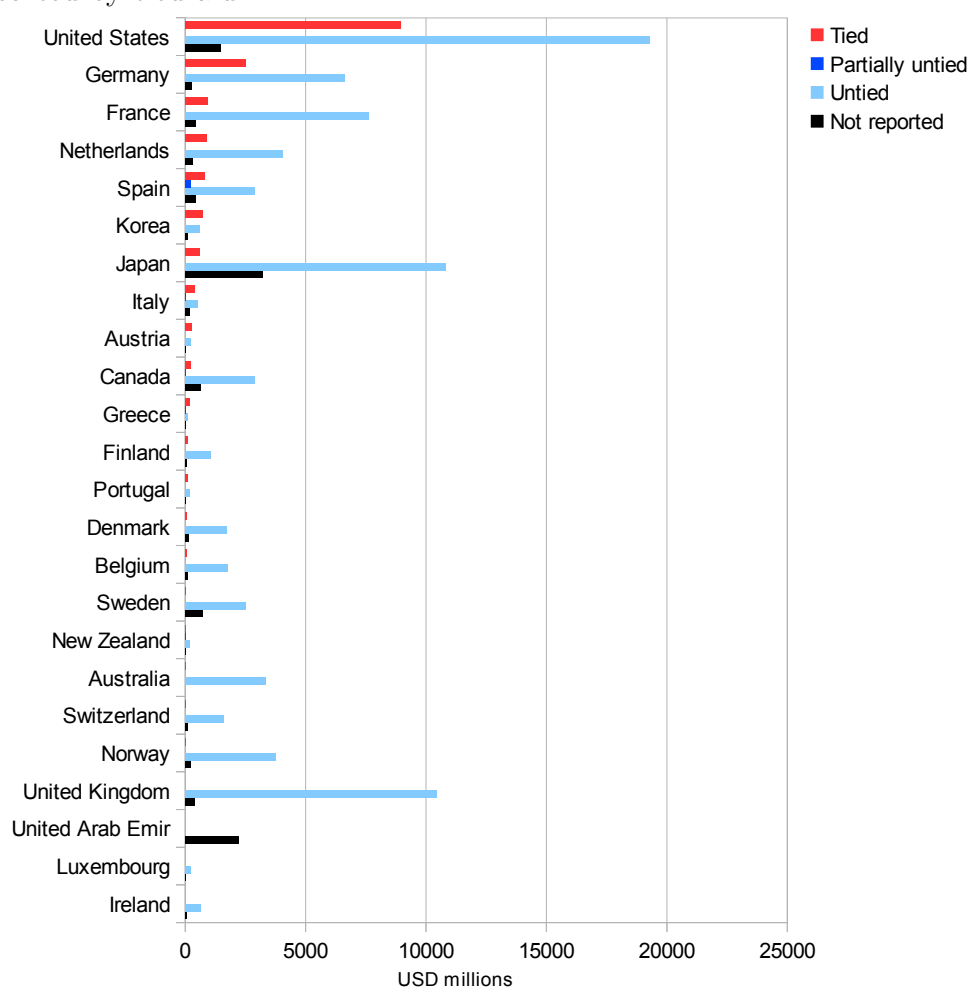
By donor

When tied aid in 2009 is grouped by donors, absolute numbers in Figure 3.18 are dominated by the United States with \$9 billion tied aid (30% of their total), which alone makes up 53% of the world's tied aid. It is followed by Germany with \$2.5 billion (27%) tied aid and France with \$0.9 billion (10%) tied. The United States and Germany provide over two-thirds of the world's tied aid, although they only provide one third of the world's total aid. Japan has the most aid with unreported tying status, with \$3.2 billion (22%) not reported, followed by the United Arab Emirates and the United States. Partially untied aid is almost nonexistent.

⁴Excluding administrative costs and technical cooperation expenditure.

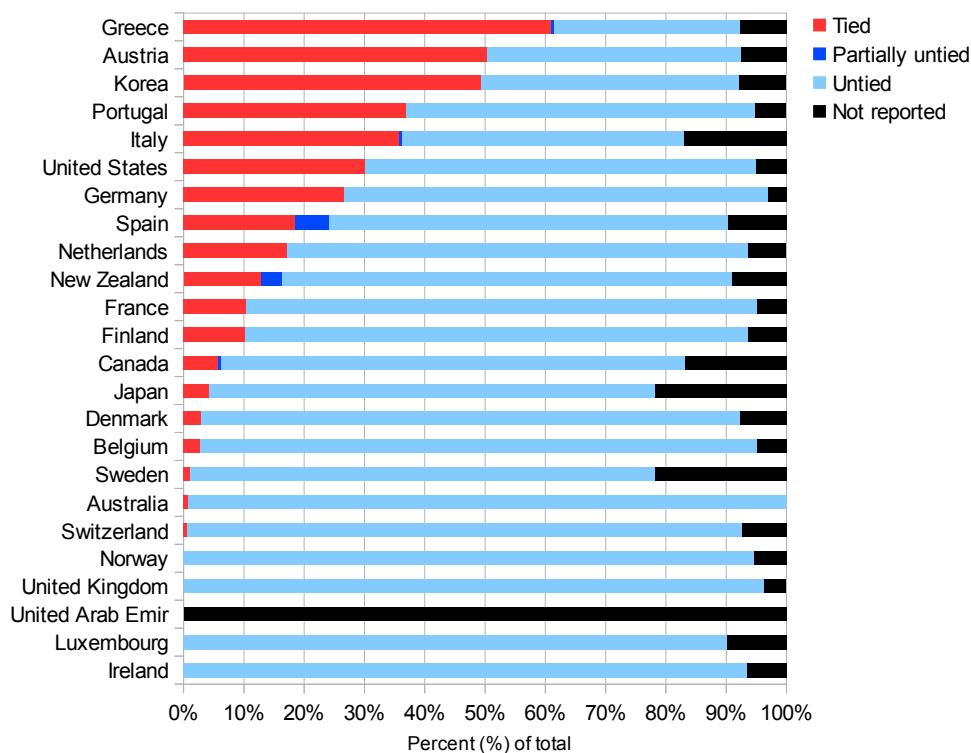
In terms of shares, Figure 3.19 puts other donors at the top. Greece takes the lead with 61% (\$0.2 billion) aid tied, followed by Austria with 50% (\$0.3 billion) tied and South Korea with 49% (\$0.7 billion) tied. The United Arab Emirates has not reported any tying status of its aid, but just began reporting its aid statistics this year. Sweden and Japan also have significant shares of aid without any reported tying status.

Figure 3.18: Donors' bilateral ODA commitments in 2009 by tying status, USD millions, sorted by tied aid



Source: CRS

Figure 3.19: Donors' bilateral ODA commitments in 2009 by tying status, percent (%) of total, sorted by tied aid



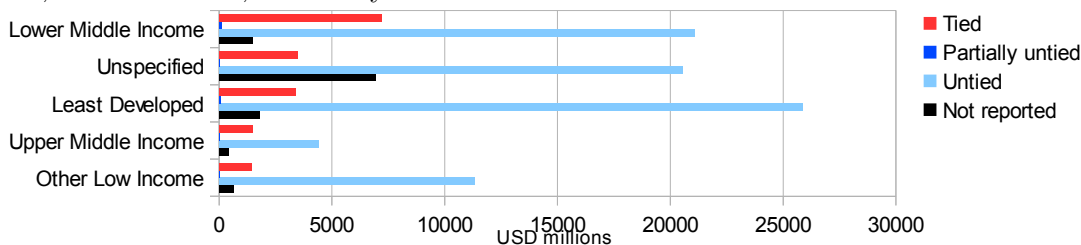
Source: CRS

By recipient

When grouped by level of income, the most tied aid went to lower middle income countries (LMICs), as seen in Figure 3.20 and 3.21. In 2009, LMICs received \$7.2 billion (24%) tied aid, which makes up 42% of the world's total tied aid.

