



Measuring Aid
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Abstract

This brief provides a summary of background research for future aid-related EPAR projects. We first review prominent measures of aid, examining the definition and scope of Official Development Assistance (ODA) as well as common criticisms and alternatives to this measurement. We also provide a summary of current research on bilateral and multilateral aid allocation trends. The aid allocation literature broadly concludes that donor countries target aid based on both the needs of recipients and on strategic interests, but that aid allocation criteria differ by donor and by type of aid. Finally, we summarize current aid effectiveness literature and key challenges in exploring the impact of aid. A number of challenges in determining the effectiveness of aid were common in the literature, including the micro-macro paradox, difficulties in identifying causal mechanisms and direction of causality, and data limitations.

I. Aid Measurement

For the past 40 years the Organization of Economic Cooperation and Development (OECD)'s definition of Official Development Assistance (ODA) has been the global standard for measuring donor efforts in supporting development co-operation objectives. However, despite the longevity and seeming ubiquity of the concept, the debate over ODA's appropriateness in the 21st century has proliferated. Critics of ODA argue that the definitional boundaries are drawn too generously to be considered 'real aid', in particular including the full value of concessional loans with a grant element of at least 25 per cent (this threshold was recently changed to 45% in 2015, but our data in this report only includes aid measurements through 2013). This bundling of grants, concessional loans, and non-concessional loans is argued to obscure the true benefits and burdens on recipient countries (Chang et al., 1998). In addition to "what" is considered aid, the from "whom" has been questioned. ODA only measures flows from Development Assistance Committee (DAC) members, which excludes new donors, such as Brazil, China, and India, and non-traditional sources of development finance from the non-profit and private sectors (Martens, 2001). A host of alternative methods to measure aid have been suggested, but none so far have displaced ODA. Numerous organizations provide databases of aid estimates. Appendix A provides an overview of these sources and assesses their relative strengths and weaknesses for future study.

Official Development Assistance (ODA)

The term Official Development Assistance (ODA) was coined by the OECD and is the primary aid measure used in both academic and practitioner literatures. The OECD defines ODA as aid flows that are:

“provided by official agencies, including state and local governments, or by their executive agencies; and each transaction of which: is administered with the promotion of the economic development and

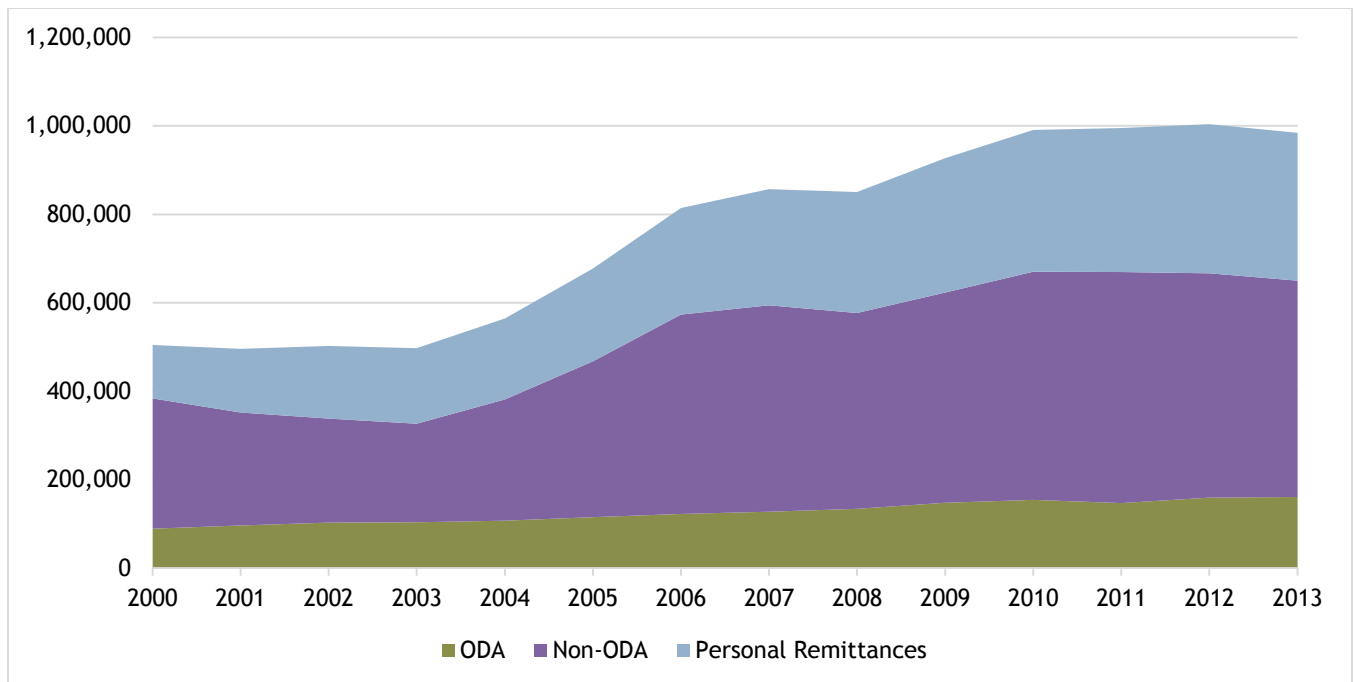
EPAR uses an innovative student-faculty team model to provide rigorous, applied research and analysis to international development stakeholders. Established in 2008, the EPAR model has since been emulated by other UW schools and programs to further enrich the international development community and enhance student learning.

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welfare of developing countries as its main objective; and is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 percent)” (OECD, 2014).

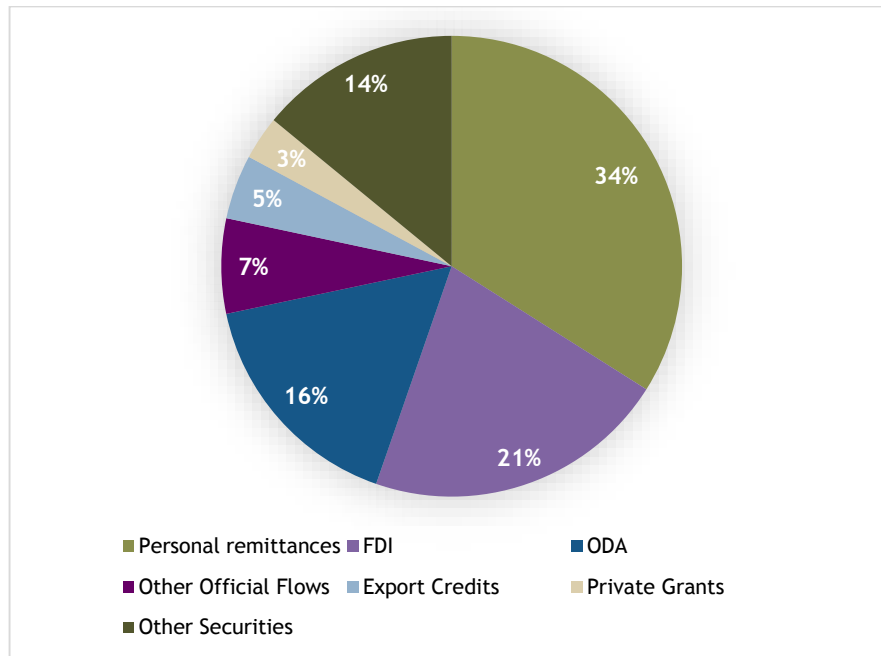
Further, to be counted as ODA, flows must go to countries and territories on the DAC List of ODA Recipients or to multilateral institutions. ODA does not include: 1) military equipment or services unless to deliver humanitarian aid, 2) peacekeeping expenditures except development-related activities, 3) cultural programs that do not promote the cultural capacities of recipient countries, and 4) purchase of carbon credits and value of any Certified Emission Reductions obtained by a donor for an ODA-funded project (OECD, 2014). Figures 1 and 2 show the amount of ODA relative to personal remittances and other non-ODA flows, including foreign direct investment (FDI)¹, in 2013.

