

**AID FOR THE POOREST?
The distribution and maldistribution
of international development assistance**

Bob Baulch*
Institute of Development Studies

CPRC Working Paper No 35

Chronic Poverty Research Centre
ISBN Number 1-904049-34-6

* Bob Baulch is a Fellow of the Institute of Development Studies at the University of Sussex, Brighton BN1 9RE, UK. Thanks to Makiba Yamano for excellent research assistance and Jenny Edwards for efficient secretarial and desk top publishing support. David Hulme, Judith Randall, Oliver Morrissey, Andy McKay, Simon Scott, and Howard White provided useful comments on an earlier version of this paper. Funding for the research was provided by the Chronic Poverty Research Centre (www.chronicpoverty.org), a Development Research Centre itself funded by the UK Department for International Development.

Abstract

This paper examines the extent to which the distribution of development assistance is directed towards the poorest countries. Using the latest cross-country data available from the OECD and the World Bank, aid concentration curves are constructed for the major bilateral and multilateral donors. The ways in which different donors distribute their development assistance is shown to differ markedly. The two largest bilateral donors, the United States and Japan, and the largest multilateral donor, the European Commission, spend large amounts of their aid budgets in small, relatively well-off countries. In contrast, despite some bias towards small developing countries, the Netherlands, the UK and the World Bank direct most of their aid to the poorest countries. France, Germany and the UN System's aid programmes occupy an intermediate position. The paper concludes with a discussion of the questions the analysis poses for aid policy and the achievement of the Millennium Development Goals.

Introduction

Much has been written on the extent to which, and even whether, aid contributes to poverty reduction.¹ This paper asks a simpler but starker question: to what extent is the distribution of development assistance directed to the poorest countries? Using the latest cross-country data available from the OECD and World Bank, aid concentration curves are constructed for the major bilateral and multilateral donors. The results show that the way in which different donors distribute their development assistance differs markedly. The largest bilateral donors tend to disburse most of their aid to the richer, middle income countries. In contrast, despite some bias toward small countries, the Netherlands and the UK spend most of their aid in the poorest and least developed countries. Among the multilateral donors, the World Bank's grants and concessional lending is well targeted to the poorest countries but the grants of the European Commission are not, with the UN System's aid occupying an intermediate position.

Methodology

The methodology used to examine the distribution of aid in this paper is that of aid concentration curves and their statistical counterpart, the Suits index. Aid concentration curves provide a useful graphical device for showing whether the distribution of a donor's development assistance is targeted toward or away from the poorest countries. If most of a donor's aid goes to the poorest countries, then its aid concentration curve will lie above the diagonal (and vice-versa). A negative Suits index shows that aid is being directed to the poorest countries, while a positive Suits index indicates the reverse.

To be more precise, an aid concentration curve plots the cumulative percentage of some measure of aid against the cumulative percentage of some population variable. For the aid measure, either cumulative aid commitments (what donors say they will give, or loan, developing countries in advance) or cumulative disbursements (what aid is actually distributed) may be used. This paper focuses on aid disbursements because this is the best measure of how much a donor is actually spending on aid. For the population variable, a number of alternative exists including the cumulative population of developing countries, the cumulative percentage of the poor or the cumulative numbers of people suffering some other kind of deprivation (for example, malnutrition).² In this paper, the overall population of developing countries and the total number of people living on less than \$1/day (the usual, if problematic, international poverty line) are used.³ It should be noted that, in contrast to a conventional Lorenz curve, an additional ranking variable (here per capita incomes measured in purchasing power parity terms) is involved in constructing an aid concentration curve. This additional ranking allows the aid concentration curve to cross the leading diagonal (45 degree line) if aid is targeted towards the poorest countries.

To fix ideas, consider the aid concentration curve for the 27 bilateral and 19 multilateral donors belonging to the Development Assistance Committee (DAC) shown in Figure 1.⁴ We focus here on the aid concentration curve relating to the \$1/day poor, whose cumulative share is shown on the horizontal axis. The vertical axis shows the cumulative share of aid disbursed by the DAC countries in 2001. The (black) diagonal line shows what the

¹ See, *inter alia*, Burnside and Dollar (1997), Cassen and Associates (1994), Hayter and Watson (1985), Mosley, Harrigan and Toye (1991), White (1996), and World Bank (1998).

