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MAKING PROGRESS ON FOREIGN AID

Nancy Qian

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ABSTRACT

Foreign aid is one of the most important policy tools that rich countries use for helping poor countries to improve population well-being and facilitate economic and institutional development. The empirical evidence on its benefits is mixed and has generated much controversy. This paper presents descriptive statistics which show that foreign aid to very poor countries accounts for very little of total global aid; reviews the evidence that foreign aid is often determined by the objectives of donor countries rather than the needs of recipient countries; argues that the evidence on the impact of aggregate foreign aid is hindered by problems of measurement and identification, which are partly due to the heterogenous nature of aid; and discusses recent studies using natural and randomized experiments to examine narrowed definitions of aid on more disaggregated outcomes.

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1 Introduction

Since the second World War, foreign aid has been one of the most prominent policy tools that high income countries use for assisting low income countries to increase economic growth, improve population well-being and facilitate institutional development. In a 1970 resolution, the United Nations General Assembly specified that rich countries should aim to give 0.7% of their GNP to poor countries in the form of official development aid (ODA).

> "In recognition of the special importance of the role that can be fulfilled only by official development assistance, a major part of financial resource transfers to the developing countries should be provided in the form of official development assistance. Each economically advanced country will progressively increase its official development assistance to the developing countries and will exert its best efforts to reach a minimum net amount of 0.7 percent of its gross national product at market prices by the middle of the decade." (UN 1970, paragraph 43)

During 1960 to 2013, at least 3.5 trillion dollars (2009 USD) were given as foreign aid from rich to poor countries.[1] However, Figure 1 shows that as a fraction of GNI, only seven countries have reached 0.7%. As a result, this commitment was re-stated in the Millennium Development Goals, when a deadline was set for 2015. As of 2005, sixteen of the OECD Development Assistance Committee (DAC) member countries have agreed to this.[2]

Although aid has not met the ambitious aims set by the United Nations, it can nevertheless amount to a large proportion of revenues for many recipient countries. For some, it can exceed half of GDP. An example is Liberia, where, since 2010, annual foreign aid has accounted for approximately 64% of GDP on average.[3]

[1] This figure includes all ODA given by OECD Development Assistance Committee (DAC) members. Source: OECD DAC1 flows. Aid given by non-OECD DAC members (e.g., Russia, the United Arab Emirates, China) are excluded.

[2] In 2005, the DAC had 22 members. They all meet the technical standard of being "high-income"—which has a GDP per capita threshold of around US$10,000 per capita in 2005. Australia, Canada, Japan, Switzerland and the United States have not set a timetable. See www.oecd.org for more information.

[3] Aid data comes from DAC2 flows by recipient and year (QWIDS) and GDP data comes from WDI.

Given the enormous amount of resources put into foreign aid and the call from international policymakers to increase it further, it is unsurprising that aid has always been and remains a subject of controversy for academics and policymakers. On the one hand, proponents argue that aid can help poor countries break out of the vicious cycle of poverty by funding "the core inputs to development – teachers, health centers, roads, wells, medicine, to name a few..." (United Nations 2004). In a discussion of U.S. aid to Africa, author of *The End of Poverty: Economic Possibilities of Our Time,* Jeffrey Sachs said that "[cutting aid] amounts to a death sentence for more than 6 million Africans a year who die of preventable and treatable causes, including undernourishment, a lack of safe drinking water, malaria, tuberculosis and AIDS" and that "increased financing could help end school fees, pay for more classrooms and teachers, buy school meals that contain locally produced foods and invest in water and power so women and children do not continue to spend their lives fetching water and wood for fuel. Inaction by the United States will claim millions of lives and add to global instability" (Sachs 2005).[4] On the other hand, many have expressed skepticism about the effectiveness of foreign aid. For example, author of *White Man's Burden* and the *Elusive Quest for Growth*, William Easterly, points out that "[in the past forty years] $568 billion spent on aid to Africa, and yet the typical African country is no richer today than 40 years ago" (Easterly 2006). In his recent book, T*he Great Escape: Health, Wealth, and the Origins of Inequality,* Angus Deaton observes that "one central dilemma for foreign aid" is that "When the 'conditions for development' are present, aid is not required. When local conditions are hostile to development, aid is not useful, and it will do harm if it perpetuates those conditions" (Deaton 2013). Even humanitarian aid is controversial. In fact, it has been since the beginning of the Red Cross. Somewhat ironically, Florence Nightingale, who is often referred to as the "godmother" of humanitarianism, argued against the establishment of the Red Cross as she believed that the reduction of human suffering inadvertently eases the political burden of war on governments, and, by reducing the political cost of warfare, will actually increase the probability of conflict (Polman 2010).

[4]In his book, Sachs also argue that poverty can be entirely eliminated if rich countries commit $195 billion in foreign aid per year during 2005-2015 (Sachs 2006).

The policy debate has prompted a large body of research evaluating the impact of foreign aid. However, the mixed empirical evidence, which I will discuss later in the paper, has only exacerbated the controversy. For example, a World Bank meta study of evaluations acknowledges that "despite the billions of dollars spent on development assistance each year, there is still very little known about the actual impact of projects on the poor."[5] In *Making Aid Work*, Abhijit Banerjee argues that "aid has much to contribute, but the lack of analysis about which programs really work causes considerable waste and inefficiency, which in turn fuels unwarranted pessimism about the role of aid in fostering economic development" (Bates et al 2007). The need for better evaluations of the numerous past interventions for assisting the poor is also called for by Banerjee and Duflo (2011) in their book, *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.*

The goal of this review article is to summarize the empirical evidence on the determinants and impact of foreign aid, and to discuss the causes of our meager understanding and possible ways forward. The goal of this article is not to provide a comprehensive review of the literature, and it is beyond its scope to give credit to all those who have contributed to our understanding of this important question.

Section 2 briefly discusses how foreign aid can affect outcomes that have featured in the empirical literature such as growth, conflict and political accountability.

In Section 3, I provide a brief overview of the structure of foreign aid. I describe the different forms that aid can take, as well as the changes in aid flows over time and space. The data show that aid flows have remained relatively constant during the period of 1960-2013. The countries that comprise the top donors also remain mostly unchanged. In contrast, the composition of the top foreign aid recipients changes significantly over time. Consistent with the evidence discussed in the next section of the paper, much of the change in recipient composition seems aligned with foreign policy concerns of donor countries rather than changes in poverty levels in the recipient countries. Perhaps somewhat surprisingly, the data show that annual aid to the poorest twenty percent of countries of the world comprise only 1.69% to 5.25% of total global

[5]See "Evaluating the Impact of Development Projects on Poverty: A Handbook for Practitioners" by Judy L. Baker (2000), Washington D.C.: LCSPR/PRMPO, The World Bank.

aid flows. To the extent that data are available, this section will also provide a breakdown of the types of foreign aid that are given and how that composition has changed since 1960. For example, from 1970 to 2013, annual total global multilateral aid is only two to ten percent of annual ODA, and humanitarian aid never exceeds eight percent of annual ODA. I also document that a significant portion of aid is spent in donor countries. While this may be a legitimate use of funds, it complicates the valuation of aid and needs to be taken into account in the research design.

Section 4 discusses the evidence on the determinants of foreign aid, which political scientists have long argued are primarily the political and economic concerns of donor countries rather than the economic need of recipients. Studies in economics have provided a wealth of correlational evidence and evidence from natural experiments in support of this view. While each study may be imperfect, the finding that strategic concerns of the donor countries are important driving forces persists across studies of different contexts, data and methods such that there is a reasonable consensus that foreign aid is often unrelated to the needs of the recipient country.

Section 5 discusses the more controversial literature on the impact of aid. The evidence come from within as well as from across countries, and the results are very mixed. Depending on the measures used, the empirical strategy that is employed, and the context of the study, the results can vary widely from finding that aid can be quite beneficial to being harmful.

There are many possible causes for the lack of consensus, and there exist potential problems with each study. I focus my discussion on the need for future research to shift away from examining aggregate aid towards more narrowed definitions because aggregation exacerbates several fundamental difficulties of empirical research. First, aggregate ODA is difficult to interpret as it is comprised of many different types of aid (e.g., debt relief, cash transfers, food, etc.). Each type of aid faces different measurement issues and, more importantly, each affects a different set of outcomes. For papers that examine aggregate outcomes such as growth, this conflation is particularly problematic since some consequences of aid may affect growth (e.g., infrastructure) while some are unlikely to, at least in the short or medium run

(e.g., expenditure on refugees in donor countries). The tendency for past studies of foreign aid to study the relationship between aggregate ODA on growth therefore confounds the influences of multiple factors. It is not surprising, then, that the results are sensitive to small changes in data, measurement and specification. The confluence of factors also makes it difficult to map empirical results to theory with any rigor.

Second, the aggregation of data increases the significant challenge of establishing causality that is faced by any impact evaluation. To find plausibly exogenous variation in foreign aid so that its casual impact can be evaluated, researchers typically need to either find variation from natural experiments (e.g., policy shocks) that are unrelated to the outcome of interest except through foreign aid or conduct randomized experiments to create such variation. For both methods, it is much easier to focus on a particular type of aid. Narrowing the type of foreign aid that is examined will also allow researchers to identify a narrowed set of outcomes *ex ante* that are most likely to be affected to the aid of interest, which has the benefits of easier interpretation and avoiding problems of data mining.

For rigorous analysis using natural experiments to be feasible, researchers will need to have access to high quality data on potentially important outcomes as well as a thorough understanding of aid policy. However, this is often not possible. For example, good measures of health, an outcome which is very likely to be influenced by aid, are not systematically available on a country and year basis. The available measures (e.g., WDI indicators) are typically interpolated across space and over time from very few data points. These data are hard to interpret and the interpolation means that they cannot be used with more rigorous empirical strategies that require both temporal and spatial variation.

Similarly, to understand the determinants of aid, researchers must overcome the lack of transparency from policymakers. The motivations behind aid policy are typically not well-documented and even detailed data on the types of aid and the valuation of aid flows are often unavailable.

Section 5 also discusses some recent studies that use currently available data and create empirical strategies from natural or randomized variation for a particular type of foreign aid to

identify its causal effect on disaggregated outcomes. For example, Werker et al (2009) show that large transfers from OPEC countries to poorer Muslim countries increases consumption and unaccounted transfers of funds out of the recipient country. Several studies show that conflict increases in response to U.S. military aid (in Colombia) (Dube & Naidu 2011), U.S. food aid (across low-income countries) (Nunn & Qian 2014b) and community driven development aid (in the Philippines) (Crost et al 2014). Two other studies find that foreign aid can reduce political accountability, but that this problem can be mitigated by providing recipients with more information about aid allocation (Manacorda et al 2011, Guiteras & Mobarak 2014).

The ultimate goal for researchers and policy makers interested in development is to design effective aid policies. Therefore, Section 6 considers several recent studies that have used field experiments to understand the effectiveness of different ways of delivering aid. For example, (Casey et al 2012) finds that increased citizen participation in community driven aid in Sierra Leone results in positive short-run effects on local public goods and economic outcomes, but no effects on the quality of institutions. At the same time, (Olken et al 2012) shows that linking financial incentives to block grants for improving maternal and child health improved aid performance in rural Indonesia.

Finally, Section 7 offers concluding remarks. The review of the literature shows that research has attempted to address two closely related, but nevertheless very different, sets of questions. The first asks whether existing foreign aid has been effective. The second asks whether or how foreign aid can ever be effective. While the answers to these two questions are highly complementary, it is important to not directly apply answers for the first question to address the second one. This is particularly important when interpreting results for policy.

2 How Foreign Aid Can Matter

There is no unified framework for understanding the impact of foreign aid. The effect of aid on the recipient country and the mechanisms driving it depend on the type of aid and the

outcomes of interest. This section provides a brief discussion on the mechanisms, aid forms and outcomes that appear most frequently in the empirical literature discussed in Section 5.