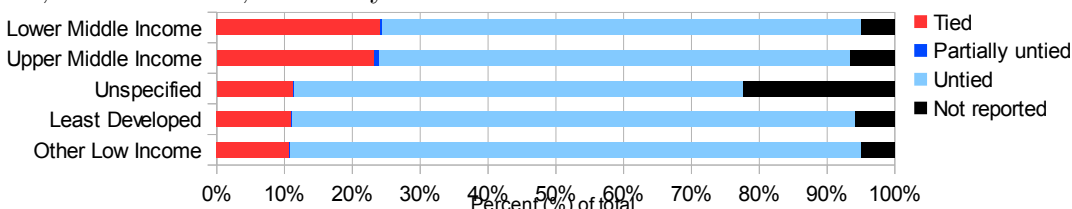
Figure 3.22 and 3.23 show the top 20 recipients of tied aid in 2009. Besides \$2.7 billion tied aid having unspecified receiver, Iraq places high in both absolute terms and shares, receiving \$1.7 billion (57%) tied aid. Afghanistan and Indonesia received notable amounts of tied aid, but received much more untied aid. Colombia, on the other hand, also places high on both list, receiving \$0.7 billion (54%) tied, as does Mexico receiving \$0.5 billion (80%) tied aid.

Figure 3.20: Recipient income groups' bilateral ODA commitments in 2009 by tying status, USD millions, sorted by tied aid



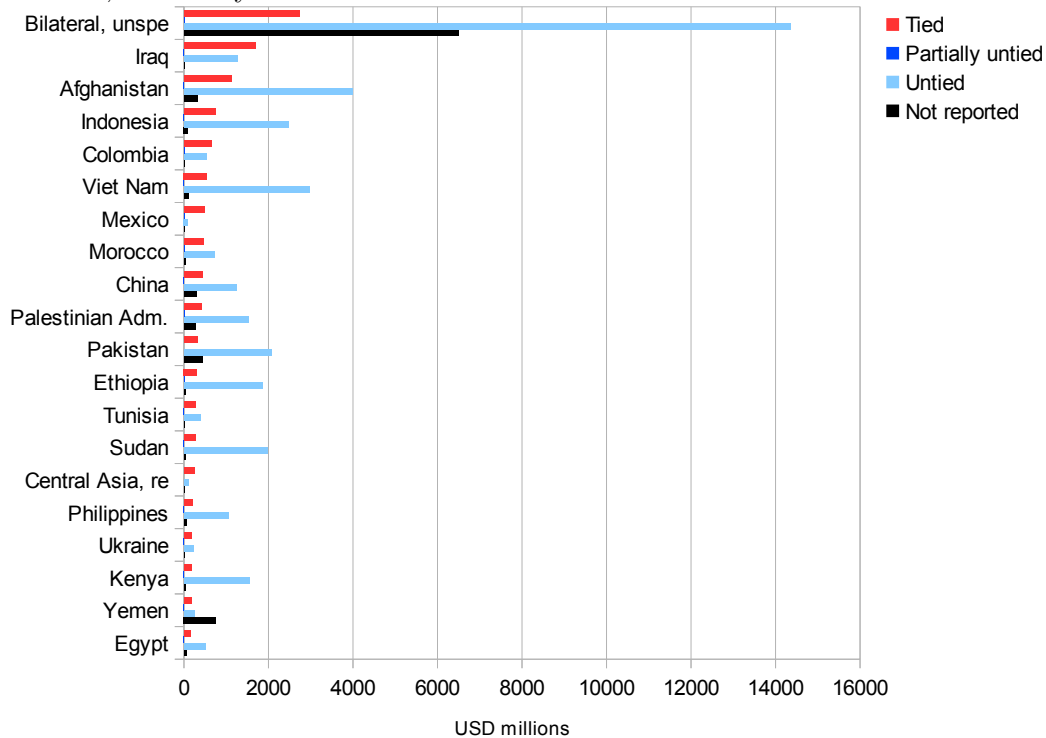
Source: CRS

Figure 3.21: Recipient income groups' bilateral ODA commitments in 2009 by tying status, USD millions, sorted by tied aid



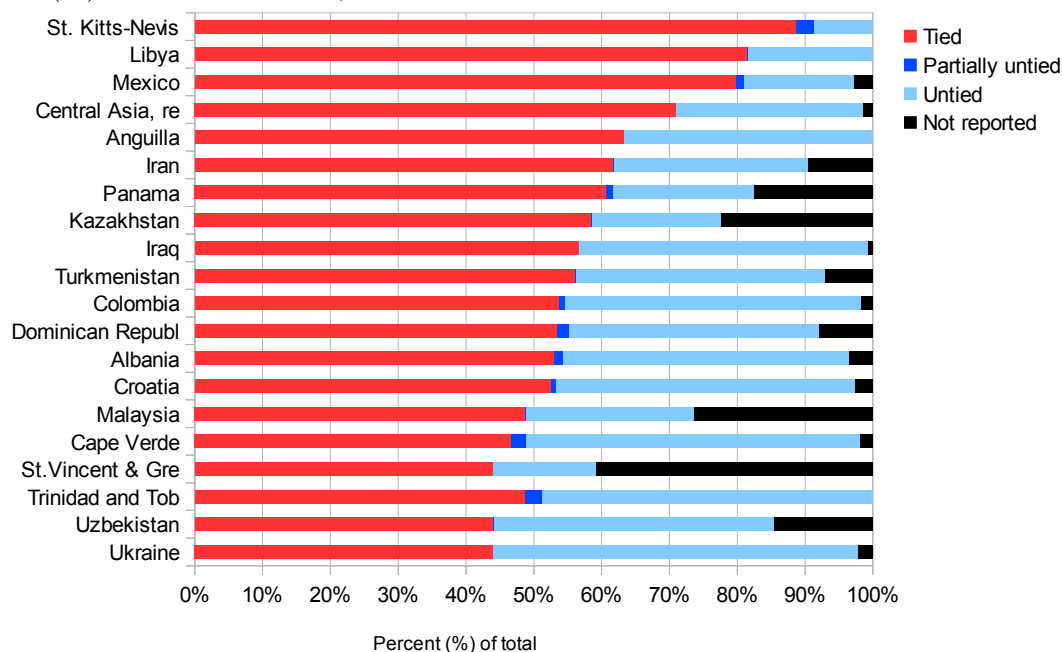
Source: CRS

Figure 3.22: Top 20 recipients of bilateral ODA commitments in 2009 by tying status, USD millions, sorted by tied aid



Source: CRS

Figure 3.23: Top 20 recipients of bilateral ODA commitments in 2009 by tying status, percent (%) of total, sorted by tied aid