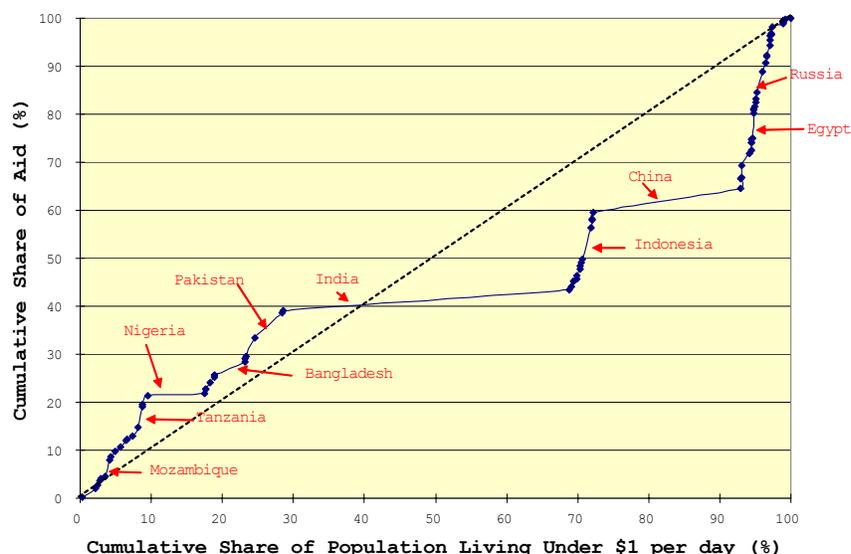
² When the cumulative percentage of aid is plotted against the cumulative percentage of the population of developing countries, aid concentration curves are also called 'aid Lorenz curves' as in White and McGillivray (1992, 1995). The term aid concentration curve seems more precise because a Lorenz curve should not cross the leading diagonal.

³ For rationale underlying the \$1/day poverty line, see Ravallion, Datt, and van de Walle (1991) and Ravallion and Chen (2003). Critiques of either the rationale or implementation of the \$1/day include Deaton (2001), Reddy & Pogge (2003) and UNCTAD (2002).

⁴ The Development Assistance Committee is a sub-committee of the Organization for Economic Cooperation and Development (OECD) and is based in Paris. Its annual reports on development effectiveness and its on-line database on the geographical distribution of financial flows are widely regarded as the most authoritative and complete data on development assistance.

allocation would look like if aid was allocated in direct proportion to the share of world's poor living in each country. The solid wavy (red) line is the aid concentration curve, which shows how aid from the DAC countries was actually distributed.

Figure 1: DAC all members - Aid Concentration Curve (2001)



Reading from left to right, the first part of the DAC's aid concentration curve rises quite steeply indicating that a disproportionate amount of aid is being given to a number of relatively small (in population terms) but also very poor countries. Most, although not all, of these countries are in sub-Saharan Africa. Then follows the first of three flat portions of the curve, corresponding to Nigeria – the country with the third largest number of poor people in the world. This section of the curve is almost horizontal because the DAC donors gave very little aid to Nigeria in 2001. The aid concentration curve then rises quite sharply again, mainly because of the considerable amounts of aid which DAC countries gave to poor South Asian countries (such as Bangladesh and Pakistan), before reaching another flat segment corresponding to India. India is the home to 37% of the world's extreme poor but receives much less aid from all donors than its share of world poverty. After India, the aid concentration curve again rises steeply, largely because of the amount of aid spent in Indonesia, before reaching a third flat area representing China. The length of the Chinese segment of the poverty aid concentration curve is shorter than that for India, because despite having a larger population, a smaller share of people are estimated to live in extreme poverty in China. After China, the DAC's aid concentration curve rises very steeply. This portion of the curve represents the many middle income countries with relatively small populations to which the DAC donors give aid. The most important of these countries, in terms of their share of aid, are Egypt and Russia.