First, consider aggregate outcomes such as growth. In principle, foreign aid can lead to positive or negative economic outcomes. On the one hand, aid can relieve credit constraints faced by the government and allow it to invest in the development of public infrastructure and human capital, which can in turn increase growth. On the other hand, large inflows of foreign aid can have unintended consequences such as triggering the Dutch Disease, where the increase in aid increases the exchange rate, which increases the price of exports and thus reduces the competitiveness of the manufacturing sector (Rajan & Subramanian 2011).[6]

Second, consider conflict, which has received significant attention from recent empirical studies. The theoretical literature yields mixed predictions for the effect of foreign aid, which is essentially an exogenous increase in government revenues, on conflict. On the one hand, standard contest models of conflict predict that increased revenues can increase conflict in equilibrium because they increase the returns to controlling the government (Garfinkel 1990). The recent study by Besley & Persson (2011) emphasizes the importance of commitment and makes the point that an exogenous increase in government revenues will only increase conflict in the presence of weak institutions or a non-representative government, where the government and opposing factions cannot commit to make transfers to other factions. Other studies, such as Collier and Hoeffler (2002), argue that aid flows can reduce conflict because increasing aid revenues can relax government budget constraints, which can increase military spending and deter opposing groups from engaging in conflict.

The effect of aid on conflict also depends on the mode in which it is given. For example, a program which subsidizes wages may reduce conflict by increasing the opportunity cost of fighting (Dube & Vargas 2013, Miguel et al 2004). In contrast, aid which reduces wages could, by the same mechanism, increase conflict. An example is food aid, which could reduce farm-gate prices faced by domestic farmers (Kirwan & McMillan 2007, Pedersen 1996).

Finally, aid can affect political accountability. On the one hand, foreign aid may be a tool for

[6]See Easterly (2003) for a discussion of the different mechanisms through which aid can promote or hinder growth.

donor countries to support politicians and policies that will bring about positive institutional development. On the other hand, donor countries may not have the best interests of recipient countries at heart. Moreover, even with the best intentions, foreign aid may reduce political accountability because large inflows of aids could relax the need of the government to appease its tax base. The mechanism operates similar to that of a natural resource curse or for any large positive shock to government revenues. Recently, these concerns have been raised in several prominent books about development and aid (e.g., Deaton 2013, Easterly 2003).

3 Descriptive Facts

This section lays out a few basic facts about foreign aid. Official Development Assistance (ODA), the most common measure of foreign aid in the academic literature and policy discussions, is reported by the OECD Development Assistance Committee (DAC). Most aid is given by DAC member countries. Currently, there are 29 members: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, the European Union, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States (OECD 2014). Data for ODA are reported annually starting in 1960. Figure 2 shows that total ODA disbursements increased dramatically from approximately 4.65 billion USD in 1960 to 180 billion USD in 2013. All values in this paper are reported in constant 2009 USD. In total, ODA from OECD DAC members sum to approximately 3.5 trillion USD for the 64 year period.

Figure 2 plots disbursements for the top ten donor countries. Throughout this section, ranks for donors and recipients are defined according to 2013 aid flows.[7] It shows that the United States gives the most on average. Until the mid 1990s, the trend in total ODA was driven by Japan and European countries such as Germany and France. Since then, the trend has been driven by the United States. Amongst the top donors, only Saudi Arabia is not a member of

[7]Since the number of donor countries increased over time, using 2013 aid flows to define the ranks avoids excluding countries that became donors later. For consistency, I also use 2013 flows to define the top recipients.

the DAC.

In Figure 3, I plot aid given by the top non-DAC member donors. It shows that total aid from non-DAC members was high during the 1980s, peaking at approximately twenty billion USD. This was mainly due to aid from Arab countries such as Saudi Arabia, the United Arab Emirates and Kuwait. Non-DAC aid declined significantly to approximately one billion USD in the late 1990s, and rose moderately since 2000 to approximately five billion USD. The latter rise is driven by Saudi Arabia.

We also note that foreign aid from China has increased dramatically in recent years. AidData estimates that annual Chinese ODA has risen almost sixfold from approximately three hundred million USD in 2000 to approximately two billion USD. This balance makes China comparable to Saudi Arabia in terms of the level of foreign aid given in the same years. Compared to DAC donors, China would rank similarly to Belgium and Spain in 2012 as the approximately 35th or 36th largest donor. Most of this aid is given to countries in Southeast Asia and Africa. AidData notes that the data for China are incomplete. As the OECD does not report aid from China, it will not be included in the subsequent figures and tables.

Figure 4 plots the ODA disbursement for the ten countries that have received the highest annual ODA during 2013. It shows that the increase in global ODA and U.S. ODA after 2000 in Figure 2 is mainly driven by aid to Afghanistan, which coincides with the War in Afghanistan (2001 -).

To assess the importance of aid for a low-income country, it is useful to examine aid as a percentage of GDP. Figure 5 plots this variable for the top ten recipients, excluding small island nations. It shows that the importance of aid for a national economy can change dramatically over time. For example, for Mozambique, aid increased from approximately 10% of GDP in the mid 1980s to almost 80% of GDP by the mid-1990s. For Afghanistan, aid increased from approximately 20% in 2000 to approximately 50% by 2010.

In considering the determinants of aid flows, it is interesting to examine whether the composition of top donors and recipients change over time. Table 1 lists the ten donor countries with the highest annual disbursement for each decade. With the exception of the decline of

aid from Saudi Arabia and Kuwait over time, it shows that composition of the major donors is reasonably stable. In considering the influences of donor countries that may arise through foreign aid, note the large differences in ODA between the top donor and the next highest donor. With the exception of the 1990s, the top donor is always the United States, and it gives 1.6 to 4.1 times as much as the next largest donor. Relative to the tenth highest donor, the largest donor gives between approximately 6.2 to 39 times as much.

Table 2 lists the ten countries that receive the highest annual ODA for each decade. The patterns for the composition of top recipients over time are very different from those of the top donors in that there is significant change over time. A casual glance suggests that the top recipients are countries that are politically important to the top donor countries. For example, Vietnam features in the top ten in the 1970s during the peak of America's war with Vietnam. China features in the 1980s and 1990s, during the early reform-era. Iraq and Afghanistan make it to the list after 2000, during the War in Afghanistan (2001-) and the Iraq War (2003 - 2011). I will discuss the empirical evidence on the strategic interests of donors more in the next section of the paper.

Aid is more equally distributed across recipient countries than across donor countries. The highest recipient receives one to 2.5 times more aid than the second highest recipient and 2.2 to 9.3 times more aid than the tenth highest recipient.

Table 3 is an analogous list except that it defines ODA as a percentage of GDP. As before, small island nations are excluded. This list is more stable in that it mainly features Sub-Saharan African countries. The distribution of aid is also relatively equitable. The top recipient receives approximately 1.2 to 1.7 more than the second highest recipient and two to 4.5 more than the tenth highest recipient.

Another way of examining aid from the recipients' perspective is to measure aid in per capita terms. Table 4 lists the top ten aid recipients in terms of average annual per capita ODA flows for each decade. The list comprises mostly of countries from the Middle East, Sub-Saharan Africa and Latin America. As with the other lists, the composition changes over time.

Since a large part of the debate about the effectiveness of foreign aid centers around raising

the poorest countries out of poverty, I examine the amount of aid received by countries of different income levels. I divide all ODA recipients into five equally sized quintiles depending on a country's GDP rank each year. Figure 6 plots average ODA per capita received by countries of each income quintile over time. It shows that in per capita terms, the poorest countries, which are highlighted in the thick red line, receive the largest amount of aid. With the exception of a peak in the mid 1990s, aid to these countries have been relatively stable at approximately 400 USD per year. This amount is approximately four times or more than what is received by other countries.

Figure 7 plots the analogous relationship, except that does not normalize ODA levels with population. A very different pattern emerges. The poorest countries, again highlighted by the thick red line, receive very little aid in comparison with richer countries. In fact, income is inversely correlated with the amount of aid received. The thick gray line shows that aid to the poorest 20% countries comprise only 1.69% to 5.25% of total global aid.

In Table 5, I investigate the contribution of several factors (log population, log GDP during the past year, growth during the past year, whether there was any conflict during the past year, whether there is a small or large natural disaster in the current year) to ODA from OECD DAC donors. Small natural disasters are defined as those that kill more than 100 people. Large disasters are defined as those that kill more than 1,000. Across the columns, I gradually introduce year fixed effects to control for time trends, country fixed effects to control for time-invariant differences across countries and then both sets of fixed effects. The table reports standardized coefficients and p-values. The standard errors are clustered at the recipient country level.

The overall pattern is similar regardless of which controls are used. The coefficients for lag growth, lag conflict incidence and the dummy variables for whether there is a small or large natural disaster are very close to zero and mostly statistically insignificant. The one exception is the coefficient for small natural disasters in column (4), which is 0.0255 and significant at the 10% level. However, the magnitude is still very small – a one standard deviation change in whether there is a small natural disaster is associated with a 0.026 standard deviation change

in log ODA. In contrast, the most important contributors are population and lag GDP. These coefficients are statistically significant at the 5% or higher level in all specifications. The association with population is negative, meaning that more populous countries receive less aid. The association with lag GDP is positive, meaning that richer countries receive more aid. Together, these two estimates also imply that countries with lower per capita GDP receive less aid. The influence of GDP is large. A one standard deviation increase in GDP is associated with a 1.37 to 1.87 standard deviation increase in log ODA.

The estimates in Table 5 show that countries that are richer in total and in per capita terms receive much more aid, while factors such as poor economic growth or the occurrence of natural disasters has very little influence.

The effect of aid will depend on who gives the aid (why the aid is given) and the type of aid that is given. Here, I consider the crudest categorizations for each dimension. Donors can be divided into two groups. The first is bilateral aid which is given from one country to another. The second is multilateral aid which is given by a group of countries or an international organization representing a group of countries to a recipient. Past studies such as Easterly (2003) have argued that multilateral aid is more effective than bilateral aid. Figure 8 plots ODA that is bilateral and multilateral over time. It shows that multilateral aid has increased rapidly over time from being less than three percent of total ODA during the 1970s to approximately 10% since 2010. However, in terms of total aid, multilateral aid still constitutes a small proportion.

At the crudest level, aid can be categorized into different types. The most crude categorization is to divide aid into humanitarian and non-humanitarian aid. According to the OECD, "humanitarian aid is assistance designed to save lives, alleviate suffering and maintain and protect human dignity during and in the aftermath of emergencies. To be classified as humanitarian, aid should be consistent with the humanitarian principles of humanity, impartiality, neutrality and independence. Humanitarian aid includes: disaster prevention and preparedness; the provision of shelter, food, water and sanitation, health services and other items of assistance for the benefit of affected people and to facilitate the return to normal lives and

livelihoods; measures to promote and protect the safety, welfare and dignity of civilians and those no longer taking part in hostilities and rehabilitation, reconstruction and transition assistance while the emergency situation persists. Activities to protect the security of persons or property through the use or display of force are excluded. Includes aid to refugees in developing countries, but not to those in donor countries. Relief food aid comprises supplies of food, and associated costs, provided for humanitarian relief purposes" (OECD 2000).

Non-humanitarian aid includes development aid, which seeks to address the underlying socioeconomic factors which may have led to a crisis or emergency. This category includes a large range of aid types, including debt relief, administrative costs and scholarships for students from low-income countries to study abroad.

Figure 9 shows that humanitarian aid is a very small proportion of total ODA. In the period for which data are available, 1995 to 2013, it ranges between a little over four percent to nine percent of total ODA. This is interesting since humanitarian aid, especially relief aid for natural disasters and conflict, is arguably the form of foreign aid that is most salient in the minds of the public and receives much more press attention than other types of aid.

To understand how aid is spent, it is useful to note that it comprises of many different types of aid, even for one recipient country. "For example, Sierra Leone received US$408 million in aid in 2011, according to DAC statistics. But what it got was a bundle: US$181 million in cash grants, US$48 million in loans, US$82 million in cash and in-kind transfers to support specific projects, US$35 million in food and other commodities, US$48 million in people and expertise and US$10 million invested on its behalf in GPGs, development education and NGOs; US$3 million was spent within donor countries on administrative costs, student costs and similar items".

Aid can also vary in where it is spent. "For example, Denmark and Italy each reported giving just over US$2 billion in bilateral ODA in 2011. More than two-thirds of Denmark's aid was transferred to developing countries as cash grants, cash loans, project support or technical assistance. By contrast, more than two-thirds of Italy's aid, mainly debt relief or housing refugees in Italy, did not transfer any new resources to developing countries". The degree

to which aid is transferred varies not just across donor countries, but also across recipient countries. "Headline figures show Afghanistan, Solomon islands and Togo as equally aid dependent, but unbundling shows that the Solomon islands are dependent only on expertise and that Togo's reported aid never left the donor country" (Development Initiatives 2013).