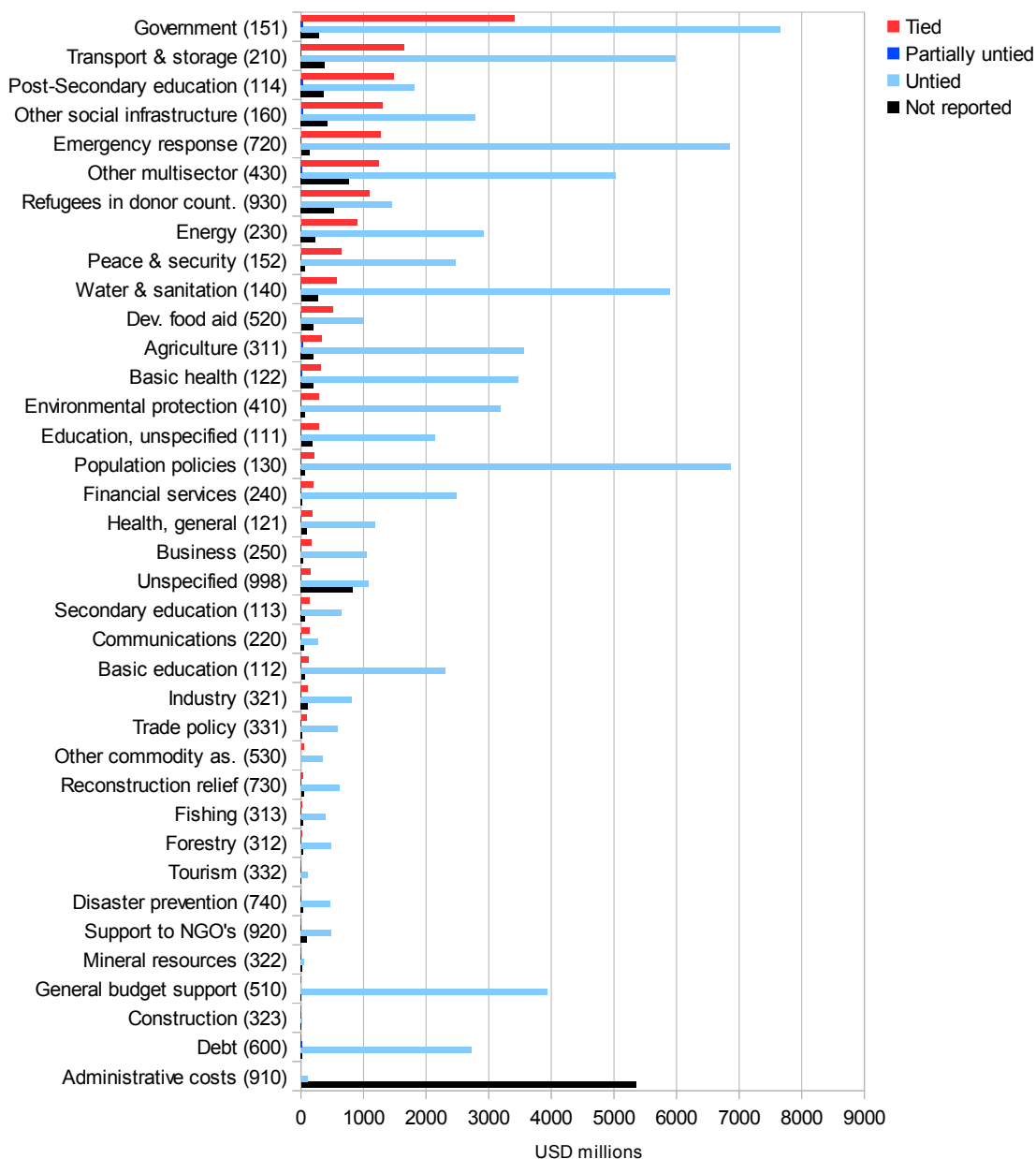
Source: CRS

By sector

Figure 3.24 and 3.25 show tied aid by sectors. The OECD's broad sector categories will be used as defined in OECD (2011, p. 46), and the numbers in parenthesis after each sector is their associated code for identification in the documentation.

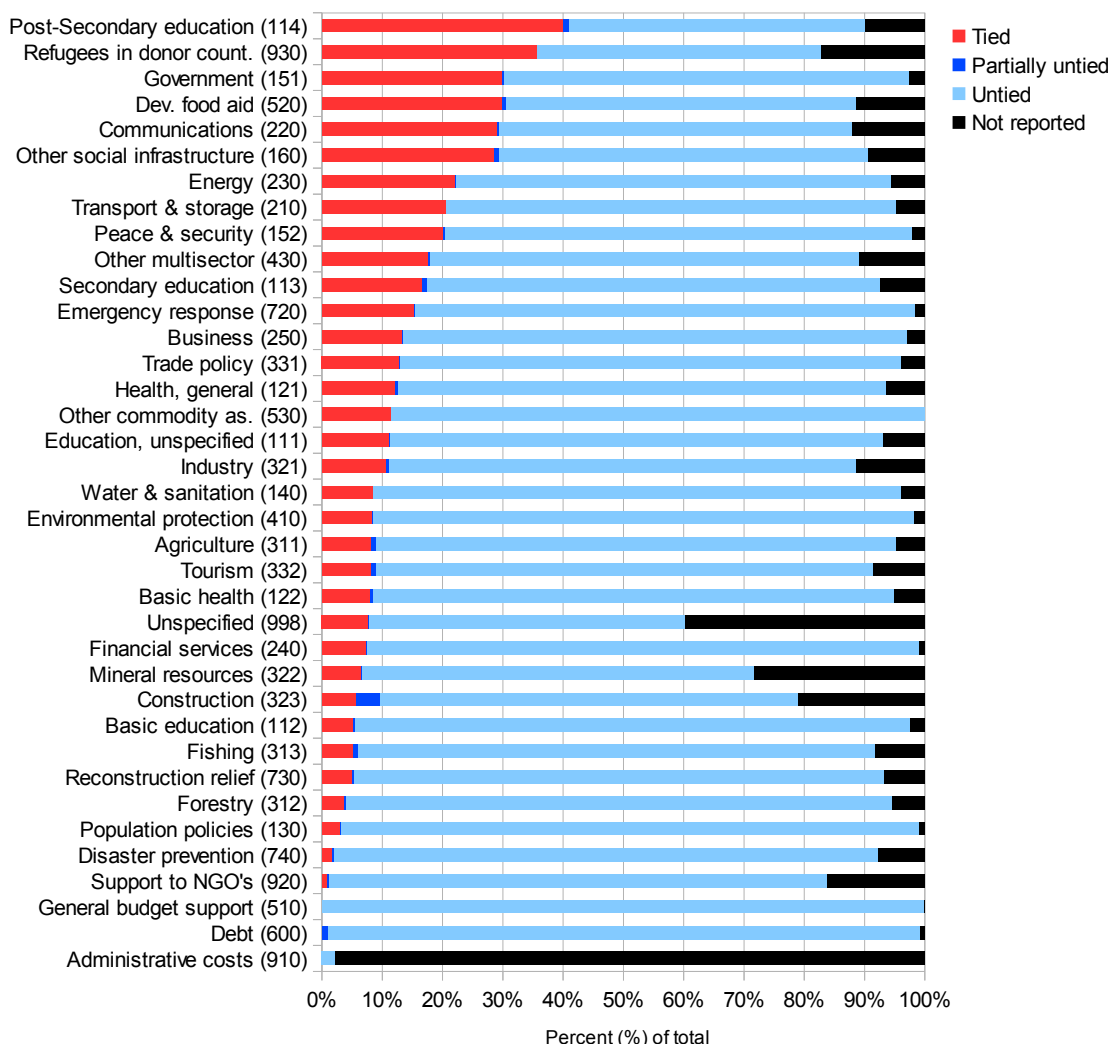
In 2009, the sectors with the highest shares of tied aid were *post-secondary education* (114), *refugees in donor countries* (930), *government* (151), *developmental food aid* (520), *communications* (220) and *other social infrastructure* (160). These all had around 30-40% of their total aid tied. The government sector had unusually large amounts of tied aid (\$3.4 billion, 30%) while post-secondary education had very high shares tied (40%, \$1.4 billion).

Figure 3.24: Sectoral division of bilateral ODA commitments in 2009 by tying status, USD millions, sorted by tied aid



Source: CRS

Figure 3.25: Sectoral division of bilateral ODA commitments in 2009 by tying status, percent (%) of total, sorted by tied aid



Source: CRS

Technical cooperation and administrative costs

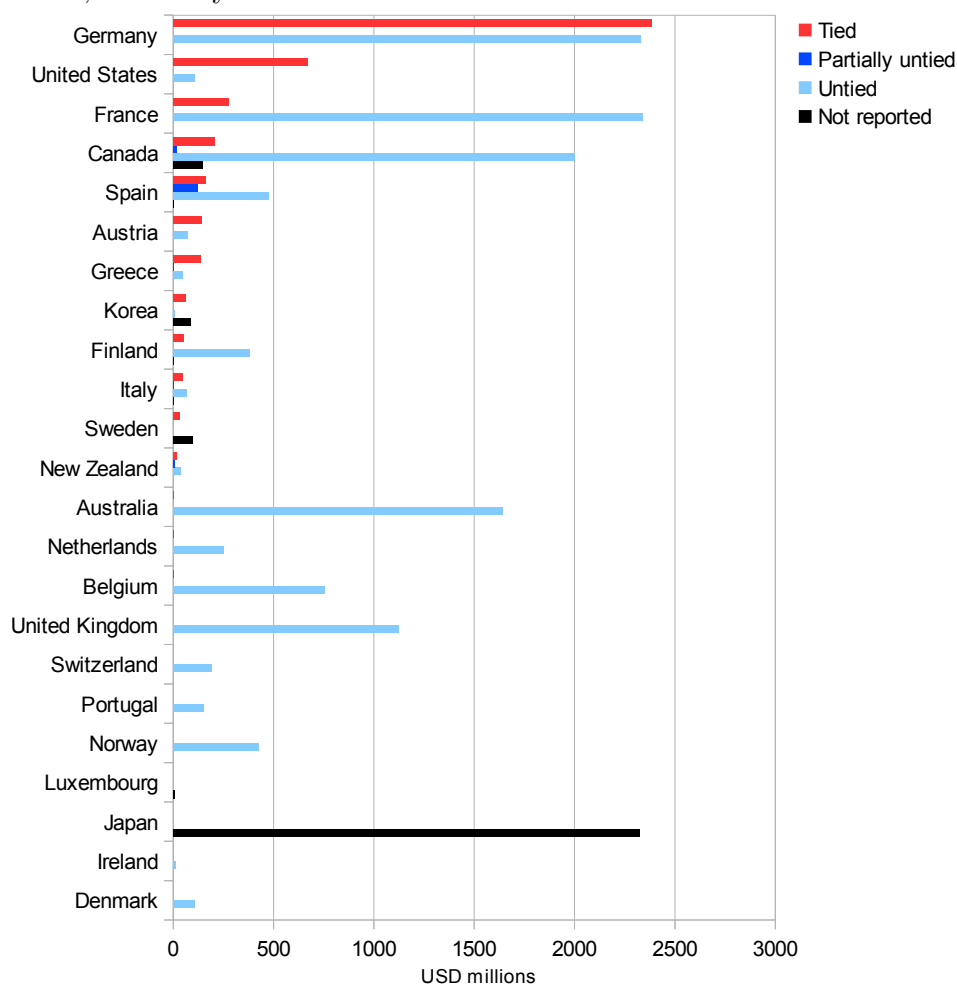
Finally, we examine technical cooperation (TC) and administrative costs. They are of interest as they are often claimed to be tied, and as they make up an important difference between the CRS and DAC7b. The CRS will be used to filter out free-standing technical cooperation (FTC), and the results will be grouped by donors.