Figure 1. Total Resource Receipts for Aid-Recipient Countries, USD Millions



¹ Non-ODA flows include other official development flows, officially-supported export credits, FDI, and private grants.

Figure 2. Aid-Recipient Countries External Resource Flows, 2013



DAC countries report their ODA to the OECD annually via a self-reported questionnaire through the Creditor Reporting System (CRS). Seventeen non-DAC countries provide data on their development finance flows². The OECD also estimates funding for development co-operation programs of nine countries that do not report their aid flows³. These estimations, however, should be treated with caution as data are based on official figures which can understate or overestimate ODA. It is likely that official figures exclude co-operation activities that would count as ODA, but include expenditures such as security-related activities or insufficiently concessional loans (Smith, Fordelone & Zimmermann, 2010).

ODA can be issued bilaterally or multilaterally. Bilateral aid represents flows from official (government) sources directly to official sources in the recipient country. Multilateral aid represents core contributions from official (government) sources to multilateral agencies where it is then used to fund the multilateral agencies' own programs (OECD, 2014; Biscaye et al., 2015).

Subsets of ODA

ODA is disaggregated by the OECD, international organizations, donor countries, and academics in a variety of ways, including by use restrictions and targeted sectors.

County Programmable Aid (CPA), sometimes referred to as core aid, reflects the flows of aid to a partner country (i.e., that recipient countries have a significant influence over). The disaggregation is considered a somewhat accurate proxy of aid recorded at the country level. CPA is defined through exclusion, by subtracting from total gross ODA aid that 1) is unpredictable by nature (i.e., humanitarian aid, debt relief); 2) entails no cross-border flows (i.e., administration, student costs, development awareness and research, refugee spending in donor countries); 3) does not form part of cooperation agreements between governments (i.e., food aid, aid

² ODA data are available at the aggregate level for Bulgaria, Croatia, Cyprus, Estonia, Hungary, Israel, Kuwait, Latvia, Liechtenstein, Lithuania, Malta, Romania, Russia, Saudi Arabia, Chinese Taipei, Thailand, Turkey, United Arab Emirates.

³ Estimates are available for Brazil, Chile, China, Colombia, India, Indonesia, Mexico, Qatar, and South Africa.

from local governments, core funding to international NGOs); and 4) is not country-programmable by the donor (Benn, Rogerson, & Steenson, 2010).

Sector Program Aid is the measure of on-budget aid disaggregated by sector. DAC countries report their sector-disaggregated aid to the OECD's Creditor Reporting System (CRS) database, based on the aid flows from individual projects (OECD, 2014). Major sectors and their subsections are listed in Appendix B.

Aid for Trade consists of financial and technical assistance that seeks to facilitate the integration of developing countries into the global economy (Hoekman & Wilson, 2010). Aid for Trade projects include financing of transportation and infrastructure, capacity building in border management, and implementation of projects that connect rural producers to markets. The CRS also reports Aid for Trade based on individual projects.

Global Public Goods (GPGs) are defined as goods and services that are non-rivalrous, non-excludable, and potentially have benefits that extend to all countries, people, and generations. Donors do not report the funds or programs dedicated to GPGs, and there is no standard definition of a global public good so only rough estimates are available. Birdsall & Diofasi (2015) estimate funding for GPGs as a subset of ODA, limiting GPG-related spending to:

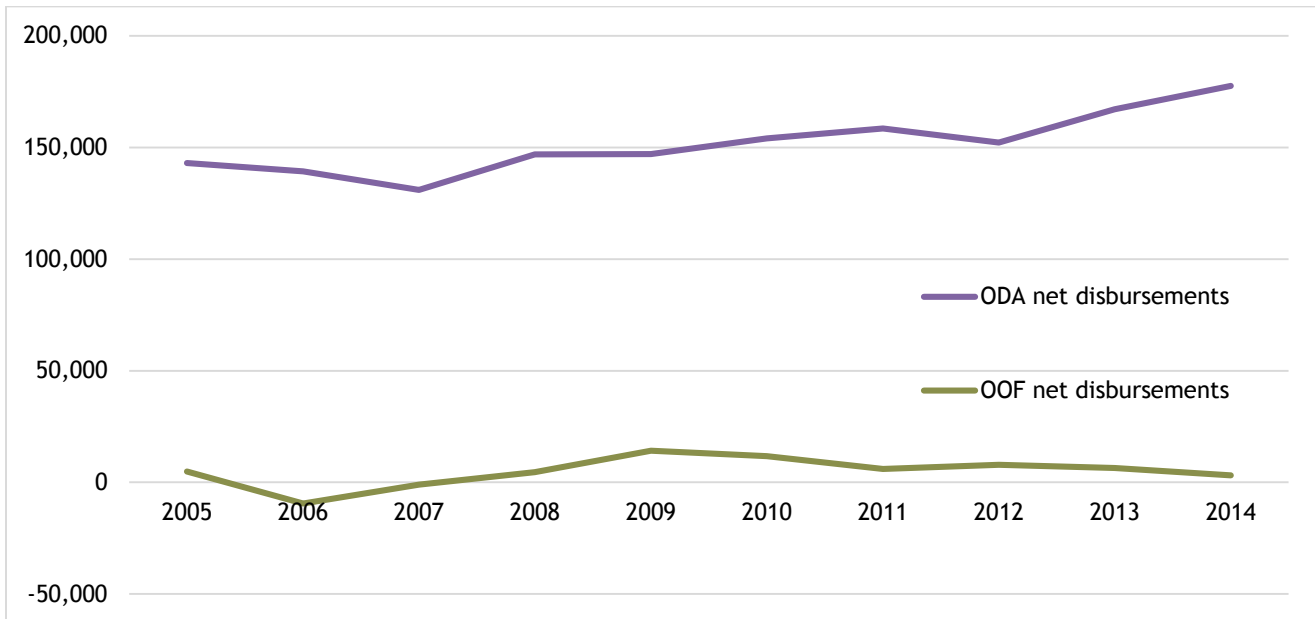
“1) transfers and contributions to the UN and other international organizations for activities that are global in scope (e.g., Food and Agriculture Organization (FAO) management of data on changes in desertification as opposed to “country programs”), 2) spending by international organizations on research and on data collection and management, using the budgets of their research and economics departments to generate this data, 3) contributions to global programs and products of a global public good nature targeted to developing countries (e.g., the Advanced Market Commitment), 4) transfers to a developing country to finance activities with global benefits (e.g., funding to reduce deforestation), 5) all countries’ contribution towards enforcement and monitoring of international agreements with shared global benefits (e.g., Montreal Protocol), and 6) spending by international organizations on activities of a GPG nature (e.g., UN peacekeeping operations).”

Other Measures of Aid

Other Official Flows (OOF)

The OECD categorizes “Other Official Flows” (OOFs) as official sector transactions that do not meet ODA criteria. OOF includes grants to developing countries for representational or commercial purposes, official bilateral transactions with a grant element of less than 25%, official bilateral transactions that are primarily export facilitating in purpose (OECD, 2015). Common examples of OOFs include export credits, subsidies to the private sector, and funds in support of private investment. Figure 3 shows OOF estimates compared to ODA. Other Official Flows appear significantly less than ODA because they are generally offered closer to commercial rates than concessional rates. OOF measures are sometimes negative (as was the overall case in 2006) because outflows (repayments) exceed inflows (Sinha & Perla, 2014).