Table 6 lists the average annual aid spent within the donor countries during 2006-2012 for all donor countries for which data are available.[8] It shows that Korea spends the least amount of its foreign aid disbursements at home (5.53%) and Austria spends the most at home (68.61%). Amongst the top ten donors, in boldface, non-transferred aid ranges from 9.99% for the United States to 40.08% for France. For most donors that spend a high percentage of foreign aid at home, the major categories of non-transferred aid are debt relief and administrative costs, and, to a lesser extent, expenditure on refugees in donor countries. Sweden and Canada differ slightly in that expenditure on refugees constitutes a higher proportion of their non-transferred aid.

Figure 10 plots the percentage of foreign aid that is not transferred to the recipient country over time for the top ten donors and for all of the DAC countries combined. It shows that non-transferred aid for the United States and Germany have declined over time. For other countries, it has remained relatively constant over the seven year period. Figure 11 plots non-transferred aid by type for all donor countries over time. It shows that the decline in non-transferred aid is due to the decline in debt relief. Other forms of non-transferred aid have remained constant over time.

While expenditures within the donor countries can be legitimate means for assisting poor countries, they do not necessarily lead to the same outcomes as aid that reaches poor recipient countries. For example, it is unclear how expenditure on refugees within donor countries would result in measurable amounts of growth.

The fact that a significant portion of aid is spent within donor countries also raises a problem of valuation. For example, administrative costs could vary widely depending on labor costs and other factors across donor countries. This means that higher amounts of aid in the form

[8]The OECD data for non-transferred ODA are only available for 2006-2012, and only for the long-term high income members of the OECD.

of administrative costs does not necessarily mean higher values of effective assistance to a poor country.

The valuation problem also exists for aid that is transferred to the recipient country. Consider the case of in-kind transfers, 26% of which is food aid. The food is valued at the price of the donor country, which can be much higher than the price of food in the recipient country. For example, a recent study finds that sorghum in U.S. ODA in 2010 was valued at 215% higher than the average local market price in Chad, 95% higher than that in Somalia, and 63% higher than that in Sudan (Development Initiative 2013). If this is not taken into account, then an evaluation of U.S. food aid may likely find that a dollar of food aid yields smaller-than-expected benefits to the recipient country. Moreover, the relative price differences mean that the same amount of U.S. food aid will have different values for different recipients. Empirical studies on the effect of food aid which do not take this into account could introduce non-classical measurement error to their explanatory variable.

Food aid provides an example of another type of valuation problem. By law, 50% of U.S. food aid must be transported on U.S.-flagged cargo ships. This threshold is recently lowered from the previous 75% requirement (Development Initiative 2013). The data for the cost breakdown and the determinants of pricing are not publicly available. This raises two potential issues. First, if the pricing for shipping is not competitive, we again face the difficulty of comparing the value of food aid over time and across countries. For example, if U.S. food aid values are higher than Australia's because the U.S. faces higher shipping costs, it would be hard to argue that U.S. food aid is worth more to the recipient country that Australian food aid. Second, if we are interested in the effect of food aid on the recipient country, one could argue that the money paid to U.S. cargo ships should not be counted towards aid.

All of the difficulties discussed here are compounded by the fact that the composition of aid and the way that it is valued vary across countries and over time. Not carefully accounting for it could lead to very misleading results. Yet, it is very difficult to obtain systematic information on the detailed breakdown of the cost structure of aid and valuation methods. Later in Section 5 and the Conclusion, I will discuss how making detailed data available on

the types of aid, the cost structure, and the methods used to price aid are critical for making progress on understanding the effects of aid.

4 The Determinants of Foreign Aid

Political scientists have long argued that strategic concerns drive aid flows. For example, studies have found that humanitarian criteria did not significantly affect U.S., U.K. or French aid flows to non-communist countries during the Cold War. Instead, they were likely driven by foreign policy concerns and the promotion of trade for the donor countries (McKinlay & Little 1977, McKinlay & Little 1978, McKinlay & Little 1978b). Similarly, Meernik et al (1998) argued that foreign aid during the Cold War was mainly driven by security concerns, whereas after the Cold War, it was driven by ideological motivations. Schraeder et al (1998) provide case-study and statistical evidence that some of the largest donor countries allocate aid to Sub-Saharan African countries during 1980-89 for reasons other than the economic needs of the recipients. They argue that the United States directs aid depending on countries' ideological stances; that Japan directs foreign aid to countries of economic importance, particular those with raw materials or major markets for export; that Sweden focused its aid on countries that were not supported by the United States or the Soviet Union and those with socialist regimes; and that France gave much more aid to Francophone and militarized countries, which the authors interpret as the French government being motivated by cultural propagation.

In economics, a large number of studies furthered the evidence for the hypothesis that strategic concerns of donor countries underpin foreign aid flows. In a cross-country study, Alesina & Dollar (2000) collect data on bilateral aid flows for OECD countries for 1970-1994 and find that the amount of aid is positively associated with former colonial ties and increases with the duration of colonization. They also find that aid is positively associated with the number of votes that the recipient country votes in agreement with the donor country in the United Nations General Assembly. They interpret this evidence as donors giving aid for strategic purposes. For income, they find that most countries give more to poorer countries, but there

is significant variation in the degree to which the amount of aid varies with income. They find that Nordic countries have the highest elasticity with respect to poverty levels.

In a study that focuses on food aid to Sub-Saharan Africa, Nunn & Qian (2014) provide consistent evidence. They examine the supply-side and demand-side determinants of global bilateral food aid shipments between 1971 and 2008, where food aid is measured in metric tons of food. This strategy avoids the valuation problems discussed in the previous section. They find that domestic food production in developing countries is negatively correlated with subsequent food aid receipts, suggesting that food aid receipt is partly driven by local food shortages. Interestingly, food aid from some of the largest donors is the least responsive to production shocks in recipient countries. Second, they show that U.S. food aid is mostly driven by domestic production surpluses, whereas former colonial ties are an important determinant for European countries. Aid flows to countries with former colonial ties are less responsive to recipient production.

The main caveat for interpreting the results from Alesina & Dollar (2000) and from Nunn & Qian (2014) is omitted variable bias. For contemporaneous explanatory variables, one may be concerned about reverse causality. For example, more aid could cause a recipient country to vote more favorably with the donor country in the United Nations. Similarly, more aid could increase income. For historical variables such as colonial ties, one may be concerned that such ties could influence aid flows through channels other than the strategic considerations of donor countries. For example, donor countries may have more information about former colonies which can, in principle, reduce monitoring costs. Similarly, infrastructure may be better so as to reduce the cost of transferring aid to former colonies.

Several recent studies have addressed such problems of identification strategies using natural experiments. In the case of the relationship between strategic alliance in the United Nations and foreign aid, Kuziemko & Werker (2006) exploit plausibly exogenous variation from UN Security Council rotating memberships and the importance of the Council to the United States in a given year. They proxy for the importance of the Council with the number of articles containing "Security Council" in the *New York Times* in a given year. The logic of their

natural experiment is that Council members are strategically more valuable to the United States than General Assembly members because they are more likely to vote on important policies. The strategic value (to the United States) increases further in years when there are issues which are important to the United States. Their strategy assumes that the interaction of the rotating membership, which is potentially endogenous, and the strategic importance of the Council to the United States in a given year is plausibly exogenous. They then show that the interaction effect on the amount of aid received from the United States is significantly positive. Thus, the amount of U.S. foreign aid received by a rotating member on the Security Council is increasing in the strategic value of the Council member to the United States.

Nunn and Qian (2014b) document that U.S. food aid, measured in metric tons, is mostly driven by U.S. price support policies to domestic farmers. The U.S. government provides a price floor to U.S. wheat farmers such that when weather conditions are good in wheat producing regions in the United States and more wheat is produced, the U.S. government increases its purchases of wheat to subsidize U.S. farmers. The purchased wheat is then given as food aid to poor countries. Therefore, although U.S. food aid is broadly correlated with the level of a country's economic development (i.e., rich countries do not receive U.S. food aid), the amount of aid does not correspond to a recipient country's need on a year-to-year basis. They predict lagged U.S. production with lagged weather conditions in wheat producing areas of the United States and control for weather in recipient countries to address the possibility that they are correlated with U.S. weather conditions. Since weather conditions in wheat producing regions are unrelated to the needs of poor countries beyond these and other controls, the relationship they document can be interpreted as causal.[9] Given that the United States is the world's largest donor of food aid and that most U.S. food aid is wheat, this means that a significant amount of global food aid is determined by changes in weather in wheat producing regions of the United States, which is uncorrelated with changing food needs in recipient countries.

In a related study about U.S. relief aid, Eisensee & Stromberg (2007) show that aid is partly

[9]The results where U.S. production is predicted by weather are shown in a in earlier working paper version.

determined by the occurrence of other newsworthy events. They document 5,000 natural disasters during 1968 to 2002, twenty percent of which received assistance from the United States Agency for International Development (USAID). They find that the amount of aid given is negatively associated with the occurrence of other newsworthy events such as major sporting events or the O.J. Simpson trial. Since the occurrence of these other events are unrelated to that of natural disasters, the authors conclude that media coverage has a causal impact on aid. Their results are similar when controlling for the size of the calamity (e.g., the number killed by the disaster). Thus, it is not the case that other events only drive out smaller disasters, which would receive less aid in any case. A plausible mechanism for their findings is political accountability of the U.S. government. More media coverage leads to more attention from voters. Assuming that U.S. voters value relief aid, the government will provide more assistance to disasters that voters pay attention to because of re-election concerns. The results of this study imply that one of the reasons for the varying degrees of responsiveness of foreign aid to need may be domestic political pressure/interest within donor countries (rather than the degree of need in recipient countries).

In another related study, Faye & Niehaus (2012) uses a differences-in-differences strategy to find that recipient country administrations that are politically closely aligned with a donor receive more aid from OECD countries during election years, while those that are less aligned receive less during election years. An administration that is two standard deviations more politically aligned with the donor receives $20 million more ODA on average during an election year as opposed to a non-election year. This is 35 percent of mean annual ODA level in their sample. They find that political aid cycles are driven by donor-specific alignment and not alignment with all donors in general. They also find that their result only applies to competitive elections, which is consistent with the hypothesis that donor governments are trying to use foreign aid to influence electoral outcomes. These results could be consistent with donor countries attempting to use aid to improve institutions, but are also consistent with donor countries prioritizing political goals when deciding aid.

There are fewer within-country studies. For example, using a cross-section of household in

1996, Jayne et al (2002) find that food aid in Ethiopia is not concentrated in the poorest regions. In fact, it is spatially continuous. The authors argue that this is likely to be due to the fixed cost in aid delivery.

The evidence for the determinants of aid consistently shows that factors unrelated to the need of recipient countries are important determinants of aid. This holds across contexts, different ways of measuring aid and a variety of empirical strategies.

One limitation in this branch of the aid literature is the lack of evidence for how much of total ODA can be attributed to strategic goals versus economic needs of the recipient country. A careful accounting exercise using the evidence from correlational studies and natural experiments could be very helpful for assessing the magnitude of aid that is donor-driven versus driven by recipient needs.

5 The Consequences of Foreign Aid

The empirical literature on the impact of foreign aid is perhaps one of the most controversial ones in development and growth economics. On the one hand, a number of studies have found that foreign aid can be beneficial. Dollar & Burnside (2000) provide case study and cross-country evidence from 56 countries during 1970-1993 that multilateral aid can promote growth if given to countries with good economic policies, which they measure as a function of the budget surplus, inflation and trade openness. The authors use OLS and also instrument for policy using variables such as the linguistic composition of the recipient country, the distance from the equator, log population. Collier and Dehn (2001) introduce export shocks into the growth-aid regression to find that controlling for GDP levels, foreign aid can help mitigate the averse effects of negative export shocks for a panel of 113 developing countries during 1957-1997.

On the other hand, a large number of studies have emerged to dispute the positive effects of foreign aid. For example, Easterly et al (2003) and Easterly (2003) show that the Dollar & Burnside (2000) results are sensitive to the inclusion of additional years of data and question

the validity of the exclusion restrictions for their instrumental variables strategy. Roodman (2007) examines the sensitivity of seven important papers on the positive impact of aid on growth to slight changes in the set of controls, different definitions of aid (e.g., ODA or Official Development Assistance, EDA or Effective Development Assistance), different GDP measures for normalization (e.g., real GDP from the Penn World Tables, GDP in dollars at market exchange rates), different definitions of good institutions/policies, examining different time periods, removing outliers, and expanding the sample to 2001.[10] He finds that all of the results are fragile.