A statistical counterpart to the aid concentration curve is known as the Suits index. The Suits index is a measure which summarises the progressivity or regressivity of a distribution, and was originally developed by the American economist Daniel Suits for analysing the tax system in the United States (Suits, 1977). Unlike the Gini coefficient, of which it is an analogue, the Suits index can vary between -1 and +1. A Suits index of -1 would correspond to the (not necessarily desirable) situation in which a donor gave all its aid to the poorest country in the world. A Suits index of +1 would correspond to the case when a donor gave all its aid to the richest (presumably, middle developing income) country. A Suits index of zero would correspond to the situation in which a donor distributed its aid in exact proportion to population, which no reference to different countries' living standards (as proxied by their PPP per capita incomes). In these, admittedly pathological, cases the aid concentration curves would correspond to, respectively, the left and top axes, the bottom and right axes, and the leading diagonal of the aid concentration curve box. The aid concentration curve for

the DAC in Figure 1 has a Suits index of 0.13 indicating a distribution of aid that is moderately regressive.

The use of aid concentration (or Lorenz) curves for the analysis of development assistance were originally proposed by Mosley (1987) and were applied to analyse the distribution of development assistance in the early and mid 1990s by Clark (1991, 1992) and White and McGillivray (1992, 1995). White and McGillivray also examine various summary measures of donor allocative performance and recommend the use of the Suits index and McGillivray's adjusted performance index. An innovation of this paper is that it presents aid concentration curves not only for the cumulative percentage of the population of developing countries but also for the cumulative percentage of the world's poor (measured in \$1/day terms). This paper also brings the previous analysis of the distribution of international development assistance up to date: as far as I am aware, aid concentration curves have not been constructed for the major aid donors since the early 1990s.

It is important to note a number of caveats concerning the use and interpretation of aid concentration curves and the Suits index. First, spending aid in the poorest countries does not mean it reaches the poor in those countries (White, 1996). It may well be that "less is more": small amounts of well-targeted development assistance can have a bigger poverty reducing impact than larger but more general aid disbursements.

Second, the aid concentration curves of most bilateral donors show signs of "small country bias". This is because many bilateral donors still direct part of their aid budgets toward former colonies and/or to countries to which they have given significant aid in the past. As many aid projects are multi-year, multi-phase projects, 'path dependence' is a strong feature of both bilateral and multilateral donor's aid portfolios.⁵ The growing importance of more politically footloose programme aid (White and Toye, 1996) does, to some extent, counter this trend.

Third, it should be noted that bilateral aid and multilateral aid is not directly comparable. The vast majority of bilateral aid takes the form of grants in aid, which recipient countries are not expected to repay (although 'counterpart conditions' were, and in some cases still are, common). In contrast, most (although not all) multilateral development assistance takes the form of concessional finance: loans at favourable interest rates, which aid recipients are expected to repay after (typically) 25 to 30 years.⁶ Most aid from the World Bank, Asian and African Development Bank, and also the Japanese Bank for International Cooperation, takes this form. In contrast, multilateral development assistance from the European Union and United Nations system is largely in the form of grants in aid.

Finally, it should be noted that the construction of aid concentration curves takes no account of the differing absorptive capacity of aid recipients. It is well known that some developing countries have either such weak bureaucracies or are so aid dependent that they cannot absorb the aid they receive effectively.

Data

Two data sources are used for this paper. Information on aid is taken from the OECD's Development Assistance Committee's on-line database on the Geographical Distribution of Financial Flows to Aid Recipients (www.oecd.dac/stats). Information on poverty and per capita incomes is taken from the World Bank's "World Development Indicators" (which are available on CD-Rom). Specific details about the variables used in the analysis and how, where necessary, they have been adjusted follows.

⁵ Many complicated definitions of path dependence are available in the economic literature (see Arthur, 1994 for a survey) but at its core is the idea that "history matters".