Figure 3. ODA vs. OOFs, constant 2013 USD



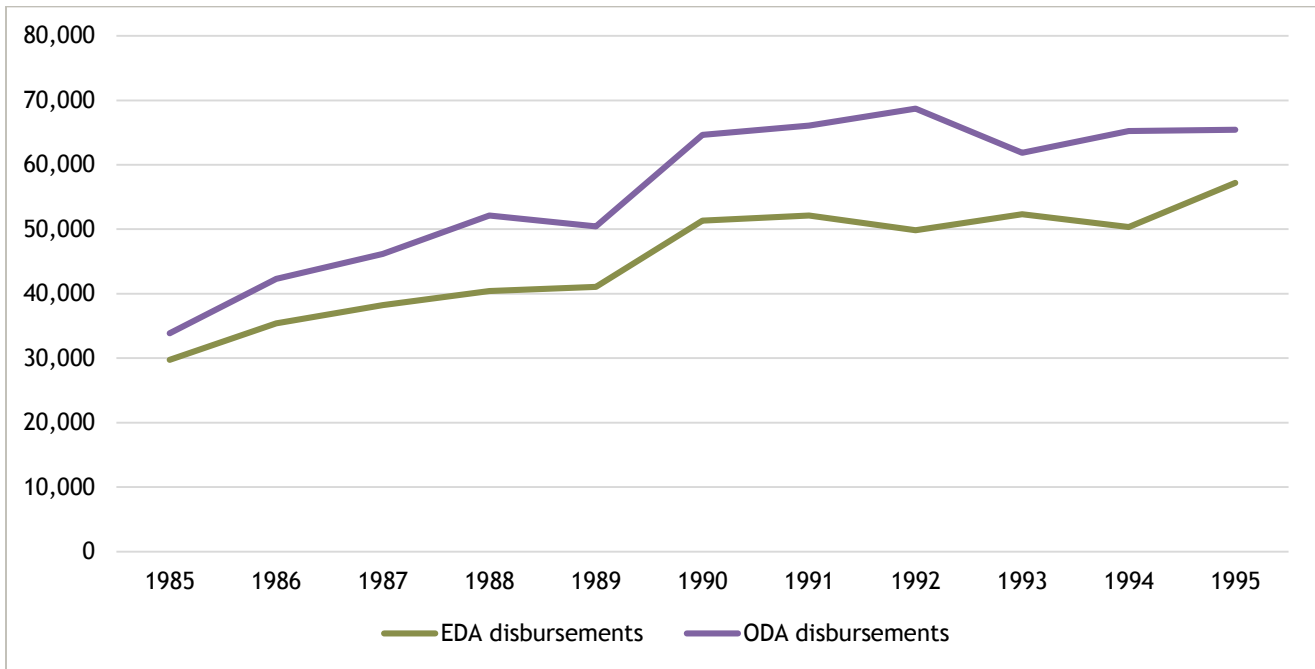
Non-Traditional Development Assistance (NTDA)

A relatively recent concept coined by academics (Greenhill, Prizzon & Rogerson, 2013; Schmaljohann, Maya & Prizzon, 2015), Non-Traditional Development Assistance (NTDA) covers non-DAC cross-border sources of finance provided with a public or philanthropic interest purpose, private philanthropy, flows to developing countries from non-governmental organizations (net of the ODA these NGOs receive), social impact investment, global vertical health funds, and climate finance. NTDA also has funding or delivery mechanisms that differ from those of traditional donors and may not meet ODA definitions. OOFs are included in upper range NTDA estimates.

Effective Development Assistance (EDA)

In the late 1990s a group of World Bank economists criticized ODA for inaccurately reflecting true aid flows, since it lumps grants and loans together (Chang et al., 1998). This, Chang argues, results in an over-representation of loans with high concessions and an underestimation of loans with low concessionality. They proposed an alternative measure of aid, Effective Development Assistance (EDA), which measures the sum of grants and the grant equivalents of official loans. This measure is computed on a loan-by-loan basis in order to reflect the true cost to the donor of offering loans on concessional terms. Since it excludes concessional loans, EDA is consistently lower than ODA, as seen in Figure 4. This measurement is rarely used, however, as it failed to gain traction in the aid community. In our literature search, we only found one study measuring EDA (Coviello & Islam, 2006).

Figure 4. ODA vs. EDA, Constant 2013 USD



II. Aid Allocation

Aid Commitments Versus Disbursements

Aid commitments measure donors' intentions and permit monitoring of resource targeting for specific purposes and recipient countries. Commitments fluctuate as aid policies change and therefore may not provide an accurate representation of future aid flow. Disbursements are actual distributions of committed aid funds. They show the realization of donors' intentions and the implementation of their policies, and better describe aid flows from a recipient's point of view. Analyzing the relationship between commitments and disbursements provides useful insights into aid delivery, but comparability between the two concepts is difficult. In the OECD's Creditor Reporting System (CRS), commitments are often multi-year and recorded in whole in the year they are signed. Subsequent disbursements of an earlier commitment are recorded annually, in the years they are transferred from donors to recipients. An increase in aid allocations (commitments) is thus visible in disbursements data only with a few years' time lag. Consequently, disbursements in one year cannot be directly compared to commitments in the same year, as disbursements relate to commitments originally recorded in different years (Buchner, Brown & Corfee-Morlot, 2011).

A key pledge from the 2005 Paris Declaration was to make aid more predictable (i.e., reduce the difference between aid commitments or promises and actual aid disbursements, or use more multi-year commitments). A related issue is aid volatility, measured by the deviation of aid from a trend (Bulir & Hamann, 2003), but the current literature emphasizes the importance of predictability to aid recipients over that of volatility. For example, Celasun & Walliser (2008) argue that unexpected aid shortfalls can force governments to disproportionately cut investment, including in human capital, while aid windfalls can disproportionately boost government consumption.

OECD (2011) data further suggest there is a substantial discrepancy between the records of donor and recipient countries. While 98% of the aid scheduled for disbursement at the beginning of 2010 was disbursed as reported by donors, this obscures disbursements inconsistent with original commitments (as well as omitting anticipated

commitments and actual receipts from recipient countries). Hudson claims only 27% of aid recipient countries received 95% or more of planned disbursements and that 60% received 85% or more (2015), indicating that aid recipients frequently receive less aid than was committed to them.

Trends in Bilateral Aid Allocation

Since bilateral donors do not generally have publicly-available aid allocation formulas, numerous studies have performed regressions to explore the determinants of aid allocation across DAC donors. We reviewed eight prominent studies to summarize the general trends in this literature. The studies generally find that most donor countries use both “altruistic” (i.e., targeting aid based on need of recipients) and “egoistic” (i.e., targeting aid based on strategic interests of donors) determinations (Berthelemy, 2006; Berthélemy & Tichit, 2004; Hoeffler & Outram, 2011; Younas, 2008), but that aid allocation criteria differ by donor (Berthelemy, 2006) and type of aid (Neumeyer, 2005).

Three of the eight studies measure aid “egoism” as providing aid disproportionately to trade partners. Berthélemy & Tichit (2004) find that, since the end of the Cold War, aid allocation bias has shifted from former colonial linkages to trade partners. Younas (2008) estimates that significantly more aid is allocated to countries that import capital goods, but that other types of imports have no significant effects on aid decisions. He argues that this trend supports the egoism theory because developed donor nations are typically major producers and exporters of capital goods.

Berthelemy (2006) distinguishes between three types of donors - the altruistic, the moderately egoistic, and the egoistic. Altruistic donors have a significantly lower relationship between trade partnerships and aid allocation and includes countries like Austria, Denmark, Ireland, Netherlands, New Zealand, Norway, and Switzerland. Switzerland, however, is the only country in the study that demonstrates no preference for trade partners (the parameter for trade intensity is not statistically significant from zero). The moderately egoistic group represents the international average aid allocation to trade partners (with an elasticity of aid to trade intensity between 0.3 and 0.4) and includes Belgium, Canada, Finland, Germany, Japan, United Kingdom, and United States. Finally, the egoistic group has a significantly higher emphasis on trade partners and includes Australia, France, and Italy.

