

**Six Concerns about Data in the (Dead) Aid Debate**

David Stuckler and Sanjay Basu

March 2010

GEG Brief





## *Global Economic Governance Programme*

Centre for International Studies | Department for Politics and International Relations



The Global Economic Governance Programme was established at University College, Oxford in 2003 to foster research and debate into how global markets and institutions can better serve the needs of people in developing countries. The three core objectives of the programme are:

- to conduct and foster research into international organizations and markets as well as new public-private governance regimes;
- to create and maintain a network of scholars and policy-makers working on these issues;
- to influence debate and policy in both the public and the private sector in developed and developing countries.

The Programme is directly linked to Oxford University's Department of Politics and International Relations and Centre for International Studies. It serves as an interdisciplinary umbrella within Oxford drawing together members of the Departments of Economics, Law and Development Studies working on these issues and linking them to an international research network. The Programme has been made possible through the generous support of Old Members of University College.

# **Six Concerns about Data in the (Dead) Aid Debate**

**Dr. David Stuckler, Department of Sociology, University of Oxford**

**Dr. Sanjay Basu, Department of Medicine, University of California, San  
Francisco**

## **Acknowledgments**

David Stuckler and Sanjay Basu are grateful to Martin McKee for a series of helpful comments and suggestions on various drafts.

Over the last year a great debate has been reignited about the meaning and value of international aid. At least three major books and countless newspaper articles have featured the opinions of those who claim that the system of aid distribution needs to be either thrown away or dramatically expanded. The arguments are as heated as they are wide-ranging and public; the implications profound – millions of lives at stake.

To approach the problem from a calm, scientific viewpoint, we must first acknowledge a basic fact about the claims made about aid. Both the critics of aid, as well as its proponents, rely upon a limited pool of evidence concerning aid's effectiveness. Their interpretations of this evidence, we will argue, suffer from a series of well-known statistical fallacies and misunderstandings about the limitations of global aid data. As a result of these limitations, the policy recommendations being made public to date appear to extrapolate far beyond what conclusions can actually be drawn from existing information.

Here, we describe the common problems with the data available on aid, and what we believe is wrong with the way in which it is used. We provide a guide to understanding the empirical evidence behind the aid debate and why it is important to exercise caution in extrapolating policy advice from such data. This paper forms part of the GEG Guide to the (Dead) Aid Debate.

### **The Evidence on Aid's Effects**

In this Guide we present six concerns about the empirical evidence behind the aid debate:

#### *1. Confirmation Bias*

Imagine we propose the following argument: Global trade puts the Global South at a continued disadvantage against the Global North. Global trade increases risks of war, promotes corruption and weakens democracy, undermines social capital, increases inflation, reduces savings and investment and, overall, is bad for economic growth. We need to get rid of dependency on Western trade; 'trade-imperialism' is how the West holds back the Rest.

This logic is, essentially, classic (and outmoded) dependency theory. Now, if you replace 'trade' with 'aid', 'dependency theory' becomes 'aid-dependency' theory:

Global aid increases risks of war ('aid increases the risk of conflict' Moyo, 2009, 60), promotes corruption and weakens democracy ('By providing funds, aid agencies (inadvertently?) prop up bad governments' Moyo, 2009, 57; 'Today's system of foreign aid coddles (and probably worsens) bad governments', Easterly 2006, 157), undermines social capital ('Foreign aid does not strengthen the social capital – it weakens it' p. 58, Moyo, 2009), reduces savings (Moyo, 2009, 46, 61) and, overall, is bad for economic growth ('no evidence that aid raised economic growth', Easterly, 2006, 48). We need to get rid of dependency on Western aid ('the more it infiltrates, the more it erodes, the greater the culture of aid-dependency', Moyo, 2009, 37); 'aid-imperialism' (Easterly 2009) is how the West holds back the Rest ('What is it about Africa that holds it back, that seems to render it incapable of joining the rest of the globe in the twenty-first century? The answer has its root in aid.' (Moyo, 2009, 7). 'No longer part of the potential solution, it's part of the problem – in fact aid is the problem.' (Moyo, 2009, 47).