In total, there was \$4.2 billion tied FTC in 2009, which explains why DAC7b only reports \$13 billion tied aid compared to \$17 billion by the CRS, as DAC7b excludes TC. As seen in Figure 3.26, the vastly dominant provider of tied FTC in 2009 was Germany, with \$2.4 billion (51%) tied. Germany alone made up 57% of the

world's tied FTC. It was followed by the United States, with \$0.7 billion (86%) tied, qualifying it as the donor with the highest share of tied FTC, as seen in Figure 3.27. Greece and Austria also had notable shares of tied aid, about 70% tied. It is worth noting that Japan had a large amount of total FTC, about \$2.3 billion, but reported no tying status of it at all.

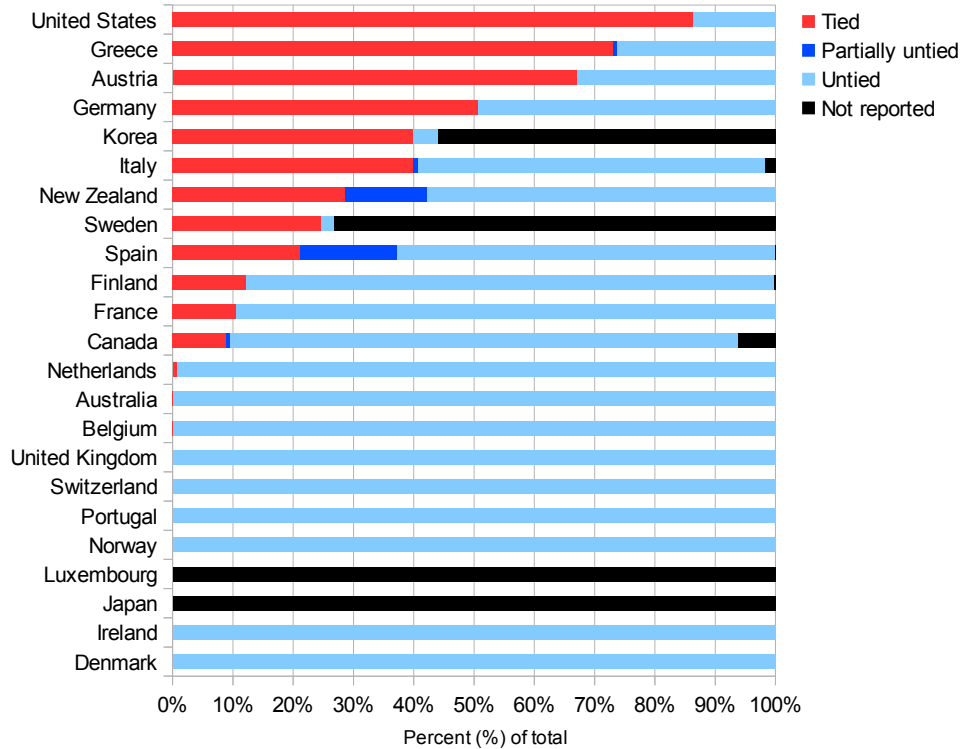
In 2009, the total administrative costs of all donors were \$5.5 billion. However, 98% of these had unreported tying status, so figures were deemed redundant. As expected, larger donors had higher total administrative costs, with the United States in the top with \$1.5 billion, followed by Japan with \$0.7 billion and France with \$0.4 billion.

Figure 3.26: Donors' FTC as bilateral ODA commitments in 2009 by tying status, USD millions, sorted by tied aid



Source: CRS

Figure 3.27: Donors' FTC as bilateral ODA commitments in 2009 by tying status, percent (%) of total, sorted by tied aid



Source: CRS

3.1.3 Informal tying

Even in the absence of formal restrictions on how aid money is used, aid might still be tied in practice, so called informal or de facto tying. Investigations of formally untied projects have shown that a high proportion of the contracts were still awarded to firms within the donor country (Clay et al., 2009b). In the United Kingdom tying aid is illegal, yet 80% of all contracts were awarded to UK firms in 2005-2006, and the remainder mostly to firms in OECD countries (ActionAid International, 2006, p. 35). Econometric studies have found a connection between increased donor exports and increased aid in general, regardless of formal tying status (Clay et al., 2009b; Martínez-Zarzoso and Klasen, 2010; Nowak-Lehmann D. et al., 2008; Johansson and Pettersson, 2009, p. 68), which suggest the existence of a substantial amount of informal tying (Clay et al., 2009b).

Some possible causes for informal tying have been proposed, such as information asymmetries, specifications on technical standards and designs set by the donor, and a potential goodwill between the recipient and the donor (Clay et al., 2009a). In-

formation asymmetries could be caused by a lack of effort by donors to reach out to international firms and providers. For example, according to ActionAid International (2006, p. 35), tenders in Germany under 200,000 euros were not advertised at all, while those over 200,000 only appeared in a newspaper and website written in German. This made it very difficult for international firms to identify potential opportunities while giving German firms an advantage. Clay et al. (2009b, p. 48) note that the donors' attitudes towards tied and untied aid ultimately decide how much effort they put into untying.

Regarding the econometric studies, some find that the impact of aid on exports is significantly higher in the long run compared to the short run (Zarin-Nejadan et al., 2008; Martínez-Zarzoso and Klasen, 2010), which Zarin-Nejadan et al. (2008, p. 124) see as support for the goodwill hypothesis, i.e. that recipient countries are more willing to buy goods and services from donors that send them untied aid, a theory also supported by Arvin et al. (2000, p. 319). Johansson and Pettersson (2009, p. 23) note that informal tying is often considered harmful to aid recipients, but challenges this with their finding that aid actually increases exports within the recipient country as well, i.e. trade is strengthened in both directions between the donor and the recipient. They emphasise that formal tying could have different effects than informal tying on the recipient, and that informal tying could be related to an intensified bilateral relationship in general and thus likely to be less harmful (Johansson and Pettersson, 2009, p. 3).

Just as formally untied aid might be tied in practice, the opposite could also be true. Formally tied aid at head contract level may be informally untied at sub-contract levels (Clay et al., 2009b, p. 48). The choices made at different levels in the contracting process ultimately decide the outcome, and it is clear that the issue is far more complex than the formal reporting of tying status shows.

3.2 The effects of tied aid

3.2.1 Effects on recipient countries

There seems to be broad agreement in the literature that tied aid provides substantially less value to recipient countries than untied aid (Clay et al., 2009b, p. 27). Both as a result of overpricing, when goods and services are not purchased for the cheapest international market price, but also because of indirect effects, such as missed opportunities of local capacity-building from hiring local workers in the recipient country. Unfortunately, there are very limited empirical and quantitative studies on the topic,

especially after 1991 (Clay et al., 2009b; Osei, 2004). The research is hampered by data availability constraints and limited knowledge of informal tying and fungibility⁵, and any estimated numbers can only be considered rough approximations (Clay et al., 2009b, p. 26).

Jepma (1991, p. 15), in the most widely cited review of the early literature between 1960 and 1990⁶, estimated that tied aid is on average between 15-30% more expensive than untied aid as a result of direct overpricing, although there were individual cases showing much higher losses. The more recent literature review of Clay et al. (2009b) concludes that newer studies broadly reconfirm this estimate, but that it should be seen as a conservative lower limit considering the many studies that show much higher losses.