Another way to measure donor egoism is allocation to countries with similar UN voting records. Hoeffler & Outram (2011) find that all donors provide more aid to countries that regularly vote in line with them in the UN, except for Germany. The United States and the United Kingdom have the strongest positive relationship between aid allocation and voting patterns.

In terms of evidence for altruistic (i.e., need-based) aid allocation behavior, most donors allocate more aid to countries with lower national income. On average, a one-percentage point increase in national income results in a one-percent decrease in per capita aid (Hoeffler & Outram, 2011). The impact of national income varies greatly across donors, however. Australia, Canada, Germany, the United Kingdom, and the United States actually have a statistically significant positive relationship between aid allocated and recipient income (Berthelemy & Tichit, 2004), indicating that other factors play a role in their aid allocation decisions.

Other proxies for recipient country need include poverty measures, health measures, and measures of aid from other countries. Younas (2008) finds no significant relationship between aid allocation and poverty rates, but a significant relationship between aid and infant mortality. He argues that donors “appear to be more concerned about alleviating physical miseries... but less towards reducing economic hardships.” Berthelemy & Tichit (2004) find that aid received from other donors has a very small impact on a single donor’s aid allocation, and that introducing other donors’ aid allocations as a control variable in regression models does not change the magnitude of other variables’ estimated impacts. Therefore, they conclude, there is little evidence of coordination across bilateral donors to meet recipient needs.

Recently, recipient country performance - either politically or economically - has appeared to play an increasingly important role in aid allocation (though the absence of a counterfactual, the confounding factors, and data inconsistencies in these largely cross-sectional studies limit the ability to draw conclusions). Whereas aid in the 1980s had a negative relationship with economic performance and rule of law, donors in the 1990s began to channel aid toward strongly-governed countries (Claessens et al., 2009). This represents a new emphasis on effective aid implementation and increased “ownership” of aid projects by local governments (Dietrich, 2013). Burnside & Dollar’s (1997) research on aid effectiveness was central to this shift. They find that aid has a significant positive impact in countries with strong governance and economic institutions, and a lower or insignificant impact in countries with weak institutions and policies. The allocation of aid based on country governance has persisted despite subsequent studies which find the results are not robust to differing aid measurements or expanded datasets (Easterly et al., 2003; Roodman, 2007).

Some studies, however, find that bilateral donors place little importance on recipient country performance. Hoeffler & Outram (2011) estimate that measures of merit and performance account for less than 1% of the variance of aid. The UK and Japan are exceptions: they allocate significantly more aid to countries with higher growth, higher democracy scores, and fewer human rights abuses.

Donors do not appear to allocate all forms of aid according to the same patterns, however. Neumeyer (2005) finds that food aid is not subject to the same allocation biases of other aid, as it is not closely tied with export partners, former colonies, or regions of strategic military importance. Aside from preferential treatment for geographically close countries and some correlation with UN voting patterns, food aid allocation appears to be largely based on recipient country need (Neumeyer, 2005).

Trends in Multilateral Aid Allocation

Although bilateral donors have shown some increased preference for recipient countries with strong economic and political performance, the change has been even greater for multilateral organizations (Dollar & Levin, 2006). Dollar & Levin refer to this phenomenon as institutional selectivity, in which multilateral aid is disproportionately channeled to those countries that have supporting institutional and policy frameworks allowing them to use the resources more effectively.

Performance-Based Aid Allocation

Most multilateral aid organizations now use performance-based allocation models (Anderson, 2008). These models are transparent with publicly available aid allocation formulas. The formulas include subjective measures of country performance, which are weighted more heavily than other variables (for example, GNI per capita or population size).

The World Bank, for example, uses the following allocation formula:

$$PBA = f(CPR^5, Pop, GNIpc^{-0.125})$$

where performance-based allocation (PBA) is a function of the country performance rating (CPR), population, and GNI per capita. The CPR is determined by the Country Policy and Institutional Assessment Index (CPIA) and the portfolio performance rating (PPR) using the following formula:

$$CPR = 0.24CPIA_{A-C} + 0.68CPIA_D + 0.08PPR$$

According to this formula, 24% weight is placed on macroeconomic and structural policies (as represented by parts A-C of the CPIA) and 68% weight is placed on governance, management and institutions (as represented by part D of the CPIA) (International Development Association, 2010). The remaining 8% is based on the

country's Portfolio Performance Rating (PPR), which is the proportion of a country's World Bank projects that were classified as successful or "problem projects" during evaluation.

Many multilateral organizations, including the African Asian Development Banks, use the World Bank formula with slightly different weightings (Guillaumont & Jeanneney, 2009; Asian Development Bank, 2001). Others include more variables to create a multi-faceted, but more complicated, allocation formula. The European Development Fund, for example, incorporates HDI, Country Vulnerability Index, the UNDP Human Poverty Index, HIV prevalence rate, and the dependency ratio (Anderson, 2008).

Generally, multilateral donors pre-select recipient countries based on low GNI per capita and low creditworthiness (reflecting an inability to borrow on market terms) before using the allocation formula. Additionally, post-conflict countries (which tend to receive low measures or performance) receive special consideration either through ear-marked funds or a post-conflict "enhancement factor" in the allocation formula (Anderson, 2008).

Performance-based allocation of multilateral aid is hypothesized to have three main strengths. First, it may be more efficient in reducing poverty. This argument is based on Collier (2001) and Dollar's (2002) findings that associate country performance with efficiency in reducing poverty. Second, it may serve as an incentive to recipient countries to adopt policies and institutions that are argued to facilitate long-run growth, as these policies will increase the amount of aid allocated to them (Anderson, 2008). Third, the public allocation formulas result in a transparent allocation process (United Nations Economic and Social Council, 2008), which is important for maintaining the accountability and legitimacy of multilateral donors.

Performance-based allocation has also generated criticism. Guillaumont et al. (2015) find three problems with the approach. First, they find the balancing of need and performance criteria problematic, arguing that countries with the greatest need are often those with the lowest levels of performance. This method may therefore lead to less efficient aid allocations. Second, they conclude that performance-based aid does not include sufficient proxies for the drivers of effective aid since it relies solely on the subjective performance measures of the CPIA and PPR. Third, they argue the performance approach ignores the role of human capital and economic vulnerability in developing countries: in their view allocating more aid to countries with low human capital and high economic vulnerability would help compensate these countries for their initial structural disadvantages with respect to achieving growth and in turn poverty reduction (Guillaumont et al., 2015).

Poverty-Efficient Aid Allocation

Collier & Dollar propose an alternative allocation method that focuses directly on poverty reduction efficiency and aims (2002). This method is based on the assumption that economic growth leads to poverty reduction in developing countries. They argue that the optimal allocation of aid depends on the recipient country's level of poverty, its elasticity of poverty with respect to income, and the quality of its policies.

In order to maximize aid's effects on poverty reduction, Collier & Dollar (2002) argue, aid should be allocated as a nonlinear increasing function of the poverty level (as measured by the headcount index divided by per capita income) and an increasing function of the policy environment (as measured by the CPIA). They define marginal productivity of aid as the number of people lifted out of poverty for every million dollars allocated. This marginal productivity is subject to the existing level of aid in the country. As a result, the marginal productivity of additional aid can be negative for some countries with large current levels of aid. Therefore, Collier & Dollar's allocation model calls for reallocations between donor countries to equalize these marginal productivities. Their results are robust to alternate measures of poverty, including the headcount index, the poverty gap, and squared poverty gap measurements.

III. Aid Effectiveness

Studies of Effectiveness

Determining aid effectiveness is complicated, particularly when using cross-country comparisons. Studies generally cannot establish a counterfactual, isolate the effects of confounding factors, or accurately compare inconsistent data across countries. As a result, conclusions can be contested and contradictory between studies.