Recently, Galiani et al (2014) improved on the identification of older papers with a strategy similar to a regression discontinuity. They focused on 35 poor countries, some of which crossed an arbitrary per capita income threshold that made these countries ineligible for aid from the World Bank's International Development Association (IDA). Under the interpretation that countries above the threshold are identical to those below the threshold except that those above receive less aid, the authors used whether a country is above or below the threshold to instrument for aid. They find that aid increases growth.

A number of studies also find that aid can result in negative outcomes for recipient countries. For example, Djankov et al (2008) study ODA from OECD countries using a panel of 108 countries during 1960-1999 and institutional quality data from the Polity IV database. The authors instrument for foreign aid with variables such as the initial level of income and population and find that aid reduces democracy for the top quartile of recipients. In another example, Rajan & Subramanian (2011) provide evidence for the Dutch Disease. The authors exploit cross-country and cross-industry variation for a panel of 32 countries during the 1980s and 1990s that receive foreign aid greater than one percent of the recipient's GDP. This study finds that aid inflows reduce the relative growth rate of export industries and provides some evidence that the main mechanism is real exchange rate appreciation caused by aid inflows. Svensson (2000) finds that foreign aid, like trade windfalls, increase corruption in a panel of

[10]Roodman (2007) focuses on Dollar & Burnside (2000), Collier & Dehn (2001), Collier & Dollar (2002), Collier & Hoeffler (2004), Hansen & Tarp (2001), Dalgaard et al (2004), Guillaumont & Chauvet (2001). Easterly (2003) also reviews these papers.

66 countries during 1980-1994.

The results across the different studies can vary for a large number of reasons. One key difficulty comes from the fact that much of the existing literature examines aggregate ODA, which is a bundle of many different types of aid. As was shown in Section 3, aid can differ in whether the donor is a country or a multilateral agency, designated as humanitarian or non-humanitarian, transferred as cash or in-kind, or spent in the donor or the recipient country. Each aspect can influence how aid affects the recipient country. Thus, examining the impact of aggregate aid confounds a bundle of different and potentially offsetting mechanisms. This problem is particularly prominent when one examines aggregate outcomes such as growth. For example, aid used to construct infrastructure may improve growth in the short and medium run. However, large cash transfers may reduce the competitiveness of the manufacturing sector and have negative consequences on growth.

The aggregation of aid also increases the difficulty in developing credible identification strategies. Variation used in existing studies from factors such as geography, population and income naturally leave open many concerns about the exclusion restriction, since these factors can each affect growth through channels other than aid. To find a plausibly exogenous source of variation in aid, researchers need to understand the details of aid implementation and find natural variation that affects the outcome of interest only through aid or conduct a randomized experiment, both of which increase in difficulty with the aggregation of aid.

A third problem is valuing aid. As discussed in Section 3, data on the amount of aid disbursement includes significant amounts of expenditures that never reach the recipient country (e.g., administrative costs, debt relief, shipping costs for food aid). If overhead costs are higher in Norway than in the United States, it is unclear that more aid spent on administrative costs on Norway implies more aid to the recipient country. Similarly, if shipping costs for U.S. food aid are not priced at market prices (i.e., the industry for shipping U.S. food aid is not competitive) such that U.S. cargo ships charge higher prices than ships that carry food from the European Union, then it becomes unclear how to value aid dollars spent on U.S. food aid for shipping. For in-kind foreign aid such as food aid, another difficulty comes from the

valuation of food. If U.S. food is priced much higher than food in the recipient countries or food from other donor countries, how do we compare a dollar of U.S. food aid versus a dollar of EU food aid? The fact that the composition of aid varies across countries and over time means that if this is not carefully accounted for, the results could be very misleading. These issues need to be carefully addressed with detailed data on the cost structure of aid and a thorough understanding of how prices are set.

Several recent studies have improved on the measurement and/or identification issues facing earlier studies by exploiting more detailed variation in aid caused by a narrow set of aid policies. Narrowing the set of aid policies also allows researchers to avoid compositional difficulties and to examine outcomes that are more disaggregated than growth and/or can be more directly linked to the foreign aid of interest.

Werker et al (2009) focused on the effect of ODA flows from wealthy OPEC countries to poorer Muslim countries. The authors first document that increases in world oil prices increase the amount of aid flows between these two sets of countries. Then, they instrument for aid with the interaction of whether the recipient country is Muslim and world oil prices in a given year. The results show that aid has no effect on prices or growth or the exchange rate, but increases household consumption, shifts imports away from capital goods towards noncapital goods, crowds out domestic savings and partly leaves the country in the form of unaccounted transactions.

Dube & Naidu (2011) study the effect of U.S. military aid on attacks by paramilitary groups and guerrillas in Colombia during 1988-2005, when total U.S. military aid amounted to approximately five billion USD. The authors exploit two sources of variation. First, there is spatial variation in aid allocation within Colombia caused by the fact that aid was only allocated to areas with military bases. Second, there is time variation in the amount of U.S. military aid. To address the potential endogeneity of aid to Colombia, they proxy for U.S. military aid to Colombia with U.S. military aid to the world excluding to Latin America. Using detailed data on political violence, they find that U.S. military aid increases attacks by paramilitaries, which collude with the Colombian military. During election years, aid also

increases homicides committed by the paramilitary and reduces voter turnout. In contrast, U.S. military aid has no effect on guerrillas, which do not collude with the military.

Two recent studies find that humanitarian and development aid can also increase conflict. Nunn & Qian (2014b) focus on U.S. food aid. As was discussed earlier, they show that U.S. food aid flows are determined by weather-driven production shocks in the United States. They then use lagged U.S. wheat production to instrument for U.S. food aid and find that increased food aid increases conflict in recipient countries. They show that their estimates are robust to a large number of controls and alternative measurements. They also show that U.S. food aid does not crowd out other types of food aid or total foreign aid. Thus, the results imply that more aid causes more conflict. Their results are consistent with anecdotal and case study evidence from aid workers that food aid and humanitarian aid are more generally often appropriated by armed factions (which can be from the government or opposition groups) during transportation.

A similarly negative finding on conflict emerges from a within-country study by Crost et al (2014). They use a regression discontinuity design to study the impact of the $180 million KALAHI-CIDSS program, a community driven development program meant to enhance local infrastructure, governance, participation and social cohesion, on domestic armed conflict in the Philippines during 2002-2009. Eligibility for the aid is determined by an arbitrary threshold – only the poorest quartile in the forty poorest provinces were eligible. On average, the grant is 15% of a municipality's annual budget. The authors then estimate the intent-to-treat effect by comparing conflict in regions right above the eligibility threshold to those that are right below. They find that those right above the cutoff experience more conflict. Under the assumption that the only change at the arbitrary cutoff is eligibility to the program, their results imply that aid causes more conflict. The authors argue that this is most likely because insurgents wish to undermine the program with the fear that the latter will reduce political support for the insurgency.

In observing the (relatively) large number of natural experiments about the effects of aid on conflict, it is important to note that this focus is partly driven by the recent availability of

high quality conflict data.[11] In other words, that we lack rigorous analysis on other outcomes is partly due to data limitations. For example, one naturally expects food aid to improve health outcomes such as malnutrition or infant mortality. These data are reported for a large number of countries over time by international organizations such as the World Development Indicators (WDI). However, a closer examination of the data and the source material reveals that most of these measures are interpolated over time and space from very few real observations. As an illustration, Figure 12 plots infant mortality rates for Sub-Saharan African countries as reported by the WDI. The levels are normalized by dividing infant mortality rates for each country for each year by that country's rates in 1990. The poor quality of the data can be seen by the fact that these measures are very smooth over time. This creates a serious problem for researchers. The measurement error in the dependent variable can bias estimated effects of aid if it is not classical. More importantly, the data simply contains little information.

In the literature on foreign aid, one also observes a large number of studies about U.S. aid. This may partly be due to the fact that the United States garners much interest as the largest giver of aid. At the same time, it may also be due to the fact that USAID makes the most detailed data on aid disbursements easily available to researchers.

Another outcome linked to foreign aid by the recent literature is political accountability. For example, Eubank (2012) uses detailed case study evidence from Somaliland to argue that the ineligibility for foreign assistance increases government dependency on local tax revenues. This then increases inclusiveness in political participation and accountability.

An alternative reason for aid to affect performance of the politician is that the constituents may inaccurately attribute successful aid programs to the politician, which could remove the need for the politician to enact other policies to appease voters. For example, Manacorda et al (2011) study a large anti-poverty cash transfer program in Uruguay. The authors use a regression discontinuity design to show that eligible households were more likely to favor the government and political support effects persist after the program ends. These results

[11] The Correlates of War and UCDP/PRIO datasets report detailed data on battles for the post-World War II period.

are consistent with poorly informed voters using policy to infer politicians' redistributive preferences or competence.

However, a recent randomized field experiment in Bangladesh by Guiteras & Mobarak (2014) shows that simply informing voters about the source of aid can remove such confusion. Households and villages are randomly assigned by the researchers to treatment groups where aid was allocated to households, to a second identical treatment group where participants were also told that the politician played no role in aid allocation, and to a control group. The authors find that local politicians participated in events surrounding aid allocation, which is consistent to their intending to take credit for the aid; that residents of villages that received the treatment without information attributed credit to the politician; but that villagers in the treatment with information did not attribute credit to the politician. The authors conclude that providing more information to recipients is a straightforward way to reduce how much aid undermines political accountability.

6 The Delivery of Foreign Aid

The evidence in Section 4 questions the intentions of the donors. At the same time, it is important to note that aid policymakers worry that even with the best of intentions on the part of the donors, it may be difficult to ensure that aid is not misappropriated by recipient governments. For example, in a study of U.S. aid to eight countries (Egypt, India, Israel, Jordan, Pakistan, Philippines, Thailand and Turkey) during 1972-1987, Khilji & Zampelli (1994) find that aid is highly fungible and that recipients can easily circumvent donor-imposed restrictions and spend aid on non-targeted programs. They find that much of U.S. aid is channeled into the private sector and used for current consumption rather than investment, and that the different countries behave in similar ways. Similarly, in the context of the Dominican Republic (1968-1986), Pack & Pack (1990) find that there is substantial diversion of aid from its intended purposes. An additional dollar of foreign aid stimulates no net development expenditures, and it is instead used for debt repayment and deficit reduction.

That aid is fungible is unavoidable. However, several recent studies have examined how different methods of delivery and monitoring may improve aid effectiveness despite this inherent difficulty. For example, Casey et al (2012) study the effectiveness of Community Driven Development (CDD) programs, which is a common way for implementing foreign aid at the local level. They evaluate the GoBifo project in Sierra Leone, which attempts to make local institutions more democratic and egalitarian by imposing participation requirements for marginalized groups. Villages were randomly assigned to the GoBifo program or a control group. They find positive short-run effects on local public goods and economic outcomes, but no effects on the quality of institutions.

In a study of rural Indonesia, Olken et al (2012) show that linking financial incentives to block grants for improving maternal and child health improved performance. Villages were randomly assigned to either receive a block grant where the size of the subsequent year's block grant depended on performance relative to other villages in the subdistrict; or to receive a identical block grant where subsequent funding was unconditional on performance. They find that the incentivizes led to more efficient spending of block grants, and an increase in labor from health providers.

7 Conclusion

Foreign aid is one of the most important policy tools for transferring resources from rich countries to poor countries. Several trillions of dollars have been given in the past 64 years, but the empirical evidence on its benefits have been very mixed, resulting in a heated academic and policy debate. This review paper highlights several descriptive facts, summarizes the existing evidence and discusses some of the fundamental problems that have prevented researchers from reaching more conclusive and comprehensive findings.

The literature shows that the primary purpose of aid is often not to alleviate poverty and that out of all of the foreign aid flows, only 1.69% to 5.25% are given to the poorest twenty percent of countries in any given year. While recent empirical evidence have shown that some types of

aid (even those given with the intention of improving economic conditions of poor recipients) can cause adverse outcomes, rigorous analysis has been applied to too few types of aid and examined too few outcomes to form a comprehensive assessment of the net effect of aid. As such, the polarized arguments of the necessity of aid versus the detrimental effects of aid are premature, and the discussion of total foreign aid and the lack of economic improvement for the poorest countries in the world is somewhat misleading.