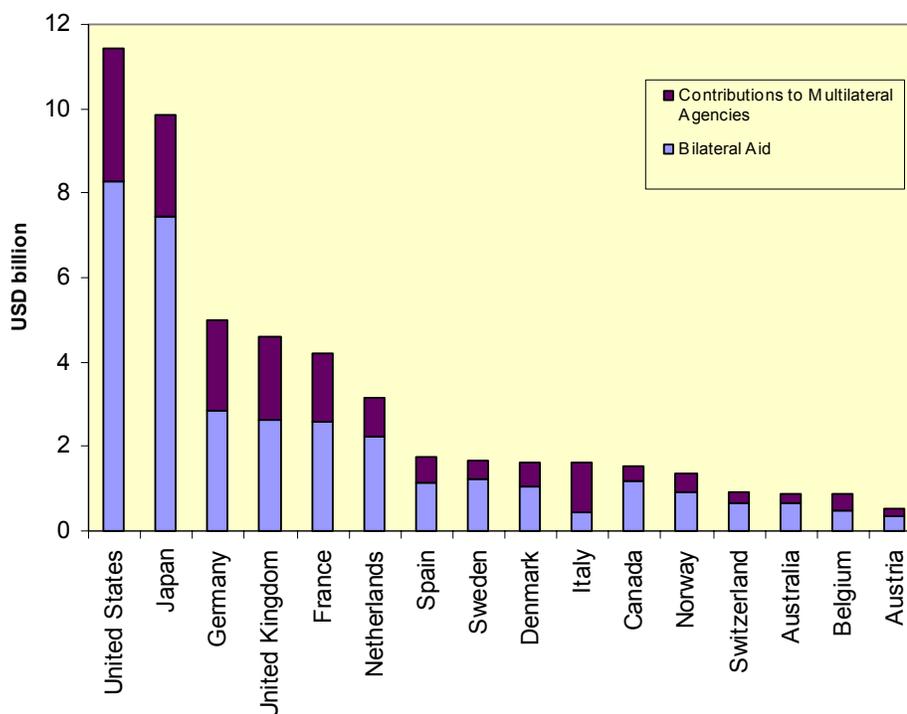
⁶ For a loan to qualify as concessional under DAC criteria, it has to have a grant element of 25 per cent or more.

a) Data on Aid Flows

In this paper we focus on net Overseas Development Assistance (ODA) disbursed by the major six bilateral and major three multilateral donors. As explained above, bilateral and multilateral aid flows cannot be regarded as equivalent because it is typically given on quite different terms. In particular, most bilateral aid (with the notable exceptions of Japan and Spain) is given as grants, while most multilateral aid (with the notable exceptions of the agencies of the European Union and UN system) is given in the form of concessional loans. For this reason, we present and analyse the data on aid flows from the bilateral and multilateral types of donors separately.

Figure 2 shows disbursement of net ODA by the 16 largest bilateral aid donors, in terms of the absolute amounts (in US \$ billions) they give either through their bilateral aid programmes or as contributions to the multilateral aid agencies. In terms of the volume of aid, the United States and Japan are easily the biggest bilateral donors, each giving more than US\$ 9.8 billion of aid in 2001. However, it should be noted that 36.4% of Japan bilateral aid budget consists of concessional loans rather than grants. These two countries are followed by Germany (US\$ 5 billion) the United Kingdom (US\$ 4.6 billion), France (US\$ 4.2 billion) and the Netherlands (US\$ 3.2 billion). All other bilateral donors give less than US\$ 2 billion in 2001, although relative to the size of their economies many of these donors are much more generous than 'the big six'. All the Nordic donors, for example, have exceeded the 1969 Pearson Commission's recommendation that industrialised countries should give at least 0.7% of their national incomes in aid, with Denmark giving just over 1% of its gross national income in development assistance.⁷ See Appendix 2 for further details.