A commonly held viewpoint is that aid has a positive effect on economic growth (usually measured by growth in GDP per capita), but only when recipient countries have good policy and institutional environments (Burnside & Dollar, 1997, 2004; World Bank, 1998, Bauer, 1984). Thus, while aid does not appear to have a uniformly positive growth effect when considered along with standard determinants of growth, Burnside & Dollar argue that there is evidence that it raises growth in particular environments (Burnside & Dollar, 1997, 2004).

This “conditional” view of aid effectiveness has typically focused on the quality of recipient countries’ policies, beginning with Burnside & Dollar’s (1997) finding that aid has a significant positive impact in countries with strong governance and economic institutions. Collier & Dehn (2001) find that increasing aid to countries suffering from negative export price shocks raises economic growth, and Collier & Hoeffler (2002) conclude that aid is very effective in post-conflict situations where good policies are implemented. However, even within this set of studies, there are conflicting conclusions as to exactly which country characteristics are important. Using the same specification as Burnside & Dollar (1997), but including additional data, Easterly et al. (2003) find no evidence of a significant relationship between aid and growth conditioned on the quality of policies. Guillaumont & Chauvet (2001) also do not find that good policy is significant and conclude instead that aid works best in difficult environments, especially those associated with volatile terms of trade, natural disasters, and low population. Finally, Dalgaard et al. (2004) conclude that geography is critical and that aid raises growth only outside the tropics.

A contrasting perspective of aid effectiveness is that aid does not raise economic growth, and may even hurt growth over the long run. Easterly et al. (2004) argue that there is not yet any robust evidence that aid promotes economic growth, even in “good” policy environments. Rajan & Subramanian (2005) also find little robust evidence of a positive or negative relationship between aid inflows into a country and economic growth. They find aid inflows have systematic adverse effects on a country’s competitiveness (known as Dutch disease effects), as reflected in a decline in the share of labor-intensive and tradable industries in the manufacturing sector. More recent studies have sided with this conclusion, with a later study by Rajan & Subramanian (2008) concluding that there is little robust evidence of a positive (or negative) relationship between aid inflows into a country and its economic growth and that this assertion holds across methodologies, time periods, and forms of aid.

A third view of the aid-growth relationship is that while, on average, aid is associated with growth, it exhibits diminishing returns or that the relationship depends on the form that aid takes (Hadjimichael et al., 1995; Durbarry et al., 1998; Lensink & White, 1999). Hansen & Tarp (2001) compare studies in which the relationship between aid and growth is modeled as non-linear and conclude it is likely that aid increases growth (primarily through investment) albeit with decreasing returns. Clemens, Radelet, & Bhavnani (2004) disaggregate ODA flows among various categories of assistance and find a strong, positive, causal relationship between “short-term” impact aid and economic growth (with diminishing returns) over a four-year period. Multiple studies have compared the effectiveness of multilateral and bilateral aid, but the findings on which aid channel is more effective vary depending on the outcome variables and models used (Biscaye et al., 2015).

Key Issues in Current Aid Effectiveness Literature

Micro-macro paradox

A recurring and oft-cited theme in the aid effectiveness literature is the so-called micro-macro paradox. The paradox was labeled by Mosley (1986) in reference to the vast majority of micro-level studies (i.e., studies of individual projects or programs) that find aid to be effective, while macro-level analysis (i.e., econometric analyses of cross-national datasets) report negligible, no observable or negative impacts of aid. For example, Arndt, Jones, and Tarp's (2009) micro-econometric study across multiple countries finds that aid has a positive and statistically significant causal effect on growth over the long run, with point estimates at levels suggested by growth theory. However, they also report that short run effects are more difficult to discern. Combining both longer run macro evidence with shorter run micro- and meso-level evidence may provide more consistent evidence for aid effectiveness. It is important to note that most debates over aid effectiveness run at the macro-level, and even those who assert that aid overall is ineffective acknowledge that effective aid projects can be observed on a project-by-project basis (Miller, 2012).

Reverse causality

The traditional approach to looking at the relationship between aid and growth has been through cross-country regressions. Econometric analyses from cross-country regressions offer inconclusive evidence of causal relationships between aid and growth. This in part reflects the underlying limitations of regression analysis, in particular in determining the direction of causation: it is possible that aid can foster growth, but slow growth may also lead to greater aid allocations, and inversely countries with faster growth may receive less aid. More recent literature attempts to control for this aid endogeneity problem through instrumental variables such as expected population growth, trend growth rates, aggregate marginal product of capital, capital's share in national accounts, and poverty elasticity, but the quality of instruments themselves is debatable (Dalgaard & Erickson, 2009).

Country specificity

The cross-country methods used by the majority of aid effectiveness studies mask country-level variations which can be important in understanding the impact of aid on growth. Sierra Leone, for example, may be a high-aid country, but if the period studied includes civil war years, this may affect its growth and thus measures of the effectiveness of aid on growth if national violence is not controlled for in the model. Important specific features of low-income economies are often ignored in cross-country regressions, which in turn have proven to be rather poor predictors of growth. For instance, much of the empirical growth research based on comparative data has not addressed issues of dual economies and dual societies within countries and differing structural change processes between countries (Herzer & Nunnenkamp, 2012). Under these conditions, it is very difficult to identify the particular role of aid. Some recent literature calls for more detailed country case studies that evaluate the effects of aid across different proximate drivers of growth such as physical and human capital accumulation, macroeconomic policy setting, and international trade (Lahiri, 2007).

Identifying causal mechanisms

The theory underlying many macro-level growth studies assumes that physical capital accumulation is the main driver of growth. However, the growth process involves a complex set of relationships that includes institutions and how they interact with investment behavior and policies. Since these structural relationships cannot be identified with cross-country regressions, much of the complex causality involved in aid effectiveness remains a black box. Bourguignon & Sundberg (2007) claim it is unsurprising that cross-country evidence on aid

effectiveness is fragile given little is known about what links aid to development outcomes, in particular the relationships between donors and policymakers, policymakers and policies, and policies and outcomes.

Connecting aid to outcome measures

Aid has various objectives, often not directly related to economic growth. ODA targets goals ranging from political and diplomatic support to friendly governments, peace-keeping, nation-building, etc. Alesina & Dollar (2000) find that a large proportion of aid is provided for political reasons. A significant fraction of ODA received by Egypt and Israel is devoted to supporting the Middle East peace process. Likewise, a large fraction of ODA flows to many other countries are designed to fight international crime or terrorism (Kenny, 2008). These ODA flows may therefore not be expected to increase GDP growth, and therefore the overall estimate of the effectiveness of aid on increasing growth would be reduced. However, cross-country studies that specifically evaluate the effectiveness of subsets of aid targeting particular outcomes on those specific outcomes are not common. At the program level, strategic evaluations that examine political and diplomatic objectives are rare (or at least not publicly available), and evaluations of aid effectiveness that focus only on the development or humanitarian impacts of program or project may be examining secondary rather than primary objectives of those programs.

Poverty reduction is widely accepted as the overarching development objective within the international development community, formalized in the Millennium Development Goals, but the bulk of research on aid effectiveness focuses on economic growth. Easterly (2003) argues this reflects a bias in the economics profession in favor of growth empirics as well as the general perception that growth and poverty reduction are essentially analogous. In their research on poverty-efficient aid-allocation rules, Collier & Dollar (2001) find that the impact of aid on poverty depends on its impact on per capita income growth and the relationship between per capita income growth and poverty reduction. However, Quibria (2014) argues that their analytical approach was crude for accepting the narrative that poverty reduction is only a function of economic growth and ignoring other factors such as human and social capital investments.