The discussion of past studies show that there are two closely related research questions that need be carefully distinguished. The first question is about the effectiveness of aid that has been given out. What is the impact of existing aid? How have different modes of delivery or different characteristics of the recipients and donors affected the outcomes? The second question is about whether and how aid can be ever be effective. Can foreign aid ever improve economic performance and well-being? What is the best way of delivering aid to maximize its effectiveness?

While highly complementary, these two sets of questions differ in the methods and data that they can employ. The first set of questions is the one addressed by most existing studies of foreign aid. Among other challenges, this literature has been hindered by problems from the aggregation of aid. Aid varies significantly across donor and recipient countries, and over time in many dimensions: the type of aid, where it is spent, how it is valued and how it is administered. Thus, examining the effect of aggregate aid flows on aggregate outcomes such as growth confounds the influences of many different forces. The aggregation also makes it very difficult to develop credible identification strategies for establishing causality. It is then not surprising that many studies of the aggregate effect of aid on aggregate outcomes have been shown to be highly sensitive to sampling, measurement and empirical strategies.

Future studies of these questions should examine the effect of a narrowed definition of aid on a narrowed set of outcomes. This approach will facilitate the design of more rigorous empirical strategies that improve the identification of causal channels. Having fewer channels to consider will also allow researchers to better account for heterogeneous effects due to differences in the method of aid delivery, or other factors that differ across recipient or donor countries such as

the level of human capital or the quality of institutions.

A significant barrier to conducting rigorous empirical analysis is the lack of detailed data on important aspects of foreign aid such as the cost structure or the method of delivery, as well as important outcome variables. Thus, an important step is to make such data available. Since individuals researchers cannot force governments to improve data availability, constructing such databases will depend on the commitment of institutions with the necessary political and financial resources (e.g., the World Bank).[12]

Future researchers can also advance our understanding by applying political economy frameworks. This follows naturally from the findings that strategic considerations of donor countries are important drivers of foreign aid. For this line of research, it is useful to note that there has been significant temporal variation in aid flows from countries in the Middle East and China, which between 2000 and 2012, increased its ODA from approximately three hundred million to approximately two billion USD (constant 2009 USD).[13] Given that these countries have different strategic objectives than the major ODA DAC donors, and that they are known to give to a different set of countries and apply different conditions to aid, the change in their aid flows may provide researchers with useful natural experiments.

The second set of questions, like the first, can also be addressed with well-designed empirical strategies and detailed data on past aid flows. But since it does not hinge on how aid has already been administered, these questions also provide a promising context for field experiments. For example, several of the experimental studies discussed in the review shed light on potential ways to improve aid effectiveness.

The two sets of questions are especially important to distinguish in the policy debate. To ask whether existing aid has been effective is to ultimately ask whether foreign aid policy can be improved or should be re-designed. In contrast, to ask whether foreign aid can ever be effective is to ask whether policymakers and researchers should devote any resources to understanding and improving foreign aid. For policymakers, it is critical to avoid using negative answers to

[12]Also, new data centers such as the AidData center at the College of William and Mary may be able to improve data availability to researchers.

[13]Estimates for Chinese aid are provided by AidData.

the first question to answer questions regarding the potential value of foreign aid.

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Table 1: Top Donors by Decade

	1960s		1970s		1980s	
Rank	Country	Avg. ODA	Country	Avg. ODA	Country	Avg. ODA
1	United States	18,311	United States	13,191	United States	15,102
2	France	4,477	Saudi Arabia	5,903	Japan	9,197
3	United Kingdom	2,399	Germany	4,777	France	6,841
4	Germany	2,283	France	4,278	Germany	6,601
5	Saudi Arabia	1,548	Japan	3,789	Saudi Arabia	6,083
6	Japan	1,155	United Kingdom	3,054	United Kingdom	3,483
7	Canada	616	Canada	2,315	Netherlands	2,947
8	Australia	600	Netherlands	1,893	Italy	2,925
9	Italy	469	Kuwait (KFAED)	1,583	Canada	2,908
10	Belgium	467	Sweden	1,478	Sweden	1,962
	1990s		**2000s**		**2010 - 2013**	
1	Japan	15,100	United States	22,308	United States	29,555
2	United States	13,083	Japan	11,219	United Kingdom	14,451
3	France	9,891	Germany	9,839	Germany	13,039
4	Germany	9,043	United Kingdom	9,415	France	11,559
5	United Kingdom	4,356	France	9,357	Japan	10,537
6	Netherlands	3,832	Netherlands	5,300	Netherlands	5,495
7	Italy	3,572	Spain	3,864	Sweden	5,290
8	Canada	2,941	Sweden	3,496	Canada	5,086
9	Sweden	2,559	Canada	3,429	Australia	4,835
10	Denmark	2,017	Italy	3,322	Norway	4,784

Notes: Average annual ODA disbursement is reported in millions of 2009 USD. Source: OECD DAC1 flows by donor/QWIDS.

Table 2: Top Recipients by Decade

	1960s		1970s		1980s	
Rank	Country	Avg. ODA	Country	Avg. ODA	Country	Avg. ODA
1	India	5,240	Egypt	4,414	India	3,349
2	Pakistan	2,097	India	4,341	Egypt	2,838
3	Vietnam	1,662	Indonesia	4,117	Bangladesh	2,465
4	Korea	1,285	Syria	3,837	Israel	2,276
5	Algeria	1,270	Bangladesh	3,707	Indonesia	1,822
6	Brazil	1,145	Pakistan	3,614	Pakistan	1,743
7	Turkey	996	Vietnam	2,216	Syria	1,724
8	Indonesia	788	Israel	2,124	China	1,696
9	Egypt	666	Jordan	2,022	Jordan	1,526
10	Chile	566	Korea	2,019	Sudan	1,487
	1990s		**2000s**		**2010 - 2013**	
1	Egypt	4,198	Iraq	6,382	Afghanistan	4,850
2	China	3,552	Afghanistan	2,908	DRC	2,887
3	India	2,541	Nigeria	2,576	Vietnam	2,575
4	Indonesia	2,117	Vietnam	2,229	Ethiopia	2,508
5	Israel	2,040	Ethiopia	2,168	Pakistan	2,043
6	Bangladesh	2,031	DRC	2,018	Tanzania	2,024
7	Pakistan	1,471	Tanzania	2,009	India	1,871
8	Mozambique	1,448	Pakistan	1,922	Turkey	1,752
9	Philippines	1,420	India	1,708	West Bank & Gaza Strip	1,693
10	Tanzania	1,381	China	1,663	Kenya	1,679

Notes: Average annual ODA disbursement is reported in millions of 2009 USD. Source: OECD DAC2 flows by recipient/QWIDS.

Table 3: Top Recipients by Decade – ODA as % of GDP

	1960s		1970s		1980s	
Rank	Country	Avg. ODA	Country	Avg. ODA	Country	Avg. ODA
1	Botswana	21%	Jordan	24%	Somalia	52%
2	Swaziland	16%	Somalia	23%	Guinea-Bissau	48%
3	Lesotho	16%	Guinea-Bissau	21%	Equatorial Guinea	35%
4	Liberia	14%	Mauritania	21%	Gambia	31%
5	Somalia	12%	Cambodia	19%	Lesotho	29%
6	Malawi	11%	Lesotho	18%	Mauritania	25%
7	Belize	10%	Botswana	14%	Djibouti	23%
8	Jordan	9%	Rwanda	13%	Mali	20%
9	Gambia	9%	Suriname	12%	Tanzania	20%
10	Algeria	9%	Mali	12%	Jordan	17%
	1990s		**2000s**		**2010 - 2013**	
1	Botswana	21%	Jordan	24%	Somalia	52%
2	Swaziland	16%	Somalia	23%	Guinea-Bissau	48%
3	Lesotho	16%	Guinea-Bissau	21%	Equatorial Guinea	35%
4	Liberia	14%	Mauritania	21%	Gambia	31%
5	Somalia	12%	Cambodia	19%	Lesotho	29%
6	Malawi	11%	Lesotho	18%	Mauritania	25%
7	Belize	10%	Botswana	14%	Djibouti	23%
8	Jordan	9%	Rwanda	13%	Mali	20%
9	Gambia	9%	Suriname	12%	Tanzania	20%
10	Algeria	9%	Mali	12%	Jordan	17%

Notes: Average annual ODA disbursement is reported as the average of annual ODA as a percentage of GDP. Small island nations are excluded. Source: OECD DAC2 flows by recipient/QWIDS. WDI data for GDP.

Table 4: Top Recipients by Decade – Per Capita ODA

	1960s		1970s		1980s	
Rank	Country	Avg. ODA PC	Country	Avg. ODA PC	Country	Avg. ODA PC
1	Jordan	370	Jordan	652	Jordan	626
2	Djibouti	328	Suriname	488	Israel	542
3	Israel	210	Djibouti	414	Djibouti	350
4	Belize	189	Oman	369	Suriname	212
5	Suriname	181	Israel	366	Mauritania	210
6	Swaziland	136	Syria	255	Belize	204
7	Liberia	131	Belize	234	Botswana	180
8	Laos	118	Mauritania	222	Syria	177
9	Algeria	105	Gabon	175	Gambia	169
10	Tunisia	94	Botswana	167	Gabon	163
	1990s		**2000s**		**2010 - 2012**	
1	Israel	394	Kosovo	444	Kosovo	333
2	Djibouti	242	Iraq	228	Afghanistan	222
3	Bosnia-Herzegovina	240	Guyana	191	Liberia	222
4	Guyana	232	Serbia	181	Bhutan	192
5	Suriname	213	Bosnia-Herzegovina	165	Guyana	180
6	Jordan	192	Nicaragua	162	Jordan	174
7	Nicaragua	176	Jordan	143	Djibouti	160
8	Belize	168	Bhutan	142	Suriname	144
9	Bhutan	158	Lebanon	137	Bosnia-Herzegovina	143
10	Guinea-Bissau	144	Djibouti	133	Serbia	139

Notes: Average annual per capita ODA disbursement. Small island nations are excluded Source: OECD DAC2 per capita lows by recipient/QWIDS.

Table 5: Correlates of ODA

	Dependent Variable: Ln ODA			
	(1)	(2)	(3)	(4)
Ln Population	-0.498	-0.952	-1.638	-1.824
	(0.00107)	(0.000)	(0.0325)	(0.0319)
Lag Log GDP	1.372	1.866	1.423	1.718
	(0.000)	(0.000)	(0.000)	(0.000)
Lag Growth	0.00345	-0.0226	0.0112	0.0264
	(0.932)	(0.618)	(0.497)	(0.257)
Lag Conflict Incidence	0.0273	0.0172	0.00222	0.000203
	(0.164)	(0.280)	(0.786)	(0.982)
Small Natural Disaster	-0.0486	-0.0843	0.0212	0.0255
	(0.254)	(0.129)	(0.0628)	(0.0583)
Large Natural Disaster	0.00963	0.0162	-0.00398	-0.00951
	(0.507)	(0.386)	(0.636)	(0.397)
Controls				
Year FE	N	Y	N	Y
Country FE	N	N	Y	Y
Observations	1,081	1,081	1,081	1,081
R-squared	0.85	0.89	0.89	0.95