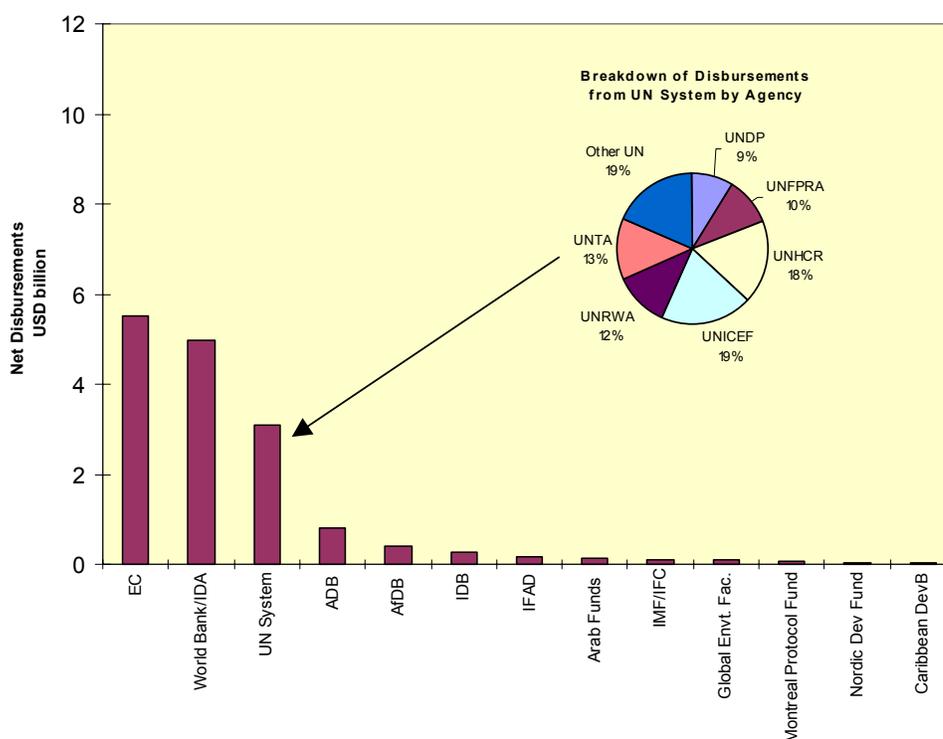
Figure 2: Disbursements of Net ODA by the Major Bilateral Donors, 2001



⁷ Note that this percentage includes money channelled to developing countries though both the Danish Ministry of Foreign Affairs/DANIDA and the Danish Cooperation for Environment and Development Agency (DANCED).

Figure 3 shows disbursements of net ODA by the major multilateral donors. For consistency (if not comparability) with our analysis of the major bilateral donors, aid flows from the multilateral donors are measured in terms of net ODA, i.e. concessional loans and grants netting out repayments by the developing countries of past loans. This choice of aid variable has an important influence on which multilateral donors appear to be the most important. Because of the quick disbursing nature of their loans, together with early repayment schedules that are usual applied to these loans, the International Monetary Fund's gross and net disbursements differed by just over US\$ 1 billion in 2001.⁸ Similarly, a much higher proportion of the European Bank for Reconstruction and Development's (EBRD) aid is in the form on non-concessional loans. In marked contrast, almost all the aid given by the European Commission and all aid from the UN system is in the form of grants. Just under three-quarters (74%) of the aid given by the World Bank consists of concessional loans given through its soft loan window, the International Development Association (IDA).

Figure 3: Disbursements of Net ODA by the Major Multilateral Donors, 2001



Based on this analysis of the net ODA flows, we have selected three multilateral donors – the European Union, the World Bank and the United Nations (UN) system for detailed analysis. In the case of the World Bank only grants and concessional loans (from its soft loan window, the International Development Association) are considered; non-concessional lending by the World Bank is excluded.

⁸ This is the difference between gross ODA disbursements (of \$1,111 million) from the IMF Trust Fund and Poverty Reduction and Growth Facility, and net disbursements (of \$107 million) from the same sources.

b) Data on Population, Poverty and Living Standards

Data on population, poverty and living standards is taken from the World Bank's World Development Indicators. The WDI population figures, which are themselves based on UN Population Divisions estimates, are used both in their own right (to construct the population aid concentration curves) and as a base for estimating the absolute numbers of poor people (for the poverty aid concentration curves). Without denying the importance of its other dimensions, poverty is measured using the World Bank's \$1/day standard – to be precise the percentage of a nation's population with incomes of less than \$1.08 per day in 1993 Purchasing Power Parity (PPP) terms. This is the same standard that is used for defining extreme poverty by United Nations in its Millennium Development Goals. Living standards are proxied using the WDI's estimates of Gross National Income per capita calculated using the Atlas method.

In a few cases, we regard the WDI 2003 estimates of \$1/day poverty as implausible. For example, the WDI 2003 estimates for the \$1/day poverty in Uganda was 82% compared to 37% in the WDI of the previous year. In contrast, Pakistan's international 'poverty rate' fell from 31% to just 13 %. Finally, Nicaragua, one of the more successful middle-income economies in Central American, has no \$1/day poverty numbers in the WDI of 2002 while an incredible 82% is listed in WDI 2003. We have adjusted for these highly questionable numbers by replacing the \$1/day poverty estimates from the 2003 WDI with those from the WDI 2002.⁹

It should be noted that there are also certain fairly populous countries (such as Argentina, the Democratic Republic of the Congo, Myanmar, North Korea, Poland and Sudan) which have no estimates in any of the recent additions of World Development Indicators, and indeed most internationally available statistics. There are also other smaller countries, such as Iran and Iraq, which receive large volumes of aid but for which there are neither per capita GNI nor \$1/day poverty estimates in World Development Indicators. It would have been preferable to include these countries, all of which have large poor sub-populations (as well as very specific geo-political characteristics) from the analysis but given the dearth of data available it is not possible to do so.