To quantify how much more expensive tied aid is, many studies have tried to measure differences in prices between tied aid imports and non-aid imports, known as the *resource transfer efficiency* (RTE) of tied aid (Clay et al., 2009b, p. 26). Many studies have focused on tied (*in-kind*) food aid. In a more recent study, Melito (2009) investigated food aid delivered to sub-Saharan Africa between 2001 and 2008. He found that local and regional procurement (LRP), i.e. food bought from recipient and nearby countries, was 34% cheaper than food purchased and shipped from the United States, and resulted in delivery times of 35-41 days instead of 147 days. In another study of food aid for 2002-2003, Clay (2006, p. 17) found that tied food aid was on average around 33-50% more expensive than food aid acquired locally or in third-world countries, and estimated that in total, global food aid was 30% more expensive compared to if it had been fully untied. The donors that had formally untied aid or had the least restrictive procurement rules (such as the WFP) provided the most cost-effective food aid. The estimate was referred to as a lower limit as it excludes transaction costs of organising and importing food products such as administrative, internal transport, storage, handling and sales costs. Please note that, for studies that report their results in percent, it is important to distinguish between increased costs of tied aid and decreased costs of untied aid, i.e. when tied aid is some percent *more expensive* than untied aid or when untied aid is some percent *cheaper* than tied aid, as studies tend to differ in how they report this.

A macro-level study of Ghana over the period 1990-1997 found that tied aid imports were on average twice as expensive as other imports (Osei, 2004, p. 8).

⁵The degree to which aid-financed imports substitute for commercial imports that would have occurred anyway.

⁶According to Clay et al. (2009b, p. 26).

Another more micro-oriented study of Ghana interviewed the project managers for 15 different aid projects who estimated that untied aid could have reduced the costs by 18-25% (Aryeetey et al., 2003). The managers noted the lack of involvement by local firms because of tying, which they saw as a loss of potential local capacity-building, and expressed a desire to see foreign contractors team up with local firms to a greater extent. The managers also emphasised the significant delay caused by securing counterpart funds. An older study of eight tied aid projects in Sudan between 1969 and 1977 found an overpricing of 74% (Yassin, 1991).

Overall, these evidence provide a strong case for untying, as all of these potential benefits will be overlooked if donors decide to exclude firms from developing countries as potential providers from the start. However, just because aid is untied and providers from all countries are considered in the sourcing process, this does not necessarily mean that LRP will always provide the most value for the money (Melito, 2009, p. 5). Some studies emphasise potential practical limitations of purchasing goods and services from recipient and nearby countries, such as difficulties in finding reliable local and regional suppliers, weak legal systems that could limit the enforcement of contracts, poor infrastructure and logistical capacity, difficulties in adhering to quality standards, and timing and restrictions on donor funding (Melito, 2009, p. 23). Such transaction costs and risks might make LRP less cost-effective in specific cases. For example, Josepa (2007) shows that the benefits of untied aid over tied aid grows with more favourable policy environments in recipient countries. Amegashie et al. (2007) also highlight cases when tied aid, despite its inefficiencies, can actually act to control a recipient's moral hazard behaviour by, for example, countering corruption. On the other hand, poor logistical and shipping capacities could also be an argument for producing goods in developing countries, as close to the point of delivery as possible, and there might be additional benefits from hiring local workers that know the local language, legal systems, social norms, terrain and are used to the climate. In addition, LRP might provide goods and services more suited to local preferences (Melito, 2009, p. 5), provide a greater sense of ownership of the final product for the recipient country (Clay et al., 2009b, p. 27), and the presence of local firms rather than foreign might create less political tension. It is clear that potential benefits of LRP must be measured against potential costs and risks on a case-by-case basis, and that formal tying of aid only harms this evaluation by restricting the possibilities from the start.

Besides the direct effects of tied aid, we must also account for indirect and long-term effects on the economy as a whole, and effects on third-parties, so called external-

ities. Externalities is a complex but important topic that needs careful consideration, as it could play a huge role in the final outcome of aid projects for the recipient. When delivering aid, the wages paid to those involved is also a resource transfer, so hiring local workers means that more resources end up in the developing country in the end, a positive indirect effect for poverty reduction. More importantly, this allows local firms and businesses to expand their production and make investments at home that could be essential for lifting the country out of poverty. For example, food aid using local purchases increases local agricultural demand, raises farmers' incomes and allows them to invest in agricultural technology and infrastructure to expand their own production. This should increase local food production and make food cheaper and more accessible to local consumers in the long run even if aid stops coming. However, there might be practical obstacles to such investments, such as climate, crime and corruption, and such large-scale changes likely take time to materialise. If these obstacles are too big, local purchases might simply drive up prices and make food more costly to local consumers (Melito, 2009, p. 5). In a worst case scenario, local purchases will not be contributing anything except redistributing resources within the area, giving away food to some while making it more expensive to others. Similar but reverse market effects might be induced by tied in-kind food aid delivered from outside markets, such as depressing local food prices and decreasing farmers' income, restricting their ability to make investments (Melito, 2009, p. 5). One study concludes that the depressed food prices from in-kind food aid to Ethiopia actually benefits the poor, because there are more people buying food than selling (Levinsohn and McMillan, 2007), although it is unclear if it considers the lost opportunities of local capacity building from choosing tied food aid over LRP. Additionally, there might be other potential negative externalities of using tied aid, such as increasing the country's external debt or harming the environment (Clay et al., 2009b, p. 26).

Externalities is a complex topic that needs further research. Until then, potential side-effects on local markets must be carefully considered through detailed market intelligence on a case-by-case basis as a part of planning aid projects and their sourcing. Most studies on food aid recommend the untied approach of LRP and cash transfers if practically feasible, as strengthening local markets and local production is considered a key component in large-scale poverty reduction (Awokuse, 2011; Del Ninno et al., 2005). It might also be possible to combine an untied approach with assistance and partnering by foreign firms and aid organisations to make sure it is successful. Barrett and Maxwell (2003, p. 5) propose a straight-forward decision tree when planning food aid projects, to reap the benefits from untied aid while avoiding failure: "Are local

food markets functioning well? [If yes:] Provide cash transfers or jobs to targeted recipients rather than food aid. [If no:] Is there sufficient food available nearby to fill the gap? [If yes:] Provide food aid based on local purchases/triangular transactions. [If no:] Provide food aid based on intercontinental shipments.” This captures the kind of reasoning needed to take externalities and local market conditions into account. As with all international transactions, other negative externalities and social costs must also be considered, such as pollution or the use of forced labour, as well as positive and negative effects on nearby countries who might also be suffering from poverty.

Different methods of untying aid and their effects on recipient countries is an area that needs more research. For example, there is a general belief that international competitive bidding (ICB) increases the value of aid compared to traditional and more tied sourcing procedures (Clay et al., 2009b). However, a study of Ghana showed that ICB might not always be the best way to activate local firms in the recipient country (Clay et al., 2009a, p. 48). Coordinating and sourcing large aid projects is a complex and difficult task, and requires an active effort by the donor. Only by realising the potential benefits of untying will donors be willing to invest this effort into untying their aid (Clay et al., 2009b, p. 48).

Aid can also be tied at different levels. Most articles on tied aid discuss tying of the production chain, but the administrative responsibility can also be tied. Today, most bilateral donor countries decide directly what developing countries, sectors and projects to prioritise. By untying their aid at headquarters level, this responsibility could be transferred to multilateral donors, NGOs or directly to recipient country, which could have numerous advantages: In general, bilateral aid has been shown to focus more on donor interests while multilateral more on recipient needs (Jepma, 1991, p. 13). Bilateral donors might give disproportionate amounts of aid to recipients and sectors with which they have strong existing ties and economical or political interest in, which implies that the most isolated developing countries who are often the poorest will receive too little aid (Bermeo, 2010, p. 33). Bilateral donors also tend to select recipients based on geographical proximity (Neumayer, 2005), and are subject to lobbying by private firms in the donor country (ActionAid International, 2006, p. 35). Besides, donors that send aid strategically based on self-interest have been less successful in promoting economic reform in developing countries, meaning that tied aid reduces donor credibility which directly influences aid effectiveness (Bearce and Tirone, 2010). To be the most effective at reducing poverty, aid should be allocated to where it is needed the most and can do the most good for the poor, and should be aimed at reducing poverty with no secondary goals such as promoting donor exports

that could make it less credible and less effective. Multilateral donors and NGOs are likely more suitable for making credible and neutral judgements than bilateral donors, as long as their results are actively evaluated by donor countries to promote competition and discourage moral hazard. In theory, international organisations should also be capable of providing greater economies of scale than individual donor countries, although NGOs have been criticised for their small transaction volumes (Clay, 2006, p. 55). Considering the many advantages of LRP, it is also important to involve the recipient countries themselves as early as possible. Knowledge of local needs and priorities are essential for aid to be successful, which must be obtained directly from the developing countries themselves.