Whenever such a one-sided case is made – be it aid as a panacea (such as Sachs *End of Poverty*) or aid as a curse (as in the above quotes) – we should look at the quality of the evidence and its selective use. It may not reflect the actual distribution of the evidence but a hidden tendency of researchers to search for and present evidence that confirms their preconceptions (a ‘confirmation bias’).

By pointing to a handful of successful countries that have (relatively) avoided aid, such as Botswana, and describing a few disastrous cases where aid was prevalent, aid critics suggest the costs of aid far exceed the benefits. Yet, many other academics (e.g. Sachs, Collier) and NGOs point to a series of highly successful case-studies, indicating aid can be quite positive and, at times, necessary to avert disasters. Selecting a few case-studies can easily generate a misleading picture of the complex effects of aid.

## 2. Lack of a counterfactual

Aid critics lack a ‘what if’ analysis, to examine what would happen if their recommendations were followed. Would communities’ outcomes have been better without aid? Aid critics have no clear answer (so-called ‘counterfactual analysis’), and have pointed to hypothetical evidence (like Moyo’s Republic of Dongo) that can be greatly misleading.

The vexing statistical problem in analysing aid’s effects is reverse causality: more aid could be associated with suffering and disaster, making aid look like the culprit when it was actually helping stave off worse disaster and a timely response to a worsening problem. This analytical issue concerns not just aid, but any analysis of the effectiveness of positive interventions (like the doctor’s medicine) under high-risk conditions (to a dying patient).

If aid is going to the worst-off countries, aid will appear to be negative unless a statistical assessment accounts for this bias. One approach attempts to simulate what would have happened if everything but the aid were ‘held equal’. Researchers can attempt to make statistical adjustments for factors associated with aid and outcomes (such as natural disasters) in order to isolate the independent effects of aid. Other, more sophisticated approaches, seek to identify a factor associated with aid but not with potential other influences that might result in negative outcomes. But as one critic notes, ‘the method is never perfect’ (Easterly, 2009, 52) – and whatever imperfection does not get accounted for will tend to show aid has more negative effects than it actually does. Table 1 describes some common types of bias facing evaluations of aid’s effects.

**TABLE 1.** The Epidemiological Types of Bias

Type of Bias	Description
Selection Bias	Countries receiving aid have problems (other than aid) that increase risk of worse outcomes; Countries receiving aid have more data than otherwise similar countries not receiving aid
Confounding by severity	More aid given to countries with more severe problems, such as an advanced HIV epidemic (also known as ‘reverse causality’)
Confounding	More aid given to countries that look to be in trouble, leading to a change in

by prognosis	behavior by the aid community or investors (i.e., the perceptions of the Global North)
Confounding by indication	The signal/indication to the west that countries need aid (e.g. poverty) is itself a cause of negative outcomes
Protopathic bias	Aid is given to address the early symptoms of a growing issue

As an example, suppose the Global North sees a country with an HIV crisis, and responds by giving aid and attempting to expand treatment. A researcher wishes to assess the effects of aid. Here are some potential pitfalls:

- 1) Countries given aid have higher smoking rates than those not given aid. Because smoking increases risks of chronic obstructive pulmonary disease, aid appears to be associated with worse lung disease outcomes (a selection bias).
- 2) More aid is given to countries with rising HIV to help curb the epidemic, making aid appear as if it has increased HIV transmission (confounding by severity; also reverse causality).
- 3) More aid is given to countries thought to have a preventable HIV crisis, or an early-stage HIV epidemic that can be staved-off if early intervention is pursued. The HIV-related aid (rather than actual HIV incidence) frightens investors, making them leave; or worsening HIV rates make donors leave out of fear of appearing to have failed or have greater competition (confounding by prognosis).
- 4) Aid is given to countries with greater poverty (itself a risk factor for HIV), but the aid itself is thought to be associated with worsening HIV transmission (confounding by indication).
- 5) Aid is given to countries to help treat HIV, but is found to be associated with Kaposi's sarcoma, a condition that arises in AIDS patients (protopathic bias).

Apart from randomised controlled trials, statistical evidence regarding the effects of aid should be regarded with a degree of skepticism because of the potential bias of studies to identify negative effects of aid when they may not actually exist.