Finally, as noted in the methodology section, it should be underlined that examining poverty in terms of the \$1/day poverty headcount is only one of a number of possible ways in which poverty can be conceptualised and the inter-country distribution of aid analysed. While recognising that other dimensions of poverty, chronic poverty, and ill-being are extremely important, their investigation is left for a later date.

⁹ It is not feasible to simply use the WDI 2002 *en bloc* because this also contains a number of dubious, and also more out of date, \$1/day poverty estimates.

Results and Discussion

This section presents and discusses our main results on the distribution (and maldistribution) of aid by the major bilateral aid donors and multilateral aid agencies.

Because of the differences in aid instruments used by bilateral donors and multilateral agencies (in particular, the tendency for bilaterals to give aid as grants while multilaterals give aid as loans) it should be noted that the results for these two groups of aid donors are not strictly comparable. The focus is on disbursements of concessional aid (i.e., net ODA) throughout.

a) The Distribution of Development Assistance by the Main Bilateral Aid Donors

Figure 4 and 5 show aid concentration curves for the 'big six' bilateral donors - the United States, Japan, Germany, the UK, France and the Netherlands – together with, for comparative purposes, the aid concentration curve for all members of the DAC. It can be seen that the aid concentration curves of the Netherlands and the UK are broadly progressive, while those of Japan and the United States are fairly regressive. The aid concentration curves of France and Germany lie in between, being fairly progressive at the low end of the global poverty distribution, but then becoming highly regressive at the top end of the distribution. The main reason why the Netherlands and UK's bilateral aid programme are progressive is that they give large amounts of aid (relative to their numbers of poor people) to a number of poor African countries, such as Ghana, Mozambique and Tanzania. Both countries also give significant (although still relative small) volumes of aid to the populous countries of South Asia (Bangladesh, Pakistan and most importantly India) where around 45% of the world's \$1/day poor live. In contrast, France and the United States give large amounts of aid (both absolutely and relatively) to middle-income developing countries such as Egypt, Morocco and Russia (US) and Peru and Thailand (Japan) while being less beneficent to the poorest (mostly sub-Saharan African) countries and South Asia.¹⁰ France and Germany resemble the Netherlands and the UK in giving relatively large amounts of aid to poor African countries but also resemble the Japan and the US, in giving considerable amounts to relatively prosperous middle income countries (notably, Egypt, Jordan, Morocco and Russia).

Second, it will be noted that the aid concentration curves for all six countries (and also for the DAC as a whole) contain three flat segments. These segments correspond, reading from left to right, to Nigeria, India and China. These three countries together account for 64 % of the world's \$1/day poor, with India alone accounting for 37% of the world's poor. However, all three countries each receive considerably less aid (both bilateral and multilateral) than would be merited by their populations and absolute poverty levels.

¹⁰ Note that the US gave a large amount of aid to Pakistan (but not Bangladesh or India) in 2001. Since this pattern of aid was not replicated in earlier years, readers are left to draw their own conclusions as to the geo-political foundations of these US disbursements.

Figure 4: Aid Concentration Curves (2001)