One argument for tied aid is that it also increases public support for aid, on the grounds that it raises exports at home, which would increase the total aid sent to the recipient. Some emphasise that tied aid is better than no aid, and that investing money in projects that would benefit both the recipient and the donor might increase the overall amount of aid and its positive impact on the recipient (Senanayake, 2010, p. 69). Clay et al. (2009b, p. 56) argues against this, pointing to the empirical evidence showing a significant increase in total aid during the trends of untying aid since 1999, which the statistics in this study confirm. Also, ActionAid Alliance (2003, p. 3) state that cuts in development budgets in OECD countries are usually a result of budgetary or economic constraints rather than decreased public support for aid. More multilateral aid, which is generally considered untied, has been shown to increase public support for aid in OECD countries (Milner, 2006), although the results for the United States are mixed (Milner and Tingley, 2010a). A recent study of the United States found that presidents must construct aid policies that can garner majority support in the Congress, and that Congress members vote according to their ideological preferences and what effect the aid has on their district (Milner and Tingley, 2010b). In general, political and societal groups seem to have different preferences for aid, with people from capital-intensive (rather than labour-intensive) districts or that favour large governments and income redistribution being more positive towards aid than their opposites (Milner and Tingley, 2010b). Although tied aid might have support from some groups, there might also be those who strongly oppose tied aid in favour of untied. The media often highlights cases when aid fails to assist the recipient (Riddell, 2009), which implies that much of the public debate on aid is centred around its efficiency at reducing poverty rather than its ability to raise exports at home. Opinion polls in Europe have found that taxpayers' support for aid will decrease unless aid is made more effective at reducing poverty (ActionAid

Alliance, 2003, p. 3). If untied aid is seen as more effective at reducing poverty, untying aid should increase public support for aid and lead to higher levels of total aid rather than the opposite. Additionally, considering the limited evidence of the positive impacts of aid on development in general (Doucouliagos and Paldam, 2008), it is becoming increasingly harder to argue that just increasing the levels of aid is enough. Instead, what might be required is a revolution in aid efficiency, in which formal untying could be a start, in combination with more effective planning, organisation and implementation of aid projects in general.

Assuming an average increased cost from tied aid in the range of 15-30%, we can take the amount of tied aid from our statistical findings and estimate how much money could have been saved in 2009 if all aid had been untied. In 2009, the amount of formally tied aid was \$17 billion according to the CRS. If this aid had been untied, the estimated cost-savings would have been between \$2.2 and \$3.9 billion, or 2.0% and 3.5% of the total bilateral ODA commitments in 2009. This alone presents a strong case for untying aid, but completely disregards potential indirect effects of untied aid, such as strengthening local markets and respecting local preferences, which likely play a crucial role in lifting developing countries out of poverty. It also disregards the likely existence of informally tied aid, which could mean that the true gains from untying aid in practice are much greater than this.

3.2.2 Effects on donor countries

In general, the literature on the effects on donor countries is rather limited, as aid research often focus on the recipient. For donor countries, the literature has mostly focused on measuring the effects of tied aid on donor exports. The hypothesis is that tied aid should increase donor exports more than untied aid, and that it should not simply displace existing trade within the donor country (Clay et al., 2009b, p. 27). Unfortunately, there are not many studies that study the effects of tied aid in isolation. Clay et al. (2009b, p. 68) find a weak positive relationship between the amount of formally tied aid and donors' exports, but most other studies find no evidence that tied aid creates trade (Lloyd et al., 2000, 2001; Osei et al., 2004; Tajoli, 1999).

On the other hand, many studies have examined aid in general regardless of tying status, and found that it is significantly related to increased donor exports (Clay et al., 2009b; Martínez-Zarzoso and Klasen, 2010; Nowak-Lehmann D. et al., 2008; Johansson and Pettersson, 2009, p. 68). Clay et al. (2009b) suggest that this is caused by a large degree of informal tying, with possible causes such as information

asymmetries, specifications on technical standards and designs set by the donor, and a potential goodwill between the recipient and the donor. Johansson and Pettersson (2009, p. 23) find a similar relationship for recipient exports, which they see as proof that aid increases trade in both directions. Some also find that the impact of aid on exports is significantly higher in the long run compared to the short run (Zarin-Nejadan et al., 2008; Martínez-Zarzoso and Klasen, 2010), possibly supporting the goodwill hypothesis (Zarin-Nejadan et al., 2008, p. 124). Although at least informally tied aid does seem to be related to increased donor exports, some claim that the causation has not been proved, and that the possibility of a reverse causality should not be ruled out, i.e. that more trade with a country leads to more aid being sent to that country (Zarin-Nejadan et al., 2008; Lloyd et al., 2000). The effects of aid on exports can also differ much between different donors and recipients (Zarin-Nejadan et al., 2008; Martínez-Zarzoso and Klasen, 2010), and certain forms of aid might also have different impacts Clay et al. (2009b, p. 27).

There are other potential effects of tied aid on the donor country as well. Clay et al. (2009b, p. 28) show that particular firms and groups in the donor country gain financial benefits as a result of tied aid, but likely as a result of displaced tax money. They find no proof of a substantial increase in employment, and do not find that tied aid has a significant impact on donors' balance of payments (BOP). On the other hand, tied aid can have political influences on the donor country, such as the Pergau Dam scandal that pushed the UK into untying all of its aid (Clay et al., 2009b, p. 28).

Tied aid might also have effects on other donor countries not directly sending the aid. There might be a crowding out effect between bilateral donors, if some donors' increased levels of tying lead to decreased exports for other donors, although the evidence are mixed (Nowak-Lehmann D. et al., 2008; Zarin-Nejadan et al., 2008; Martínez-Zarzoso and Klasen, 2010). Some see tied aid as a disguised export subsidy (Kneteman, 2009), others as an important barrier to trade, criticising WTO for largely neglecting this issue, seeing it as a capable forum for debating tied aid and potentially pushing towards more untying (La Chimia and Arrowsmith, 2009).

4. Discussion: Sourcing of aid

Sourcing is part of the broader topic of organisation and refers to what firms are hired to provide specific goods and services. The sourcing of aid is almost always discussed in terms of tied vs untied aid. Unfortunately, this generalisation can be misleading. Tied aid is officially defined as aid where sourcing is restricted to a limited number of countries. In reality, however, there are more ways to restrict sourcing besides discriminating against whole countries, such as by giving privileges to certain firms but not others within a country, or by supporting monopolies or cartels between providers across different countries. In addition, the actual degree of sourcing and level of competition between providers is largely dependant on how much effort the donor invests into making it so, which indicates that tying should be regarded as a scale rather than the crude separation between tied and untied aid. The process of untying aid is also somewhat vague, and has likely generated a lot of misunderstandings on what untying aid is really about.

To advance the discussion, we need a shift from the limited topic of tied aid towards more in-depth discussions on the sourcing and contracting of aid in general, especially as more and more aid is becoming formally untied while the problems of informally tied aid are becoming increasingly apparent. In the following section, I will attempt to highlight some sourcing-related topics that I think deserve more attention in the aid efficiency discussion.

Purpose of sourcing

By sourcing parts of the responsibility to specialists, aid projects can be made cheaper and more effective. However, what defines “effective” depends on the donor’s purpose of aid. If the only goal is poverty reduction, the goal of sourcing becomes the same, but if a secondary purpose is to assist donor firms, the role of sourcing changes. Thus, it is important to clearly define the purpose of aid before discussing its sourcing.

The general notion is that aid is used for development or poverty reduction in developing countries. As seen in the literature review, channelling economical and

political donor interests through aid likely limits its ability to reduce poverty. Restricting sourcing to firms within the donor country leads to overpricing, reduced aid value and restricts its ability to strengthen local markets and firms. Recipients and aid projects might be chosen out of donor interest rather than where the aid would do the most good. Tailoring aid to donor needs might also undermine economies of scale and limit global multilateral organisations as a source of increased aid efficiency. It is also likely that the majority of the general public see poverty reduction as the goal of aid, and if secondary purposes are added that make aid worse at reducing poverty, public support for aid might decrease.