### *3. Heterogeneity: not all aid has the same effect*

Aid critics often overlook important heterogeneity in the types of aid and the form of their delivery. In other words, they attempt to draw inferences that 'aid is good for growth' or 'aid is bad for growth' from effects that describe average tendencies.

Studies of aid are mixed. More aid does not always equal better social and economic outcomes, but also does not imply worse outcomes. These studies, however, usually report aid's 'average' effect on a country. Aid has many, possibly countervailing effects. It is plausible that some disasters could offset some successes, canceling each other out to yield a small or zero average effect.

This can happen, not because studies were poorly conducted, but because aid's effectiveness depends on many other aspects of the world.

Different sectors, such as education and health, may benefit much more from aid than others, such as economic growth. These sector-differences are obscured in claims made about aid that focus on growth rates using highly aggregated macro-economic data (such as growth, savings, consumption, democracy, inflation or investment) (e.g. Rajan and Subramanian, 2008). Net positive effects of aid may indeed occur, but simply be invisible at too high a level of analysis, just as making an antibiotic available to a community may be significantly beneficial to reducing infections in one city, but not produce a statistically noticeable effect on the GDP of the whole country.

Another problem is that the analysis of 'average effects' investigates the cumulative effect of all aid to single outcomes. These studies should instead link specific sectors (such as health projects) to specific sector outcomes (such as measures of mortality) or better yet specific projects (e.g., measles project) to specific outcomes (e.g., measles mortality).

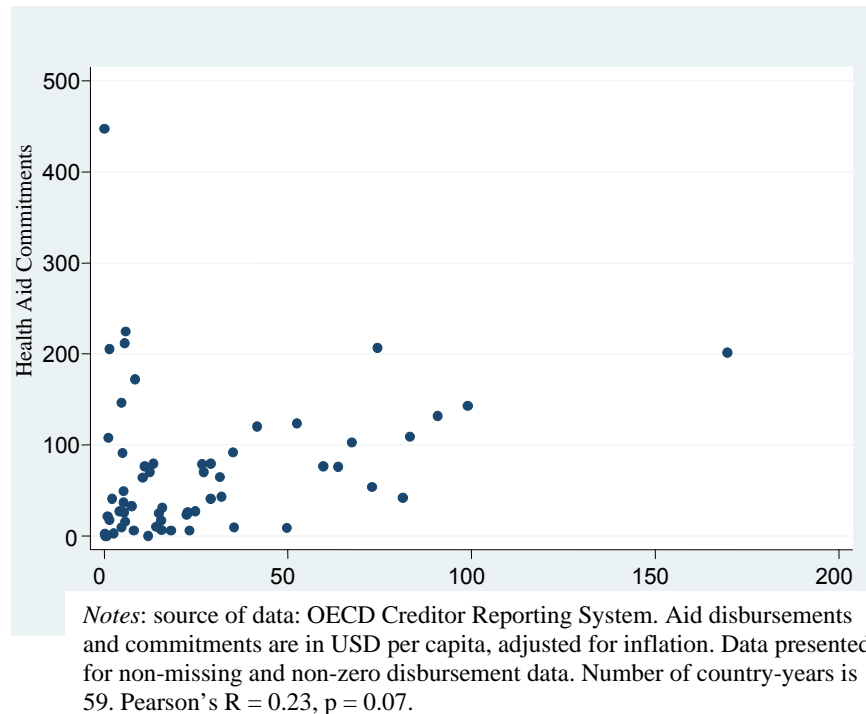
A further issue is the time horizon of the analysis. Aid critics ask: why don't we see a radically different world because of aid? But what do they expect to see at the macro-level? Many health outcomes require years for benefits to accrue,<sup>1</sup> and surveillance systems are often too weak to register short-term fluctuations with accuracy,<sup>2</sup> especially sub-Saharan Africa, where more than one-third of all births and deaths are not even recorded – a 'scandal of ignorance' (Setel et al., 2007).

#### *4. Data Limitations: Using the Wrong Variable*

The limitations to the quantitative data used to analyse aid's effects are more severe than aid commentators tend to admit.