Short-term versus long-term effects

Clemens, Radelet & Bhavnani (2004) argue that past research on aid and growth may be flawed because it typically examines the impact of aggregate aid on growth over a short period, usually four years. Yet, significant portions of ODA are unlikely to affect growth in such a short period of time. They suggest that aid can be divided at least into three categories: 1) emergency and humanitarian aid, which is likely to be negatively correlated with growth; 2) aid that affects growth only over a longer period (e.g. health or education support), and 3) aid that could plausibly stimulate growth over a few years (e.g. budget and balance of payment support). They conclude that the third category has a positive causal relationship with growth over a four-year period, with diminishing returns. Specific research attention has also been given to long-run determinants of growth that have cumulative but often not immediate impacts on the rate of income growth. Changes in human capital, such as education and health, move only slowly at the aggregate level and exert a positive influence on economic growth with a substantial lag (Arndt, Jones & Tarp, 2011). Ashraf et al. (2008) demonstrate that the immediate economic impact of gains in life expectancy from disease eradication may be a reduction in per capita incomes due to increased child survival and the consequent increase in the ratio of the non-working age to the working age population. Thus, as a result of these interventions, incremental growth in population can easily exceed the incremental growth in income for two or more decades following interventions.

Aid measurements

Fielding & Knowles (2007) use Burnside & Dollar's (2000) study as a benchmark by using the same panel data set and same estimation techniques to replicate their results, but with a different measurement of aid. Most papers examining aid effectiveness measure aid as a fraction of recipient GDP, whereas Fielding and Knowles measure aid in real PPP-adjusted international dollars per capita. In doing so, they reverse Burnside & Dollar's findings, showing a negative impact of aid on growth. In a 2011 study, Fielding & Knowles raise the wider issue that many regression equations used to test hypotheses about the determinants of aid effectiveness are introduced without any corresponding formal theory. They further argue that adding interaction terms devoid of theoretical grounding to otherwise linear regression equations is likely to be an inadequate way of capturing the nonlinearities in the growth process.

Aid modalities

More recent studies have moved beyond the study of total aid to analyze the impact of particular forms of aid or aid modalities. Clemens, Raddlet, & Bahvani (2004) pioneered this approach by examining disaggregated aid in a cross-country setting. By studying the influence of short-term aid (e.g., budget support, project aid given for real sector investments) rather than long-term aid (e.g., technical assistance, social infrastructure investment), they find a statistically significant impact from short term aid. However, the decomposition of aid raises questions as to whether a true distinction can be made between short-term and long-term aid. For example, if the government chooses to spend the short-term budget support on long-term education goals, difficulties over classification clearly arise (Dalgaard & Hansen, 2010). Multiple studies have compared the effectiveness of multilateral and bilateral aid, but the findings on which aid channel is more effective vary depending on the outcome variables and models used (Biscaye et al., 2015).

Data limitations

Cross-country research requires assembling large samples of diverse countries at different stages of economic development. While these samples allow large variations in country policies and characteristics, they also create difficulties in measuring variables in a consistent and accurate way across countries and over time. ODA data on disbursements are only available from the 1990s and only have a relatively high level of accuracy from the 2000s onward. Many studies utilize data from before this period so adopt commitments as a proxy for disbursements. As discussed in Section II of this brief, the OECD suggest a significant discrepancy between governments' aid commitments and their corresponding disbursements (2011).

In addition, country-level data are subject to various limitations. For example, Jerven (2013) analyzes the development statistics presented by African governments and nonprofits to demonstrate the different statistics that can be presented for the same country. He finds that country rankings differ, and sometimes drastically, in major rating reports such as the World Development Indicators, Penn World Tables, and the database of Angus Maddison. Liberia, for example, ranks as the second poorest country in Penn's rankings, while Maddison ranks Liberia as the 22nd poorest country. Measures of per capita GDP differ in part due to the reporting agencies' using different formulas to convert local currency into international U.S. dollars; however, currency conversions alone would not affect country rankings. Rather, the major issue is that the data sets that these sources draw information from lead to differences in estimated GDP and resultant country rankings. While international organizations and development programs often refer to data as international, Jerven notes that many of these are national-level data from various states that the international databases then publish.

Other authors have noted that national data often suffer errors due to data updating, formula revisions, and country thresholds that change each year (Wolff, et al., 2011; Tokuyama & Pillarisetti, 2009; Stanton, 2007). The lack of validity and reliability of the state-level data therefore weakens the validity and reliability of the

national and international data presented (Jerven, 2013). Because of this, one should be cautious when interpreting international data.

Constructivism and participatory evaluation

Evaluative models examining aid effectiveness are subject to paradigmatic debates between positivists who advocate a traditional scientific approach that aims to establish valid, verifiable, and reliable results and constructivists who argue that even robust empirical evaluations suffer from problems of comparability, unknown causal linkages, multiple causality, and the counterfactual (Cracknell, 2000). While the vast majority development literature adopts a positivist approach, donor rhetoric increasingly reflects participatory notions that are central to constructivist approaches. The actual practice of participatory evaluation, however, still remains limited due to little uniformity of understanding about what participatory evaluation involves (Armytage, 2011). Winters (2010) reviews empirical evidence demonstrating that aid functions better with higher government accountability, arguing that participation is a key tool used to produce accountability within aid projects. The increased interest in aid effectiveness processes also coincides with a renewed interest in randomized control trials, with scholars such as Banerjee et al. (2007) arguing that aid should be subject to the rigors of RCTs to increase efficiency and efficacy.

Institutional Monitoring of Aid Effectiveness

In 2005, the Paris High Level Forum on Aid Effectiveness put forward the Paris Declaration, a roadmap for improving aid quality and establishing monitoring systems to assess progress (OECD, 2011). The Declaration was signed by more than 100 donor and developing-country governments. The Declaration focuses on making aid more coordinated, predictable, transparent, and accountable. It includes three main principles to increase aid effectiveness: 1) ownership from recipient countries in setting strategies, improving institutions, and tackling corruption, 2) alignment of donor countries with recipient countries' objectives and local systems, 3) harmonization between donor countries to coordinate aid, simplify procedures, and share information, 4) a shift of focus toward development results and the measurement of those results, 5) mutual accountability between donors and partners. The OECD has implemented three rounds of surveys (most recently in 2011) that monitor the achievement of these principles through a combination of quantitative and qualitative data.

QuODA (Quality of Official Development Assistance) and the Center for Global Development have developed an alternative framework for measuring aid effectiveness (Birdsall & Kharas, 2010). They include four dimensions and thirty indicators. The four dimensions consist of 1) maximizing efficiency (through allocation to poor and well-governed countries, reduced administrative costs, and specialization by sector and recipient), 2) fostering institutions (through technical cooperation and use of recipient country systems), 3) reducing the burden on recipients (through contribution to multilateral organizations, coordinated missions, and use of programmatic aid), and 4) transparency and learning (through reporting and monitoring). Birdsall and Kharas assess a group of bilateral donor according to these four criteria, and find that no country or agency dominates others in all four categories; rather, each donor has its strengths and weaknesses across this framework.