Tied aid could possibly increase donor exports, at least informally tied aid. Yet, there are probably more efficient ways to accomplish this that do not go through aid. Viewed from this angle, multi-purposed aid seems like an inefficient middle way, not specialising or performing either poverty reduction or raised donor exports efficiently. Thus, it seems reasonable to recommend that aid focuses on the altruistic goal of poverty reduction, and that other non-aid channels are used for more donor-specific goals such as stimulating the donor's economy, supporting donor firms or creating stronger political bonds.

There are, of course, different theories on how to best reduce poverty. Some believe that the main priorities should be fighting hunger, thirst or diseases, others that we should promote education or infrastructure, and yet others that we must focus on government institutions and democracy to foster peace and efficient legal systems to secure basic human- and property rights. Different donor countries and organisations often focus on different methods. Considering the complexity of the subject, different ideas and methods must be allowed to exist and be tested in practice. As long as they are transparent and evaluated according to their success at promoting development, aid money should over time become allocated to the most successful methods and projects.

Levels of sourcing

Sourcing can be carried out at different organisational levels, and there are many areas where responsibilities can be shifted to an outside organisation or specialist. For example, a donor can choose to keep most of the administrative responsibility, such as deciding what countries and sectors should receive aid, while sourcing specific parts of the production chain. Or it can source at the top-most level, by giving the complete responsibility for aid distribution and future sourcing to an NGO or

multilateral organisation. To what degree a donor should source is an important discussion that is often lost in the limited topic of tied aid.

Top-most sourcing to NGOs or multilateral agencies is tempting, as these agencies can likely provide the greatest economies of scale and the most neutral judgements. However, this still requires an active involvement by donor country administrators to evaluate, compare and demand transparency from such organisations, to make sure their money is used in the best way possible to reduce poverty. Moral hazard is a problem when using third-parties or multilateral agencies, but so is government inefficiencies when governmental institutions do most of the work themselves. Transparency and competition between multilateral donors or NGOs will likely pressure them into finding better and more effective methods to reduce poverty, and prioritise areas and sectors that yield the best results.

This topic is also related to the topics of ownership and local priorities. Many decisions and project ideas cannot be successfully implemented without local knowledge or involvement from developing countries. It is important that donors keep close contact with recipient governments and the people living there, involve them as early as possible, gather as much local information as they can, and in many cases transfer responsibilities directly into their hands.

Cost and effort of sourcing

Sourcing does not happen automatically, but requires decision makers to actively search for potential providers, compare the alternatives and make sure the chosen provider fulfils the deal. A more comprehensive sourcing process means greater competition between providers and more efficient end results, but it also involves more effort. This effort can be considered a transaction cost, i.e. a cost required by the transaction that is not captured by the price of the provider. In very general terms, Coase (1960, p. 423) states that all economic activities carry transaction costs: “In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on. These operations are often extremely costly, sufficiently costly at any rate to prevent many transactions that would be carried out in a world in which the pricing system worked without cost.” Dahlman (1979, p. 148) defines categories of transaction costs such as search and information costs (“imperfect information about the existence and location of trading opportunities or about the quality or other

characteristics of items available for trade”), bargaining and decision costs (“resources spent in finding out the desire of economic agents to participate in trading at certain prices and conditions”) and policing and enforcement costs (“lack of knowledge as to whether one (or both) of the parties involved in the agreement will violate his part of the bargain”).

All of these costs are very real obstacles to sourcing that must be taken seriously, as they might both formally and informally favour suppliers from the donor country that are easy to find and contact, are trusted by donor country norms, and share a common language with those who administrate the aid money. If the transaction costs of sourcing are not acknowledged by the top level administration of the donor country, the responsibility to untie aid might be incorrectly transferred to aid workers who lack the necessary margins to bear these costs due to heavy time and money constraints. This means that even if aid is formally untied and sourcing is allowed to all countries, the end-result might still be informally tied, unless donors actively invest time and money into international sourcing. This requires a genuine interest from donors to do so, which comes from an understanding of the potential benefits of LRP. Donors and aid organisations should also work actively towards reducing these costs by sharing experiences, best-practices and methods with each other.

Elements of sourcing

As seen in the literature overview, LRP generally provides substantially more value to recipients through cheaper products, by strengthening local production and so on. However, a wide array of risks and costs must be taken into account to make sure we reach the expected end-result. Below, I have constructed a very simple and general benefit-cost analysis (BCA) in order to highlight and document some important elements of sourcing that should be taken into account when choosing providers and planning aid projects. The list is far from complete, but might serve as a reminder of some key topics.

Benefits:

- **Utility:** Direct benefits for the recipient of the delivered good or service, depending on its marginal utility for the recipient. Must be valued from a recipient perspective, taking into account differences in standards, priorities, infrastructure, prior knowledge, culture and environment. What the donor see as good is not necessarily perceived as good in the recipient country. The number of

people affected, the delivery time and potential risks that the good or service is not delivered as planned should be taken into account.

- Positive externalities: Indirect benefits for the recipient country and other countries. A huge topic that includes promoting local production, strengthening local markets and providing knowledge spillovers. If the purpose of aid is development and poverty reduction, only such externalities should be considered, and not benefits accrued to, for example, the donor country. However, poverty reducing effects on nearby countries not directly targeted by the project should be taken into account, as it means the project will benefit a greater number of people.

Costs:

- Price: The market price of the good or service set by the provider.
- Delivery costs: Additional costs related to the delivery of the project. Goods produced near the point of delivery require less transportation and shipping costs. Poor infrastructure and logistical capacity in the recipient country or countries along the delivery path might increase transportation and storage costs. Countries with a high crime rate or poor legal system might require high security costs.
- Maintenance costs: Additional costs in the long run for maintenance and support. A lower quality product might lead to higher maintenance costs while more complex products might require higher support costs. Producers using cheap raw materials might mean increased risks of higher maintenance costs.
- Administrative costs: Includes the transaction costs of sourcing, contracting and planning aid projects. Also includes communicating with the various providers, writing reports and evaluating results.
- Negative externalities: Negative indirect effects on the recipient country and other countries, such as impairing markets or fostering corruption or crime. As with all international transactions, general negative externalities and social costs must also be considered, such as environmental damages, pollution or the use of forced labour.

All potential benefits and costs should be weighed by their associated *time* and *probability* of impact:

- **Time:** The delay before the benefit or cost occurs. The most striking example is delivery time, which influences the direct utility for the recipient. Emergency aid does not have the same effect if it arrives in 200 days instead of 20 days. Delivery times generally depend on geographical distance and the efficiency of the transportation system. Also, many investments might not give an immediate increase in utility but have positive effects over time, as a part of a larger positive externality.
- **Probability:** The chance that something occurs, which captures the concept of risk. There might be a small chance of large failures, such as the provider not fulfilling its contract, or environmental effects or crime destroying goods or prolonging delivery times. Risks might be enhanced if the provider operates from a country with a weak legal system, making it more difficult to enforce contracts. If such risks can be taken into account neutrally, not affected by risk aversion, we can calculate the real value of the aid project for the recipient.

There is also the possibility of friction between the various links in the sourcing chain, that could increase administrative costs or impose risks on the project. For example, if the donor administration and the provider share the same language and work ethic (as is generally the case with tied aid) this might ease communication between them, but cause inefficiencies and misunderstandings in the eyes of the recipient. On the other hand, if the provider and recipient share a common language and ethics, by hiring local workers with untied aid, this might greatly assist the implementation of the project within the recipient country, but might cause some misunderstandings or tension between the donor administration and the provider.

The real value of the aid for the recipient equals the expected benefits minus the expected costs, accurately weighed by time and probability. In a worst case scenario, the costs exceed the benefits, if the aid just ends up as a victim of corruption or crime, or as being useless to the recipient.

Obviously, the real difficulties lie in accurately measuring and weighing all of these factors realistically against each other using, and arbitrary considerations might even be preferred over bad and incorrect numbers. However, a documented arbitrary consideration is better than an undocumented one, as it ensures a clear and transparent decision making that is open for discussion. Most importantly, donors need all the help they can get in the form of checklists and best-practices to keep track of all the possible side effects and areas that must be considered for aid projects to be successful at all.