First, most analyses do not assess the effects of aid (the money actually given), but the effects of aid commitments (donor promises to give money in the future), a different – and in some cases, unrelated – variable. The majority of statistical evidence is based on the analysis of aid data in the OECD Creditor Reporting System (CRS) or Development Assistance Committee (DAC) databases, which cover donor aid from 1973 to 2007. Until the mid-2000s, coverage of aid disbursements was very limited. For example, prior to 2003, the estimated mean of country health aid commitments was about ten times higher than the estimated mean of country health aid disbursements. Although some discrepancy between disbursements and commitments might occur as a result of complex politics, the gap never was actually so large. Because many disbursement data are missing or inaccurate, the OECD recommends using commitment data. Thus, much empirical research does not actually investigate the effects of aid, but the effects of promises to give aid. In fact, before 2000, aid disbursements and aid commitments were statistically unrelated variables (see figure 1).

**FIGURE 1.** Health Aid Commitments versus Disbursements, 1973-2000.



One claim often made by aid critics is that aid is volatile, as governments change their commitments from year to year and therefore leave projects abandoned and take up new initiatives, pandering to the market for philanthropy. A large literature has arisen trying to estimate the 'financial costs of aid volatility' (e.g. Google, 2009). Part of the impression that aid is volatile stems from a misunderstanding of the artificial discrepancy between commitments and disbursements, as described above. Unfortunately, nearly all claims made about volatility cannot be substantiated by the OECD CRS aid data.

Consider a sample spreadsheet of commitment data from the OECD CRS, as reported by Department for International Development for the UK (DFID) between 1991 and 1993, provided in Appendix 1 (available from authors). In 1991, the first entry is a hospital project in Malaysia for 16 million USD. In 1992 or 1993 there is no entry for the project. Is this a sign of whimsical donors, funding a project then bailing out? This would play into easy-to-perpetuate stereotypes. But rather, this finding is just an artifact of entry in the data system. DFID reports commitments for projects over a multi-year timeline in one year only. This is one of many 'aid artifacts', or problems associated with aid that are not really there, but are simply a product of how the data are recorded.

This data entry anomaly does not affect the 'average' amount of aid being committed to a country as calculated over long periods of time, such as decades. But it does mean that estimates of year-to-year fluctuations are wildly inaccurate. This limitation invalidates almost every attempt to study the short-term effects of aid on social or health outcomes using the OECD CRS data, which includes nearly every multi-country analysis of aid to date.

##### *5. Statistical Power and Type-II Errors: Poor measurement*

One of the first things a student of statistics learns is that data have 'noise'. Measurement errors make it harder to detect an effect of one variable on another, should a relationship truly

exist. When the signal on a radio is poor, it becomes difficult to hear lyrics. This doesn't mean the song isn't playing properly or isn't in English. While some critics of aid fail to find a relationship between aid and net improvements in GDP or related measures, they do not account for the large measurement errors in the data. Put simply, 'the data are terrible' (Easterly and Pfitze, 2008). This noise in the data risks a 'type-II error', in which the power of the data is not sufficient to identify an effect even if one actually exists. Such a problem is especially pernicious if the real effect size is small, as could be the case when looking for macro-effects of aid. As students learn in their first statistics course, it is much harder to demonstrate 'no effect' than it is to point out the presence of a positive one.

#### *6. Net Effects and Positive Externalities: Taking account of spillovers*

Critics of health aid correctly point out that too often top-down and 'vertical' (narrow) public health programs reflect donor priorities rather than actual health needs. This creates many disruptions in the system. It also leads to some diseases, such as HIV, seeming to be exceptionally prioritised, at the expense of other key health problems such as child mortality, maternal health, chronic diseases, or neglected tropical diseases.

But one problem with this argument is the lack of attention to the nature of aid data. For example, suppose HIV activism has helped marshal additional aid resources for global health (e.g., to build new medical schools). If this were the case, it would artificially make resources for some health conditions appear to drop as a fraction of overall health aid, even when the real amount of resources going to those health conditions stayed the same.