References

- Alesina, A., & Dollar, D. (2000). Who gives foreign aid to whom and why?. *Journal of economic growth*, 5(1), 33-63.
- Armytage, L. (2011). Evaluating aid: An adolescent domain of practice. *Evaluation*, 17(3), 261-276.
- Anderson, E. (2008). Practices and implications of aid allocation. Background study for the 2008 Development Cooperation Forum, UN Economic and Social Council (ECOSOC).
- Arndt, C., Jones, S., & Tarp, F. (2009). Aid and growth: Have we come full circle?. Univ. of Copenhagen Dept. of Economics Discussion Paper, (09-22).
- Arndt, C., Jones, S., & Tarp, F. (2011). Aid effectiveness: Opening the black box (No. 2011, 44). Working paper//World Institute for Development Economics Research.
- Arndt, C., Jones, S., & Tarp, F. (2015). What is the aggregate economic rate of return to foreign aid?. *The World Bank Economic Review*, lhv033.
- Ashraf, Q. H., Lester, A., & Weil, D. N. (2008). When does improving health raise GDP? (No. w14449). National Bureau of Economic Research.
- Asian Development Bank (2001). Policy on performance-based allocation for Asian Development Fund resources.
- Banerjee, A. V. (2007). *Making Aid Work*. Cambridge, MA: Boston Review Book.
- Bauer, P. T. 1984. *Reality and Rhetoric: Studies in the Economics of Development*. Cambridge, MA: Harvard University Press
- Benn, J., Rogerson, A., & Steenson, S. (2010). Getting Closer to the Core: Measuring Country Programmable Aid. *Development Brief*, 1.
- Berthélemy, J. C. (2006). Bilateral donors' interest vs. recipients' development motives in aid allocation: do all donors behave the same?. *Review of Development Economics*, 10(2), 179-194.
- Berthélemy, J. C., & Tichit, A. (2004). Bilateral donors' aid allocation decisions—a three-dimensional panel analysis. *International Review of Economics & Finance*, 13(3), 253-274.
- Birdsall, N., & Diofasi, A. (2015). *Global Public Goods for Development: How Much and What For*. Center for Global Development.
- Birdsall, N., Kharas, H. J., Mahgoub, A., & Perakis, R. (2010). *Quality of official development assistance assessment*. Washington, DC: Center for Global Development.
- Biscaye, P., Reynolds, T., Anderson, C.L., & Panhorst Harris, K. (2015). Relative Effectiveness of Bilateral and Multilateral Aid on Development and Social Outcomes. Under review at the *Journal of International Development*.
- Bourguignon, F., & Sundberg, M. (2007). Aid effectiveness: opening the black box. *The American economic review*, 316-321.
- Buchner, B., Brown, J., & Corfee-Morlot, J. (2011). Monitoring and tracking long-term finance to support climate action. OECD iLibrary
- Bulíř, A., & Hamann, A. J. (2003). Aid volatility: an empirical assessment. *IMF Staff papers*, 64-89.
- Burnside, A. C., & Dollar, D. (1997). Aid, policies, and growth. *World Bank policy research working paper*, (569252).
- Burnside, C., and D. Dollar. 1998. "Aid, the Incentive Regime, and Poverty Reduction." Working Paper no. 1937. Washington, DC: World Bank
- Burnside, C., & Dollar, D. (2000). Aid, growth, the incentive regime, and poverty reduction. *The World Bank: Structure and Policies*, 3, 210.
- Celasun, O., & Walliser, J. (2008). Predictability of aid: Do fickle donors undermine aid effectiveness?. *Economic Policy*, 23(55), 546-594.
- Chang, C. C., Fernandez-Arias, E., & Serven, L. (1998). Measuring aid flows: a new approach. Inter-American Development Bank Working Paper.

- Claessens, S., Cassimon, D., & Van Campenhout, B. (2009). Evidence on changes in aid allocation criteria. *The World Bank Economic Review*, 23(2), 185-208.
- Clemens, M. A., Radelet, S., & Bhavnani, R. R. (2004). Counting chickens when they hatch: The short term effect of aid on growth. Center for Global Development working paper, (44).
- Collier, P., & Dehn, J. (2001). Aid, shocks, and growth (Vol. 2688). World Bank Publications.
- Collier, P., & Dollar, D. (2002). Aid allocation and poverty reduction. *European Economic Review*, 46(8), 1475-1500.
- Collier, P., & Dollar, D. (2001). Can the world cut poverty in half? How policy reform and effective aid can meet international development goals. *World development*, 29(11), 1787-1802.
- Collier, P., & Hoeffler, A. (2002). Aid, policy, and growth in post-conflict societies (Vol. 2902). World Bank Publications.
- Coviello, D., & Islam, R. (2006). Does aid help improve economic institutions?. *World Bank Policy Research Working Paper*, (3990).
- Cracknell, B. E. (2000). Evaluating development aid: issues, problems and solutions. Sage.
- Dalgaard, C. J. L., & Hansen, H. (2010). Evaluating Aid Effectiveness in the Aggregate: A critical assessment of the evidence. Ministry of Foreign Affairs of Denmark. Danida.
- Dalgaard, C. J., & Erickson, L. (2009). Reasonable Expectations and the First Millennium Development Goal: How Much Can Aid Achieve?. *World Development*, 37(7), 1170-1181.
- Dalgaard, C. J., Hansen, H., & Tarp, F. (2004). On the empirics of foreign aid and growth*. *The Economic Journal*, 114(496), F191-F216.
- Dietrich, S. (2013). Bypass or Engage? Explaining Donor Delivery Tactics in Foreign Aid Allocation. *International Studies Quarterly*, 57(4), 698-712. Chicago
- Dollar, D., & Levin, V. (2006). The increasing selectivity of foreign aid, 1984-2003. *World development*, 34(12), 2034-2046.
- Durbary, R., N. Gemmill, and D. Greenaway (1998). New evidence on the impact of foreign aid on economic growth. CREDIT Research Paper 98/8, University of Nottingham
- Easterly, W., Levine, R., & Roodman, D. (2003). *New data, new doubts: A comment on Burnside and Dollar's "aid, policies, and growth"(2000)* (No. w9846). National Bureau of Economic Research.
- Easterly, W. (2003). Can foreign aid buy growth?. *The journal of economic perspectives*, 17(3), 23-48.
- Fielding, D., & Knowles, S. (2007). Measuring aid effectively in tests of aid effectiveness (No. 0704). University of Otago, Department of Economics.
- Fielding, D., & Knowles, S. (2011). Dangerous Interactions: Problems in Interpreting Tests of Conditional Aid Effectiveness. *The World Economy*, 34(6), 972-983.
- Guillaumont, P., & Chauvet, L. (2001). Aid and performance: a reassessment. *Journal of Development Studies*, 37(6), 66-92.
- Guillaumont, P., & Jeanneney, S. G. (2009). *Accounting for vulnerability of African countries in performance based aid allocation* (No. P08).
- Guillaumont, P., McGillivray, M., & Pham, T. K. C. (2015). Reforming Performance-Based Aid Allocation Practice. *World Development*.
- Greenhill, R., Prizzon, A., & Rogerson, A. (2013). The age of choice: developing countries in the new aid landscape. Synthesis Report. Londres: ODI.
- Hadjimichael, M. T., D. Ghura, M. Muhleisen, R. Nord, and E. M. Ucer (1995). Sub-Saharan Africa: Growth, savings, and investment, 1986-93. Occasional Paper 118, International Monetary Fund
- Hansen, H., & Tarp, F. (2001). Aid and growth regressions. *Journal of development Economics*, 64(2), 547-570.
- Herzer, D., & Nunnenkamp, P. (2012). The effect of foreign aid on income inequality: Evidence from panel cointegration. *Structural Change and Economic Dynamics*, 23(3), 245-255.
- Hoeffler, A., & Outram, V. (2011). Need, Merit, or Self-Interest—What Determines the Allocation of Aid?. *Review of Development Economics*, 15(2), 237-250.