5. Conclusions

5.1 The extent of tied aid

This study investigated the formal tying status of bilateral ODA commitments (“aid”) using two statistical sources: the Creditor Reporting System (CRS)¹ and the DAC annual aggregates (DAC7b)². The CRS was found to be more flexible, but the online web version lacked filters on tying status, so the raw database had to be downloaded and imported into Stata. DAC7b was accessible online but lacked data on total aid³, so shares could not be estimated correctly. Oddities were found in the CRS database between 1973 and 1983, as almost all aid was reported as partially untied. This period was ignored and should be further investigated by the DAC. Unless otherwise noted, CRS is used as the main source. Actual numbers and percentages are presented as approximations.

Tied aid between 1984 and 2009

Both databases confirm an overall stable trend of untying aid between 1984 and 2009, with tied aid as a share of total aid decreasing from 41% to 15% and untied aid increasing from 33% to 74%. Total aid has increased significantly from 1999 and onward. Generally quite low, partially untied aid has decreased to almost non-existent in 2009. The share of the total aid with no reported tying status was around 10% on average during 1984-2009, but peaked temporarily in 1999-2004 at 40%. This can be traced exclusively to the United States who did not report any tying status from 1999 to 2004, a change that also led to an overall drop in the shares of tied and untied aid in this period. The cause to this is unknown.

¹Downloaded version from May 2011. All aid was examined, including administration costs and technical cooperation.

²Online version at OECD.Stat, Table DAC 7b, accessed in May 2011. Excludes administration costs and technical cooperation.

³The column labelled as “500: 4. Total Bilateral Commitments” is only the sum of untied, partially untied and tied aid, not the real total. This is easily misinterpreted and should be clarified by the DAC.

Historically, the United States has been the largest provider of tied aid, sending a total of \$158 billion tied aid during 1984-2009 in constant 2009 prices, 42% of the world's total tied aid. In terms of shares, Italy had the most tied aid over this period, with 54% (\$30 billion) tied, followed by Canada and South Korea. Egypt was the largest receiver of tied aid, receiving \$29 billion (43%) tied aid. Developmental food aid was the sector that received the largest share of tied aid between 1984-2009 with \$31 billion (55%) tied. Although free-standing technical cooperation (FTC) was more tied than average, it has generally been more untied than tied. Both FTC and administrative costs suffered from a high degree of under-reporting of tying status, likely because they are excluded from DAC7b.

Tied aid in 2009

In 2009, 15% or \$17 billion of the total \$112 billion bilateral ODA commitments was reported as tied. The remaining aid was 74% untied, less than 1% partially untied and 10% with no reported tying status. A quarter of the tied aid, \$4.2 billion, was FTC, explaining the discrepancies between the CRS and DAC7b.

The United States was the largest donor of tied aid in absolute terms with \$9 billion (30%) tied, responsible for 53% of the world's total tied aid. Germany was the second-largest tied aid donor with \$2.5 billion (27%) tied, of which \$2.4 billion was tied FTC, making it the largest donor in absolute terms of tied FTC, responsible for 57% of the world's tied FTC. Some smaller donors had the largest shares of tied aid, with Greece in the top with 60% tied, followed by Austria and South Korea with about 50% tied. Although a large donor of untied aid, Japan had the most aid with unreported tying status, with 22% lacking tying status, mostly from its \$2.3 billion FTC that had no tying status reported at all.

Notable recipients of tied aid were Iraq, with \$1.7 billion (57%) tied, Colombia with \$0.7 billion (54%) tied and Mexico with \$0.5 billion (80%) tied. In general, lower middle income countries (LMICs) received the most tied aid. In regard to sectors, much aid was tied in *government* (\$3.4 billion, 30%), *post-secondary education* (\$1.5 billion, 40%) and *refugees in donor countries* (\$1.1 billion, 36%), among others. In 2009, total administrative costs amounted to \$5.5 billion and 98% of them lacked tying status reporting.

Informally tied aid

Informally or de facto tied aid refers to aid not tied by formal contracts but still tied in practice. It has been shown that a large portion of formally untied contracts was still awarded to firms within donor countries, such as 80% of all contracts in the United Kingdom in 2005-2006. It has also been shown that increased aid is related to increased donor exports regardless of formal tying status, which indicates that much of it is informally tied. It is difficult to determine the exact extent of informal tying, but it is likely quite large. Possible causes of informal tying include a weak effort by donors to reach out to international firms, specifications on technical standards and designs set by the donor, and the goodwill hypothesis, i.e. that recipient countries are more willing to buy goods and services from donors that send them untied aid.

5.2 The effects of tied aid

On average, tied aid is at least 15-30% more expensive than untied aid because of overpricing, and likely leads to longer delivery times. There might be other potentially more severe value losses, such as missed opportunities for strengthening local markets, gaining local expertise, respecting local preferences, avoiding political tension and providing a sense of ownership of the final goods or services. The effects on donor countries are less clear. Formally tied aid has not been proved to increase donor exports, although informally tied aid has. Tied aid does provide financial benefits to certain firms and groups within the donor country, but does not seem to increase employment. There is no direct evidence that tied aid increases public support for aid in the donor country. On the contrary, public support likely depends on aid effectiveness, indicating that untying aid would increase public support for aid rather than decrease it.

Untied aid seems superior to tied aid on the task of reducing poverty, as tied aid excludes the potential benefits of local and regional procurement (LRP) from the start. Untying administrative responsibilities to recipient countries, multilateral agencies or NGOs might also be beneficial, as they can provide more neutral and recipient-centred judgements, as long as donors actively evaluate the results. On average, LRP seems to provide the most value for the recipient, although there might be specific cases when this is not so, such as when there is a high risk of crime or corruption, or when the recipient country is lacking in local suppliers and legal systems for enforcing contracts. Sourcing and procurement should be evaluated on a case by case basis, untied with no prejudicial restrictions like privileging providers

from certain countries. Instead, the expected costs and risks should be measured against the expected benefits for each potential provider and project, focusing on providing the most value for the recipient. This kind of thinking is captured by Barrett and Maxwell (2003, p. 5) in their decision tree for planning food aid projects: “Are local food markets functioning well? [If yes:] Provide cash transfers or jobs to targeted recipients rather than food aid. [If no:] Is there sufficient food available nearby to fill the gap? [If yes:] Provide food aid based on local purchases/triangular transactions. [If no:] Provide food aid based on intercontinental shipments.”

5.3 Final remarks

The real process of untying aid is likely hindered by transaction costs, such as search, information and switching costs. Seeking out global providers and comparing the alternatives takes time and is costly, as is changing old habits. Yet, this is ultimately what untying aid is all about. It is important that donor headquarters understand this and realise the potential benefits of bearing these costs. Otherwise, the responsibility to untie aid might be incorrectly transferred to lower ranks who cannot bear these costs. International organisations such as the OECD DAC should work towards reducing transaction costs by providing practical information and best practices that can inspire and assist donors in making their sourcing and procurement less tied and more effective. Clarifying and easing the process of untying aid is likely a key to combat informally tied aid.

In terms of policy implications, it seems reasonable to recommend all donors to formally untie their aid, as this would make aid more efficient at reducing poverty, possibly increasing public support for aid in the process. However, the transaction costs of untying aid might make *enforced* untying have negative effects on aid recipients, as some donors might decide to stop sending tied aid rather than to bear the costs of untying it. Recommendations to untie aid followed by information and guidance on how to accomplish this in practice seems superior to enforced untying.

Tied aid is a broad and somewhat vague term. In reality, aid can be tied at various levels and untied to various degrees, which indicates that tied aid should really be regarded as a scale rather than a dichotomy. Unfortunately, vague recommendations often lead to vague results, which might be the reason why informally tied aid is so widespread even though most aid is now formally untied. Rather than more general recommendations to “untie all aid”, what we really need is concrete advice on how to better plan, organise and implement aid projects. To advance the work on aid

efficiency, I recommend a shift from the limited topic of tied aid towards more in-depth discussions on the sourcing and contracting of aid in general. This would help us discuss the real complexity of aid organisation without being limited by overly broad generalisations such as “tied” and “untied” aid that are easily misunderstood.

The problem of tied aid is really the problem of when donors take too much control of the organisation and implementation of aid projects. However, this does not mean that we want donors to release all control, as some degree of control is needed to maintain efficiency. What we ultimately want is to avoid bad organisation of aid projects. Future studies should try to define just what is too much and too little control, what are good and bad practices, and under what circumstances this balance might change. They should attempt to measure the costs, risks and benefits of various methods and sectors, highlight those that have been the most successful at reducing poverty, and help donors understand and keep track of all the complex direct and indirect effects that aid can have on developing countries depending on who is given the money or responsibility to carry out the given tasks.

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