Some critics of health aid also mistakenly emphasize prevention and treatment as a zero-sum game. For example, one critic claims 'Spending AIDS money on treatment rather than on prevention makes the AIDS crisis worse, not better.' (Easterly, 2006, 55). In fact, in the context of HIV, *treatment is prevention*; under circumstances when anti-retrovirals reduces viral load among infected persons, the probability of HIV transmission decreases to the point where it becomes the most potent preventative intervention in practice, as compared to the relative observed inefficacy of theoretically conceived preventative measures (Stover et al., 2002; Granich et al., 2009). Categorising aid as HIV or not, prevention or treatment, obscures the complexities of actual implementation, favouring theoretically workable solutions over empirical data about what actually works.

### **Conclusion**

Critics leap from the perspective that aid has not worked in the past to the policy conclusion that aid should be abandoned or significantly curtailed in the future. The first clause of the argument, as discussed above, does not have a firm evidence-base. However, even if the first clause were true, the second part of the argument does not necessarily follow. Would outcomes be better by removing aid or by attempting to address its shortcomings?

Some aid critics argue that because redistributive welfare has limitations and potential negative effects, no redistribution should occur at all. But if the system that provides food stamps (vouchers) to the hungry is not ending hunger or is subject to political manipulation that causes some groups and not others to receive more stamps, does that mean we should not provide food stamps at all, and simply cut off all assistance to those unable to afford food? Would this be better at reducing hunger? Should we not instead seek to determine how to reduce the dysfunctions in the current system?

The issue is similar to the classic ‘second-best’ theory in economics (Lipsey and Lancaster, 1956). Getting rid of one market failure (critics suggest aid is a market distortion), in a context where there are many market failures, could make outcomes worse. We think Easterly’s recommendations – experimentation, evaluation and replication – are needed if the global aid system is going to be dismantled as much as if it going to be maintained. Just as ‘Shock Therapy’ had disastrous consequences, so too could a major shock to aid be devastating for aid-dependent countries.

What would happen if aid were removed and a country, left to its own, defaulted on debt? What if the global investment market deemed such a country too high a risk to participate in, freezing it out of the global economy? Should that country be left to self-destruct? The country might also suffer a major outbreak of disease, with inadequate medical management, breeding drug-resistant diseases threatening the West. Perhaps other countries should, according to aid critics, refrain from addressing these global negative externalities through aid, because after all aid is making matters worse?

In general, three views prevail of the timeline of aid: aid as permanent, aid as temporary and aid as a market distortion (summarised in Table 2). Each policy scenario should be evaluated carefully as a viable option for financially ailing countries.

**TABLE 2.** Three Views of Aid’s Role and Timeline

View of Aid	Description
Aid as permanent	Global social safety net/redistribution (Ooms and Hammond 2009); Correct global externalities (e.g. World Bank poverty strategy reduction papers)
Aid as temporary	‘Big push’ out of poverty traps (e.g. Sachs 2005); Cope with short-term effects of crisis and disasters (e.g. IMF lending; Collier 2009)
Aid as distortion	Distorts markets and causes dependency (e.g. Moyo 2009; Friedman/Hayek)

We firmly agree with the aid critics that there is a need for greater public scrutiny of aid and accountability of donors, empowering recipient communities with feedback channels, and searching for community-based solutions through a process of experimentation, evaluation and replication. However, many aid critics, speaking as ‘aid denialists’, commit the same logical mistakes as those of which they accuse the supporters of aid – selection bias, correlation not causation, neglecting effect heterogeneity and overstretching policy conclusions.

In making their case to get rid of aid, these aid critics rarely mention their evidence is generally based on i) selective reviews of the evidence in turn relying on ii) the wrong variable (aid commitments), iii) using inappropriate outcome measures (aggregated macroeconomic variables, such as growth rates), iv) to make general claims that cannot be defended with existing evidence, when v) measurement errors can be so great as potentially to prevent detecting any actual effect and, should there be associations, vi) the findings are biased in the direction of the aid critics’ claims.