- Hoekman, B., & Wilson, J. S. (2010). Aid for trade: building on progress today for tomorrow's future. *World Bank Policy Research Working Paper Series, Vol. 5361*.
- Hudson, J. (2015). Consequences of aid volatility for macroeconomic management and aid effectiveness. *World Development, 69*, 62-74.
- International Development Association. (2010). IDA's Performance Based Allocation System: Review of the Current System and Key Issues for 2010.
- Jerven, M. (2013). *Poor numbers: how we are misled by African development statistics and what to do about it*. Cornell University Press.
- Kenny, C. (2008). What is effective aid? How would donors allocate it?. *The European Journal of Development Research, 20(2)*, 330-346.
- Knack, S., Rogers, F. H., & Eubank, N. (2011). Aid quality and donor rankings. *World Development, 39(11)*, 1907-1917.
- Lahiri, S. (2007). *Theory and practice of foreign aid (Vol. 1)*. Elsevier.
- Lensink, R. and H. White (1999). Is there an aid Laffer curve? CREDIT Research Paper 99/6, University of Nottingham
- Miller, D. (2012). Sachs, Easterly and the Banality of the Aid Effectiveness Debate: Time to Move On. *Mapping Politics, 3*.
- Neumayer, E. (2005). Is the allocation of food aid free from donor interest bias?. *The Journal of Development Studies, 41(3)*, 394-411.
- Quibria, M. G. (2014). Aid effectiveness: research, policy and unresolved issues. *Development Studies Research. An Open Access Journal, 1(1)*, 75-87.
- Rajan, R. G., & Subramanian, A. (2005). Aid and growth: What does the cross-country evidence really show? (No. w11513). National Bureau of Economic Research.
- Rajan, R. G., & Subramanian, A. (2005). What undermines aid's impact on growth? (No. w11657). National Bureau of Economic Research.
- Roodman, D. (2007). The anarchy of numbers: aid, development, and cross-country empirics. *The World Bank Economic Review, 21(2)*, 255-277.
- OECD (2015), Other official flows (OOF) (indicator). doi: 10.1787/6afef3df-en (Accessed on 17 December 2015)
- OECD. (2014). *Making earmarked funding more effective: Current practices and a way forward*. Report number 1. Paris: Tortora, P., & Steensen, S.
- OECD. (2013). Converged Statistical Reporting Directives for the Creditor Reporting System (CRS) and the Annual DAC Questionnaire.
- OECD. (2011). *Aid Effectiveness 2011: Progress in implementing the Paris Declaration*. OECD Publishing.
- Schmaljohann, M., & Prizzon, A. (2015). Age of Choice: How Partner Countries Are Managing the New Development Assistance Landscape—The Cases of Fiji, Papua New Guinea, Timor-Leste and Vanuatu. *Asia & the Pacific Policy Studies, 2(3)*, 643-651.
- Sinha, Pranay, & Charles Perla (2014). Negotiating the blurred lines between official development assistance and other official flows. Retrieved from aiddata.org.
- Smith, K., Fordelone, T. Y., & Zimmermann, F. (2010). Beyond the DAC: the welcome role of other providers of development co-operation. DCD Issues Brief, Organisation for Economic Co-operation and Development-Development Co-operation Directorate, Paris.
- Stanton, E. A. (2007). *The human development index: A history*.
- Tokuyama, C., & Pillarisetti, R. J. (2009). Measuring and monitoring human welfare: How credible are the data in the UNDP's human development reports? *Journal of Economic and Social Measurement, 34(1)*, 35-50.
- United Nations Economic and Social Council. (2008). *Allocating aid: practices and implications*. Background study for the Development Cooperation Forum.
- Winters, M. S. (2010). Accountability, participation and foreign aid effectiveness. *International Studies Review, 12(2)*, 218-243.

- Wolff, H., Chong, H., & Auffhammer, M. (2011). Classification, detection and consequences of data error: Evidence from the human development index. *Economic Journal*, 121(553), 843-870.
- World Bank. 1998. *Assessing Aid: What Works, What Doesn't, and Why*. Oxford: Oxford University Press
- Younas, J. (2008). Motivation for bilateral aid allocation: Altruism or trade benefits. *European Journal of Political Economy*, 24(3), 661-674.

Appendix A. Aid Databases

Table A.1. Database Descriptives

Dataset	Organization	Description	Source	Strengths	Weaknesses	Link
IDS (International Development Statistics) Aggregate Statistics	OECD-DAC	Flows by provider and recipient, including ODA, OOF, and private funding (FDI, bank and non-bank flows)	Reported by DAC members annually	Standard reporting procedure; longest time series data set available	Only includes DAC members; minimal disaggregation by sector	http://stats.oecd.org/Index.aspx?DataSetCode=TABLE1
CRS (Creditor Reporting System) aid activity database	OECD-DAC	Information on individual aid activities, including sectors, countries, and project descriptions, which are used to derive aggregate data; also includes subsections for Aid for Trade and Food Aid	Reported by DAC members annually	Best database for making comparisons across sectors; standard reporting procedure	Only the most recent data (about 2007 onwards) is comprehensive; only includes DAC members	https://stats.oecd.org/Index.aspx?DataSetCode=CRS1
Survey on Monitoring the Paris Declaration	OECD-DAC	Quantitative data collected through the 2006, 2008 and 2011 surveys aimed at measuring aid effectiveness	Reported by donors and national coordinators in participating partner countries	Includes non-concessionary loans from multilateral development banks (not included in ODA)	Dataset excludes the qualitative measures from the survey	http://stats.oecd.org/Index.aspx?DataSetCode=SURVEYDATA
IEG World Bank Project Performance Ratings Data	World Bank	Database of all World Bank project assessments carried out by the Independent Evaluation Group (IEG) since the 1970s (more than 11,260 project assessments of over 9,400 projects)	World Bank Independent Evaluation Group	Longest-running and most comprehensive project performance data collection of its kind; also includes references to over 6,500 source evaluation documents	Not comparable with other datasets for cross-donor comparisons	http://data.worldbank.org/data-catalog/IEG
AidData	aiddata.org	Collection of datasets that build on CRS data by adding non-DAC donors and multilateral organizations - includes both national and sub-national data with geospatial variables	Annual reports, public websites, statistical agencies of various donors (including some non-DAC bilateral donors); also includes replication datasets from third parties	Geospatial data available; subnational data available; more data from more donors than most other databases	Less standardized data collection process across donors than is used by the CRS; potential double-counting of bilateral disbursements to multilateral agencies	http://aiddata.org/access-our-data

Dataset	Organization	Description	Source	Strengths	Weaknesses	Link
Greenbook (U.S. Overseas Loans and Grants)	USAID	Data on the foreign aid loans and grants authorized by the US Government every fiscal year	United States government	The data are available from 1946 onwards and are organized by recipient country and by program area	Not comparable with other datasets for cross-donor comparisons	https://www.usaid.gov/development/greenbookapi
MAFAP (Monitoring and Analyzing Food and Agricultural Policies)	FAO	Comparison of public expenditure and donor aid in the agricultural sector	Reported by participating countries	Detailed information about the agricultural sector	Not comparable with other datasets for cross-sector comparisons	http://www.fao.org/in-action/mafap/database/en/
IATI (International Aid Transparency Initiative)	IATI	A standardized method of viewing other datasets to allow for comparisons across data	Over 350 bilateral and multilateral aid organizations	An international standard for reporting aid information that is easy to read and comparable across datasets	Cumbersome request process to obtain data	http://datastore.iatistandard.org/query/

Table A.2. Database Features

Dataset	Project-level	Disaggregated by sector	Disaggregated by donor	Disaggregated by commitment versus disbursement	Disaggregated by channel of delivery
IDS Aggregate Statistics	No	Yes	Yes	Yes	No
CRS aid activity database	Yes	Yes	Yes	Yes	Yes
Survey on Monitoring the Paris Declaration	No	No	Yes	Yes	Yes
IEG World Bank Project Performance Ratings Data	Yes	Yes	N/A (World Bank only)	Yes	No
AidData	Yes	Yes	Yes	Yes	No
Greenbook	No	Yes	N/A (United States only)	No	No
MAFAP	No	Yes (Agriculture subsectors only)	No	No	No

Appendix B. ODA Sector Allocable Aid Categories

Social Infrastructure & Services	Economic Infrastructure & Services	Production Sectors	Multi-Sector / Cross-Cutting
Education	Transport & Storage	Agriculture, Forestry, Fishing	General Environment Protection
Health	Communications	Industry, Mining, Construction	Other Multisector
Population Policy & Reproductive Health	Energy	Trade Policies & Regulations	
Water Supply & Sanitation	Banking & Financial Services	Tourism	
Government & Civil Society	Business & Other Services		