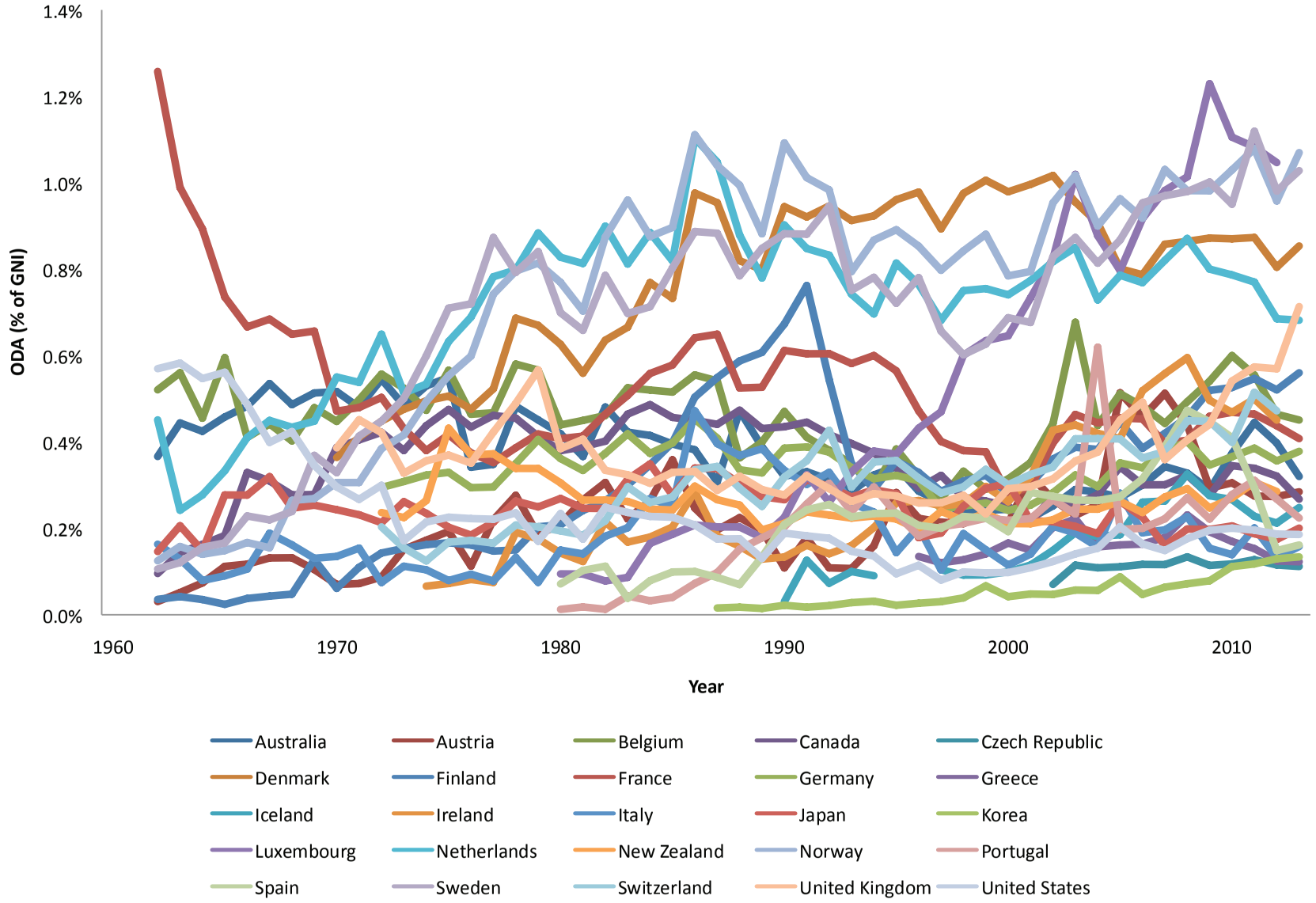
Notes: Standardized coefficients are reported. The standard errors are clustered at the recipient country level. P-values are reported in parentheses. The data include ODA given by OECD DAC members during 1960-2013. Observations are at the level of the recipient country and year. Small (large) disaster is an indicator variable which equals one if there were greater than 100 (1,000) deaths in a natural disaster. There are a total of 1,168 small and 262 large natural disasters. Lag conflict incidence equals one if there was at least one conflict in the past year. There are 1,755 incidences of conflict in total. Source: OECD, WDI, COW and EM-DAT from the Center for Research on Epidemiology of Disasters.

Table 6: Annual Non-Transferred Aid by Donor, 2006-2012

Average Annual Values for 2006-2012 (Mil 2011 USD)	Total ODA	Non-Transferred Aid							
		Total	Total (% of total ODA)	E01: Scholarships/ training in donor country	E02: Imputed student costs	F01: Debt relief	G01: Administrative costs not included elsewhere	H01: Development awareness	H02: Refugees in donor countries
Australia	**3,238**	**532**	**16.44%**	**207**		**126**	**166**	**3**	**30**
Austria	885	607	68.61%	11	90	416	37	9	45
Belgium	1,740	546	31.40%	33	38	279	79	19	98
Canada	**3,496**	**764**	**21.86%**	**38**	**162**	**105**	**268**	**11**	**181**
Czech Republic	60	22	36.93%	5			5	2	10
Denmark	1,717	303	17.64%	7		61	133	5	97
Finland	927	110	11.83%	3		3	65	10	28
France	**9,663**	**3,873**	**40.08%**	**49**	**1004**	**1958**	**417**	**6**	**439**
Germany	**10,988**	**3,067**	**27.92%**	**112**	**915**	**1600**	**338**	**43**	**59**
Greece	219	105	47.83%	10	56		18	0	20
Iceland	20	2	11.18%			0	2	0	0
Ireland	691	55	7.93%	1	0	0	41	11	1
Italy	1,588	831	52.30%	13	0	626	51	9	131
Japan	**15,270**	**2,533**	**16.59%**	**212**		**1552**	**766**	**3**	**1**
Korea	1,391	77	5.53%	23	2	6	38	8	
Luxembourg	264	22	8.41%	0			19	3	0
Netherlands	**5,893**	**944**	**16.01%**	**82**		**232**	**316**	**33**	**280**
New Zealand	326	62	19.02%	19		0	29	1	13
Norway	**3,462**	**499**	**14.42%**	**5**		**29**	**228**	**23**	**214**
Portugal	337	58	17.07%	9	28	3	15	2	0
Spain	3,430	627	18.28%	32	0	330	164	68	32
Sweden	**2,952**	**750**	**25.39%**	**23**		**118**	**229**	**19**	**362**
Switzerland	1,893	583	30.77%	4	2	79	143	11	343
United Kingdom	**7,126**	**1,163**	**16.32%**	**14**		**708**	**395**	**21**	**26**
United States	**28,301**	**2,828**	**9.99%**	**117**		**648**	**1401**	**0**	**661**

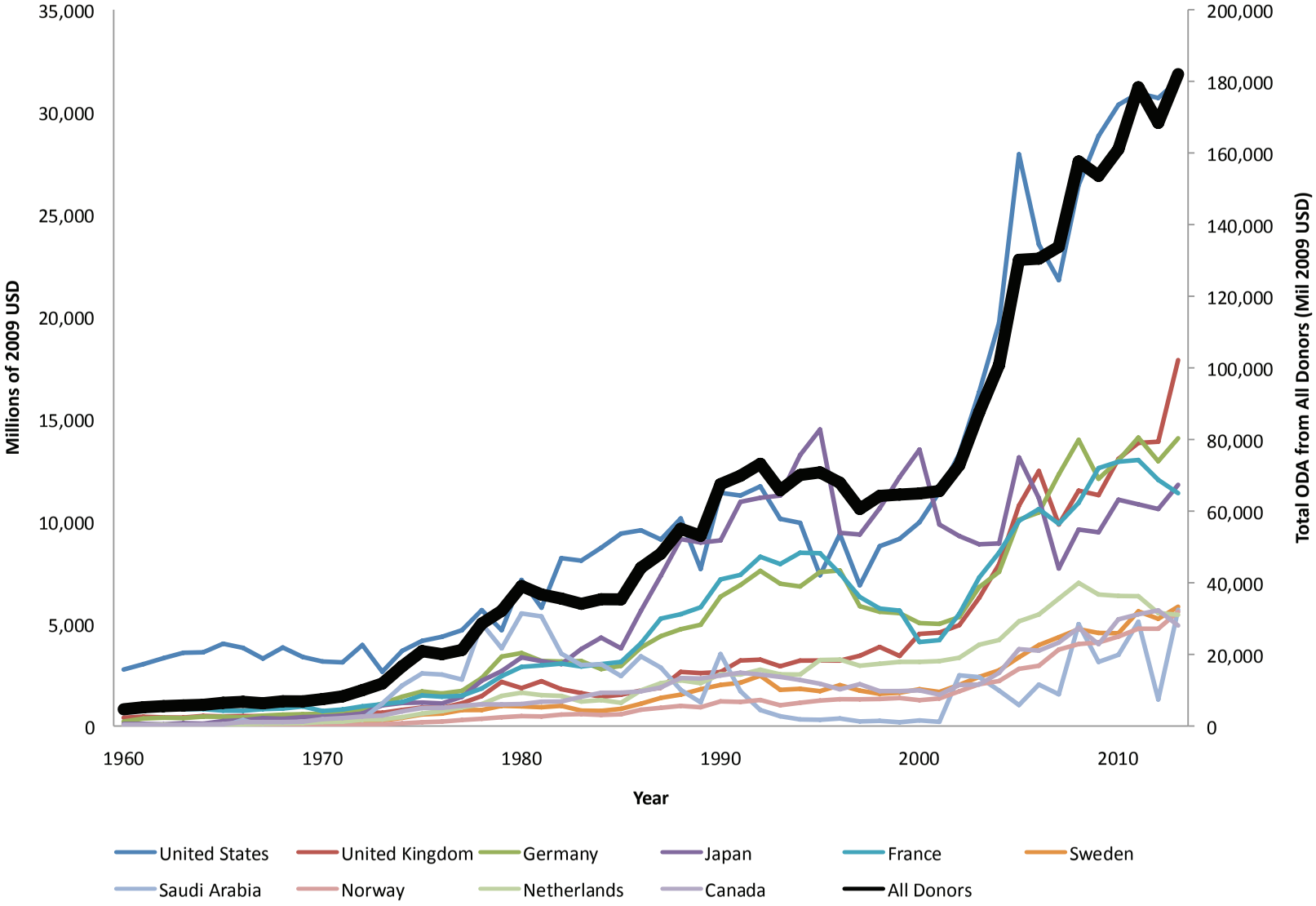
Notes: All values are shown in 2009 USD. The top ten donors (according to total ODA in 2013) are highlighted. Source: OECD.

Figure 1: ODA as a % of GNI, 1960-2013



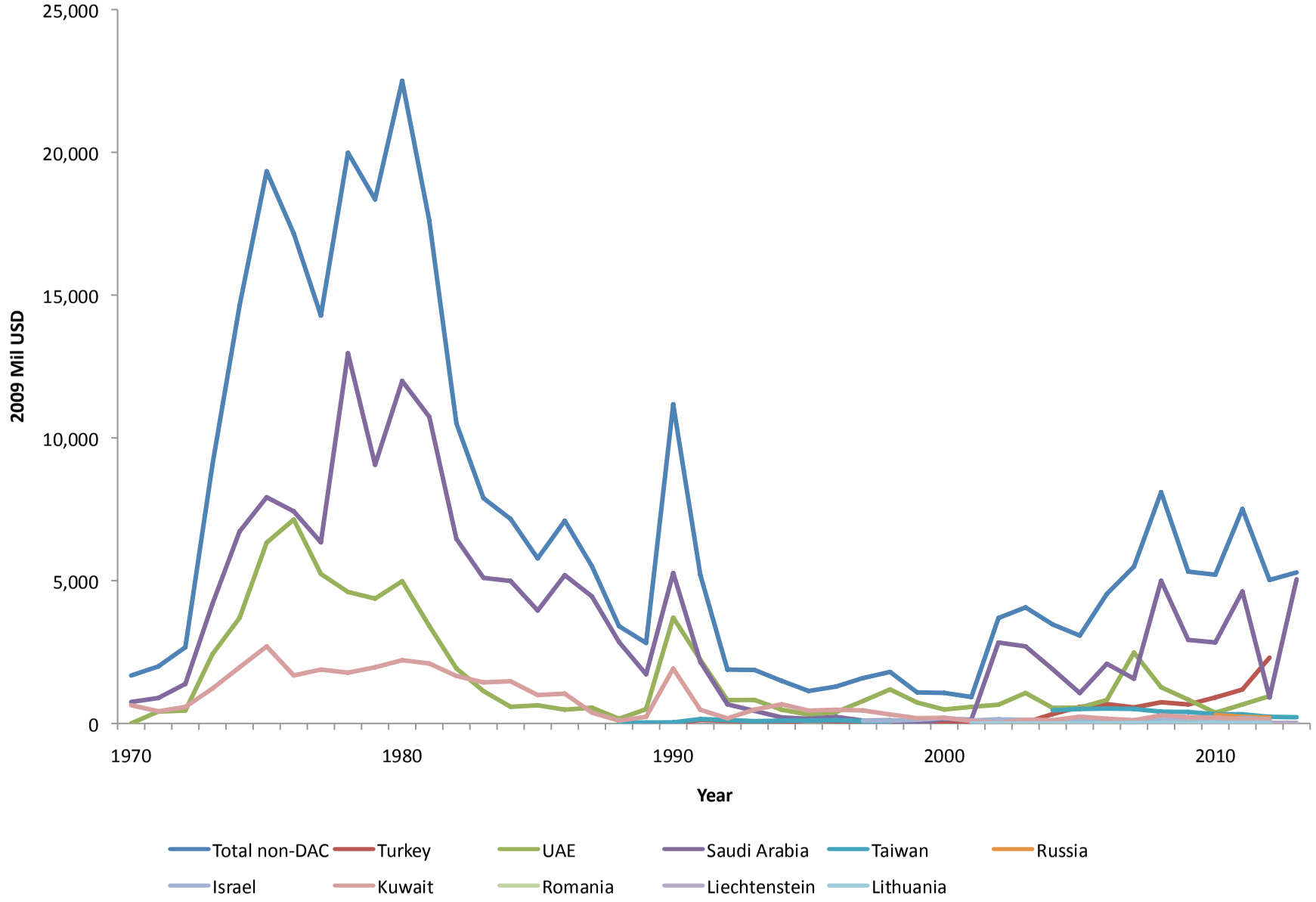
Source: OECD DAC1 flows by donor/QWIDS. WDI GNI.