---

## Bibliography

- Collier, P. (2009) *Wars, Guns and Votes: Democracy in dangerous places*, Harper Books, London
- Easterly, W. (2006) *The White Man's Burden: Why the West's efforts to aid the rest have done so much ill and so little good*, New York, Penguin Publishers
- Easterly, W. (ed.) (2008) *Reinventing Foreign Aid*, Cambridge M.A., MIT Press
- Easterly, W. (2008) 'Foreign aid goes military,' *New York Review of Books*, 55,19 Available at: [http://www.nyu.edu/fas/institute/dri/Easterly/File/nyrb\\_foreign08.pdf](http://www.nyu.edu/fas/institute/dri/Easterly/File/nyrb_foreign08.pdf)
- Easterly, W. (2008) 'Hayek vs. the development experts,' Hayek Lecture. New York, U.S. October 23<sup>rd</sup>, 2008. Available at: [http://www.manhattan-institute.org/pdf/hayek\\_lecture\\_2008.pdf](http://www.manhattan-institute.org/pdf/hayek_lecture_2008.pdf)
- Easterly, W. and Pfitze, T. (2008) 'Where does the money go? Best and worst practices in foreign aid,' *Journal of Economic Perspectives*. 22, 2, 1-24.
- Google Search. 2009. Available at: <http://www.google.co.uk/search?hl=en&q=cost+aid+volatility&btnG=Google+Search&meta=&aq=f&oq=>
- Granich, R.B., Gilks, C.F., Dye, C., et al. (2009) 'Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: A mathematical model,' *The Lancet*, 373, 9657, 48-57
- Lipsey, R.G. and Lancaster, K. 'The general theory of second best,' *The Review of Economic Studies*, 24, 1, 11-32
- Moyo, D. (2009) *Dead Aid. Why aid is not working and how there is another way for Africa*, New York, Penguin Publishers
- OECD Creditor Reporting System. 2009. Available at: [http://www.oecd.org/document/0/0,2340,en\\_2649\\_34447\\_37679488\\_1\\_1\\_1\\_1,00.html#crs](http://www.oecd.org/document/0/0,2340,en_2649_34447_37679488_1_1_1_1,00.html#crs)
- Ooms, G. and Hammonds, R. (2009) 'Scaling up global social health protection: Prerequisite reforms to the International Monetary Fund,' *International Journal of Health Services*, 3994, 795-801
- Rajan, R.G. and Subramanian, A. (2008) 'Aid and growth: What does the cross-country evidence really show?' *The Review of Economics and Statistics*, 90,4, 643-65
- Sachs, J. (2005) *The End of Poverty: How can we make it happen in our time*, London, Penguin Publishers
- Setel, P.W., Macfarlane, S.B., Szreter, S., et al. (2007) 'A scandal of invisibility: making everyone count by counting everyone,' *The Lancet*, 370, 9598,1569-77.
- Stover, J., Walker, N., Garnett, G.P., et al. (2002) 'Can we reverse the HIV/AIDS pandemic with an expanded response?' *The Lancet*, 360, 9326, 73-7

---

<sup>1</sup> In an attempt to reconcile many positive outcomes of local aid-financed projects, Moyo suggests: 'In nearly all cases, short-term aid evaluations give the erroneous impression of aid's success.' (p. 44, Moyo 2009). Yet the opposite is more frequently the case. Studies of aid's effects on health typically look for short-term associations which would be implausible. For example, macro-economic studies of mortality have erroneously attempted to explain life expectancy data using contemporary economic measures, despite the fact that many components of life expectancy (cancer, heart disease) have lags of decades between exposure to risks and death.

<sup>2</sup> For example, Demographic and Health Surveys are usually done only every five years, from which aggregate data are interpolated.



The Global Economic Governance Programme was established at University College in 2003 to foster research and debate into how global markets and institutions can better serve the needs of people in developing countries. The three core objectives of the programme are:

- to conduct and foster research into international organizations and markets as well as new public-private governance regimes
- to create and develop a network of scholars and policy-makers working on these issues
- to influence debate and policy in both the public and the private sector in developed and developing countries

The Global Economic Governance Programme  
University College, Oxford OX1 4BH

Tel. +44 (0) 1865 276 639 or 279 630  
Fax. +44 (0) 1865 276 659  
Email: [geg@univ.ox.ac.uk](mailto:geg@univ.ox.ac.uk)  
[www.globaleconomicgovernance.org](http://www.globaleconomicgovernance.org)