Figure 2: Total ODA and ODA from Top 10 Donors, 1960-2013



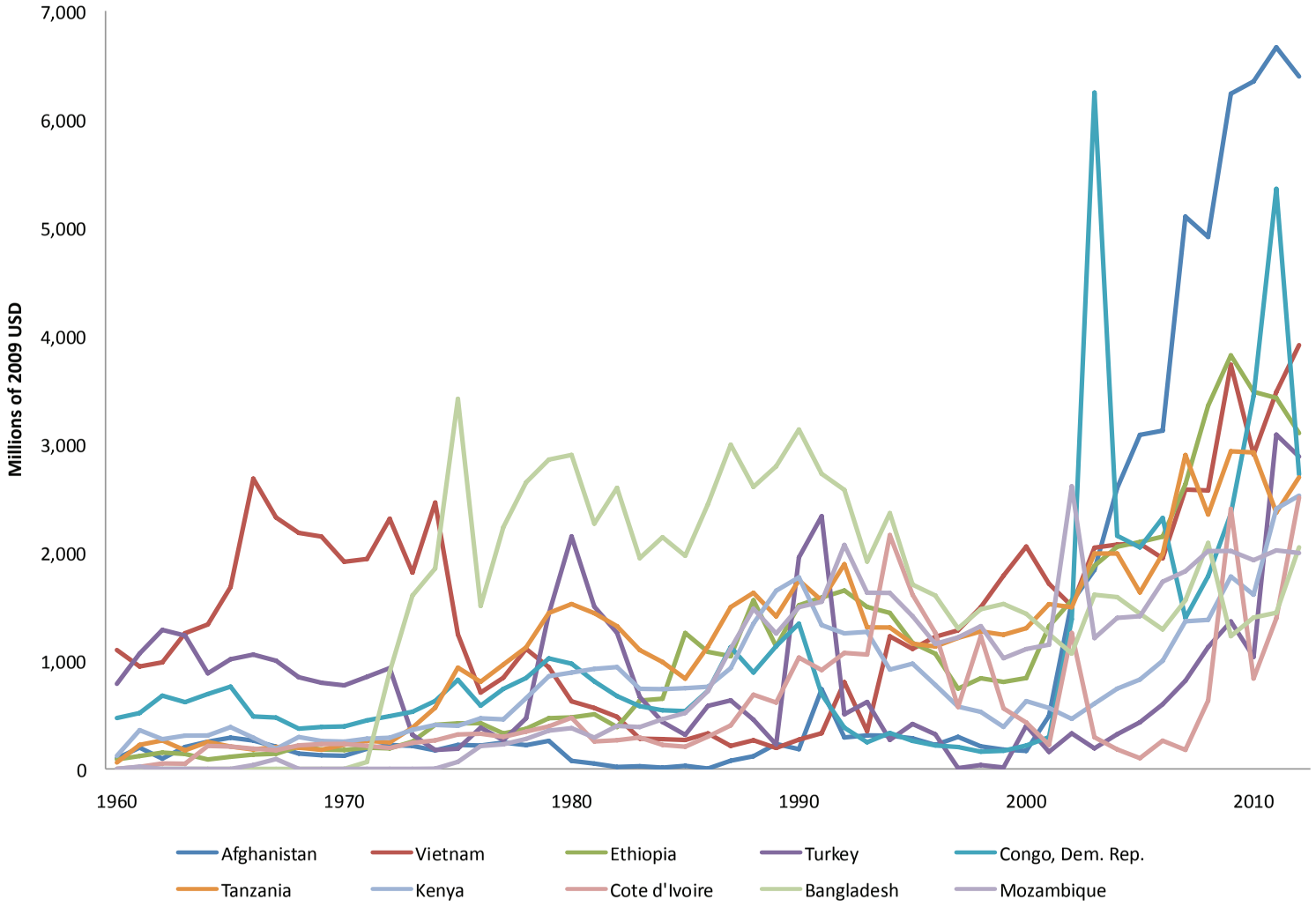
Notes: Top donor is defined according to ODA disbursement in 2013. Source: OECD DAC1 flows by donor/QWIDS.

Figure 3: ODA from Top 10 non-DAC Donors, 1970-2012



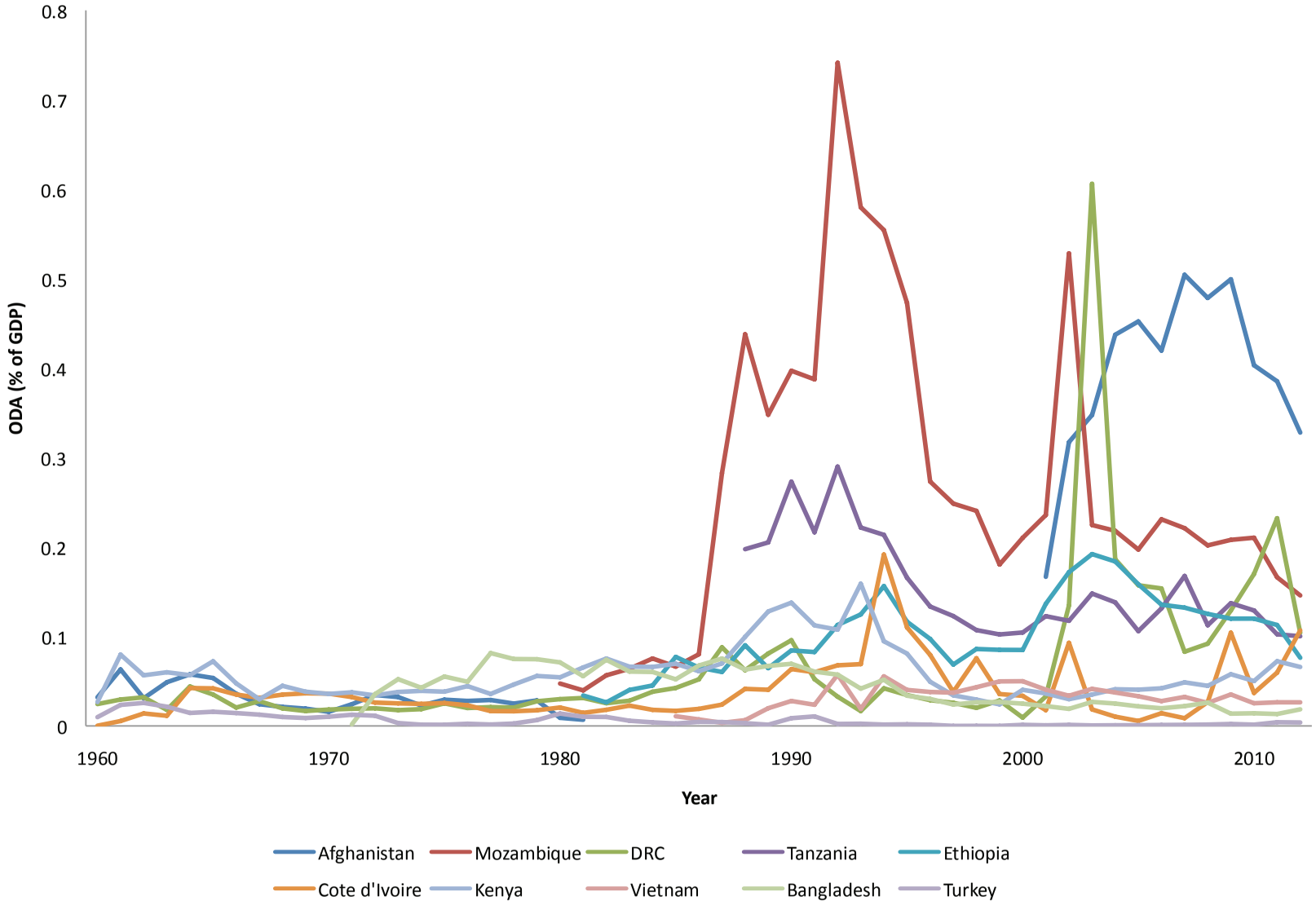
Notes: Top donor is defined according to ODA disbursement in 2013. Source: OECD.

Figure 4: ODA Received by Top 10 Recipients, 1960-2013



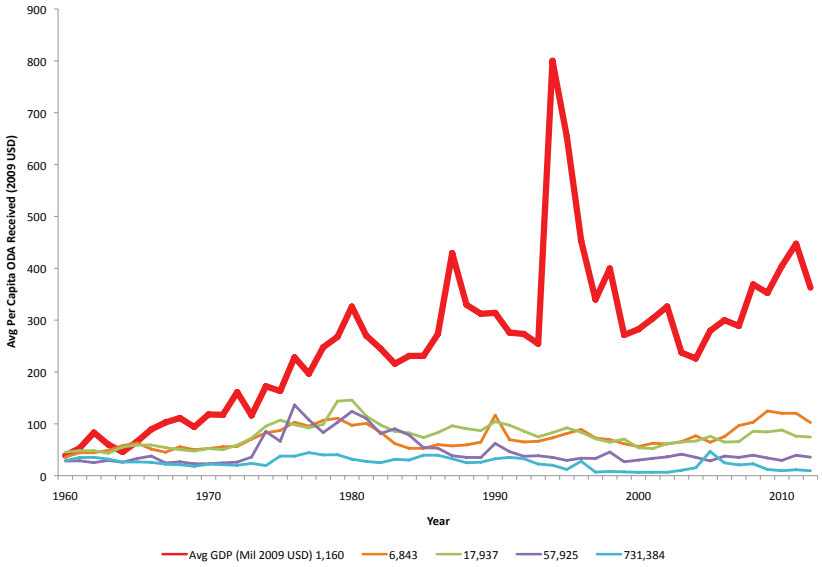
Notes: Top recipient is defined according to ODA disbursement in 2013. Source: OECD DAC2 flows by recipient/QWIDS.

Figure 5: ODA Received by Top 10 Recipients as % of GDP, 1960-2013



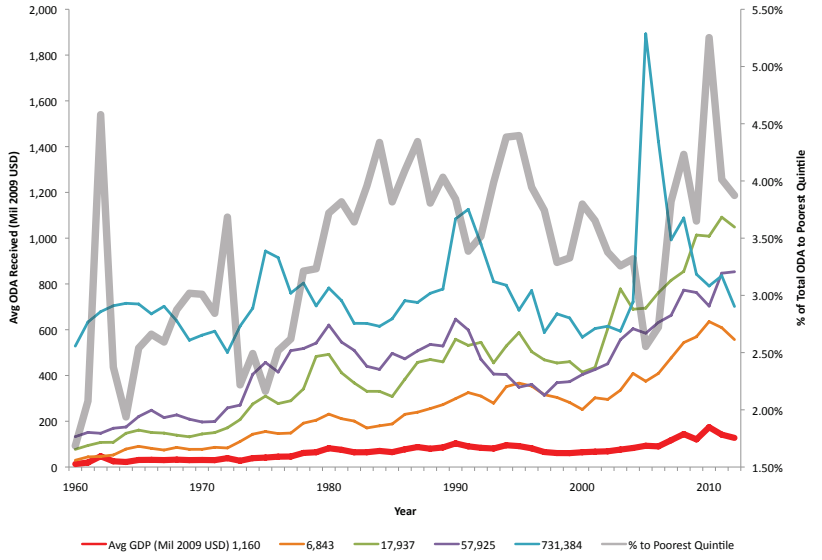
Notes: Top recipient is defined according to ODA disbursement in 2013. Small island nations are excluded. Source: OECD DAC2 flows by recipient/QWIDS. WDI data for GDP.

Figure 6: Per Capita ODA by Recipient Income



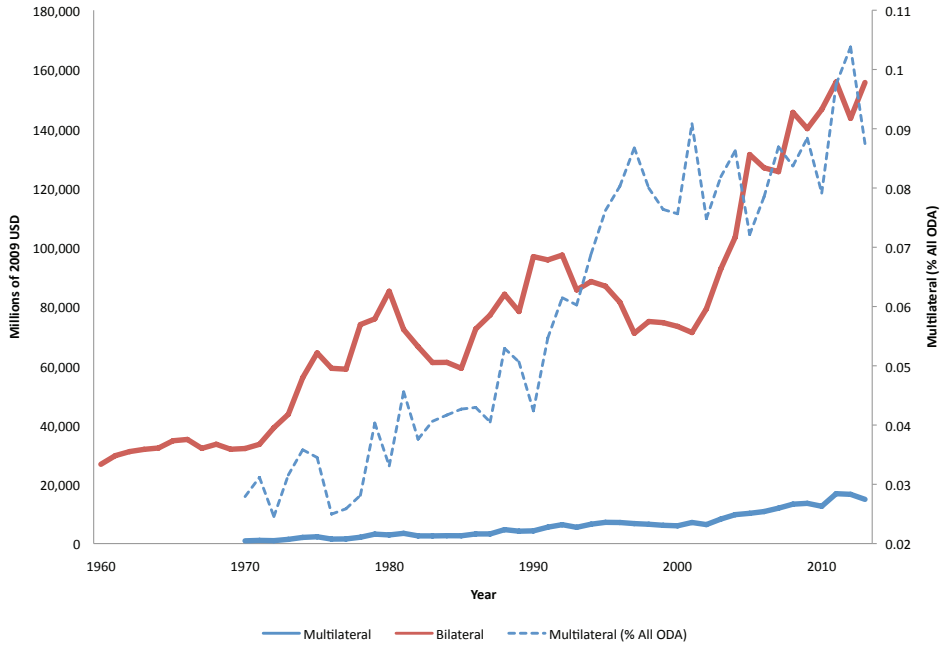
Notes: ODA recipients are divided into five equally sized groups according to their GDP in a given year. Data for ODA are reported by the OECD DAC2 flows by recipient/QWIDS. Data for GDP are reported by the WDI.

Figure 7: Total ODA by Recipient Income



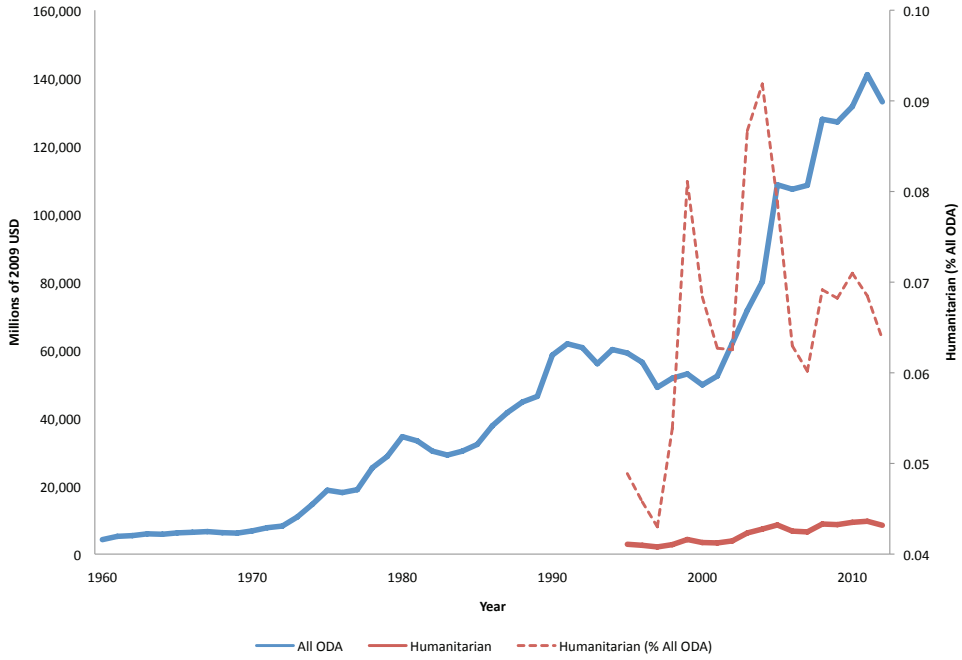
Notes: ODA recipients are divided into five equally sized groups according to their GDP in a given year. Data for ODA are reported by the OECD DAC2 flows by recipient/QWIDS.

Figure 8: Bilateral and Multilateral Aid



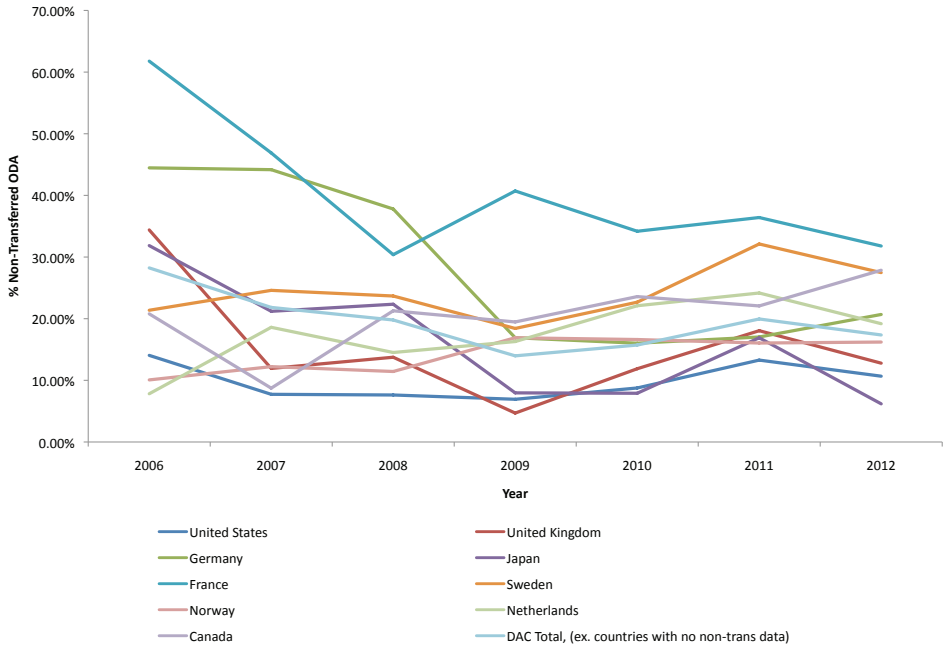
Source: OECD DAC1 flows by donor/QWIDS.

Figure 9: Humanitarian Aid, 1960-2013



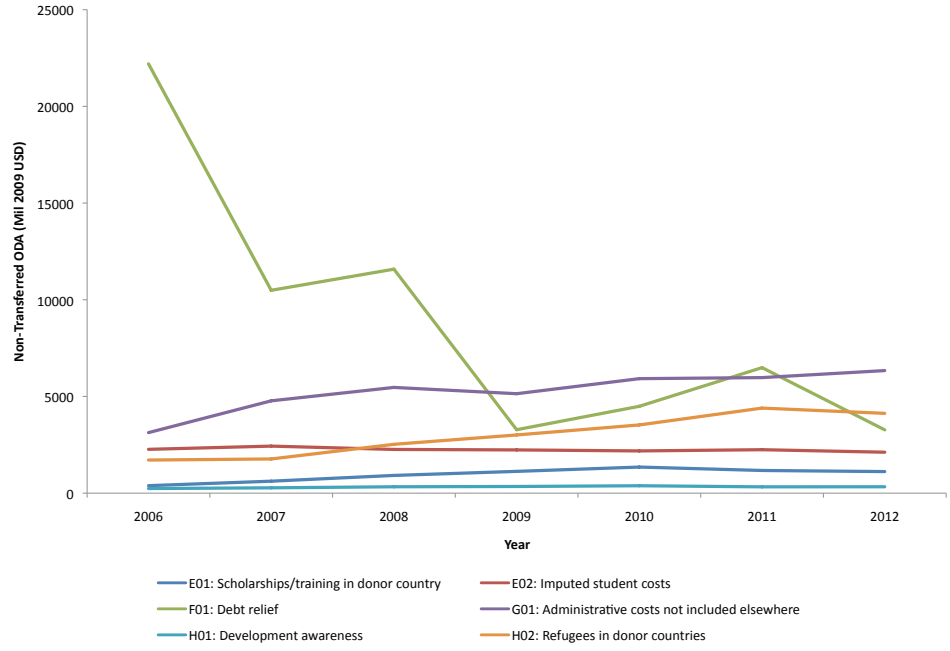
Source: OECD DAC2a humanitarian aid.

Figure 10: Non-Transferred Aid for Top 10 Donors, 2006-2012



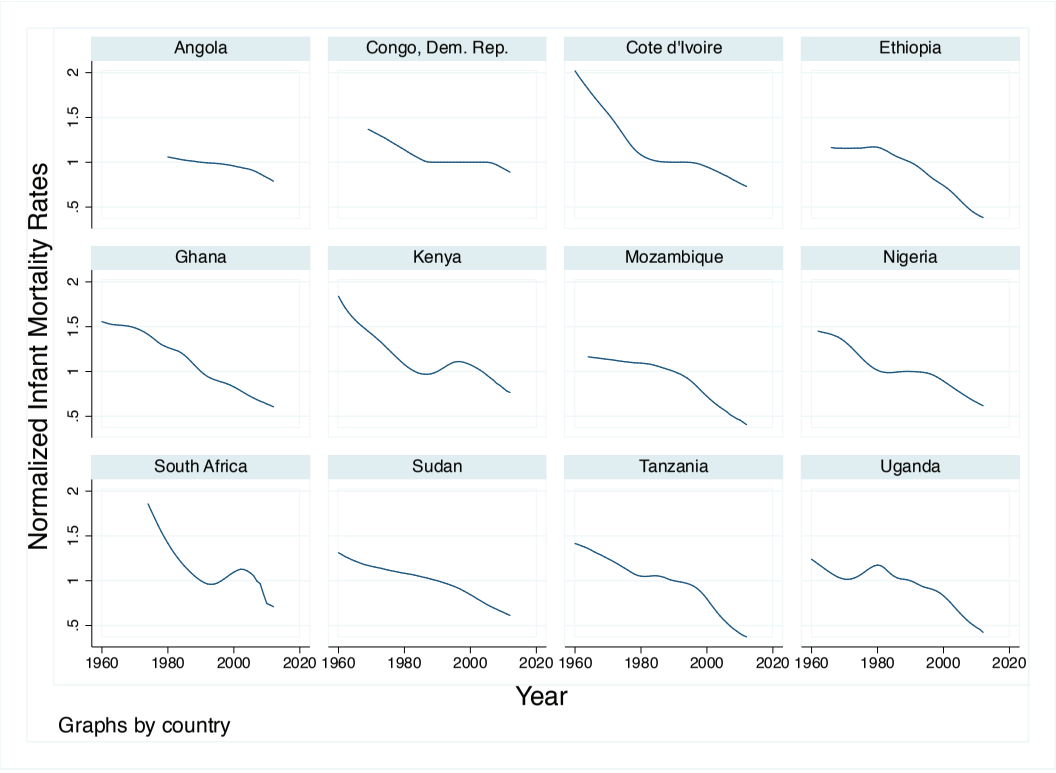
Notes: Top donor is defined according to ODA disbursement in 2013. Source: OECD.

Figure 11: Non-Transferred Aid by Type for All Donors, 2006-2012



Source: OECD.

Figure 12: Infant Mortality Rates in Sub-Saharan Africa



Notes: The values for each country are normalized by dividing by the 1990 value for that country. Source: WDI.