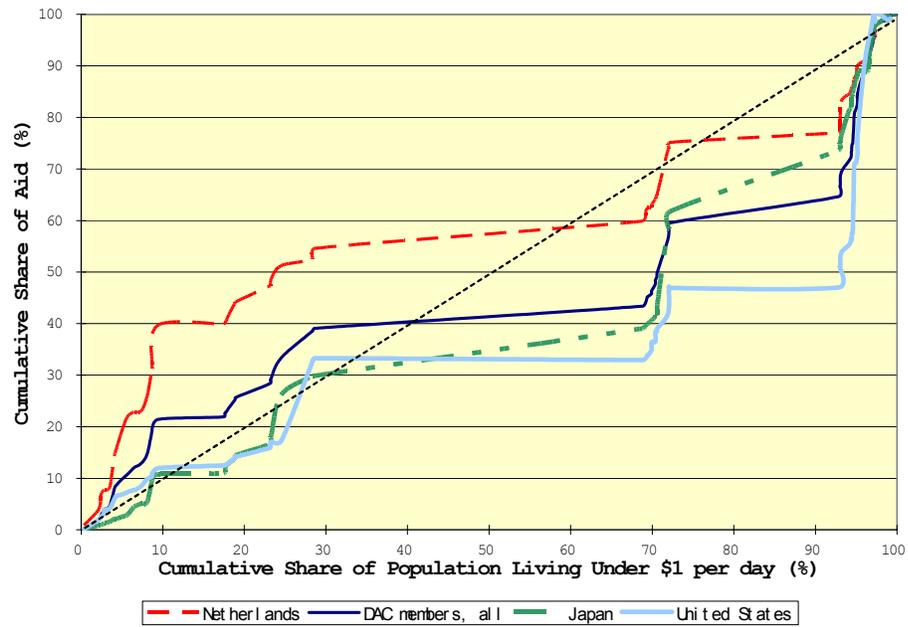


Figure 5: Aid Concentration Curves (2001)

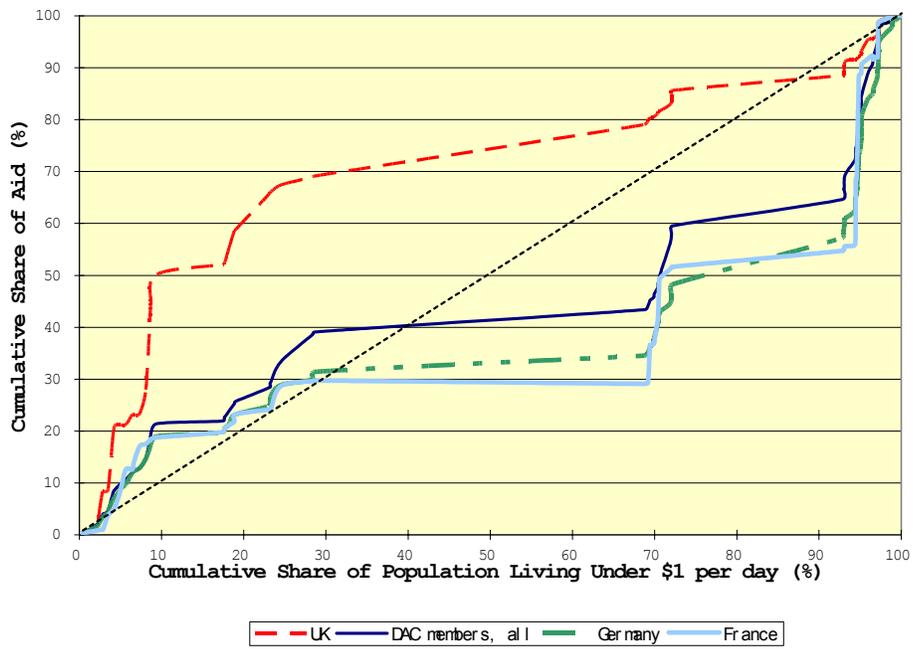


Table 1 shows the Suits index for the six bilateral donors who gave more than US\$1 billion in aid in 2001. The index is calculated both for the aid concentration curve with the cumulative proportion of the world's poor (as described above) and for those with the cumulative proportion of the population of developing countries. As explained in the methodology section, negative values of the Suits index correspond to progressive distribution of aid (i.e., aid that is generally target toward the poorest countries) while positive values of the Suits index correspond to a more regressive distribution. It can be seen that aid is generally more progressively distributed when cumulative share of the population rather than cumulative share of the poor is used to construct the aid concentration curves for different donors. Graphically this can be seen by the rightward shift of the poverty aid concentration curves for most donors shown in Appendix 2. The signs and magnitude of the index also confirm that the UK and the Netherlands have the most progressive aid distributions, whilst that of the USA is regressive (in the sense of giving more aid to middle income countries). Japan, France and Germany all have Suits indices that are close to zero, indicating that the distribution of their development assistance is neither particular in favour not particular against the poorest developing countries.

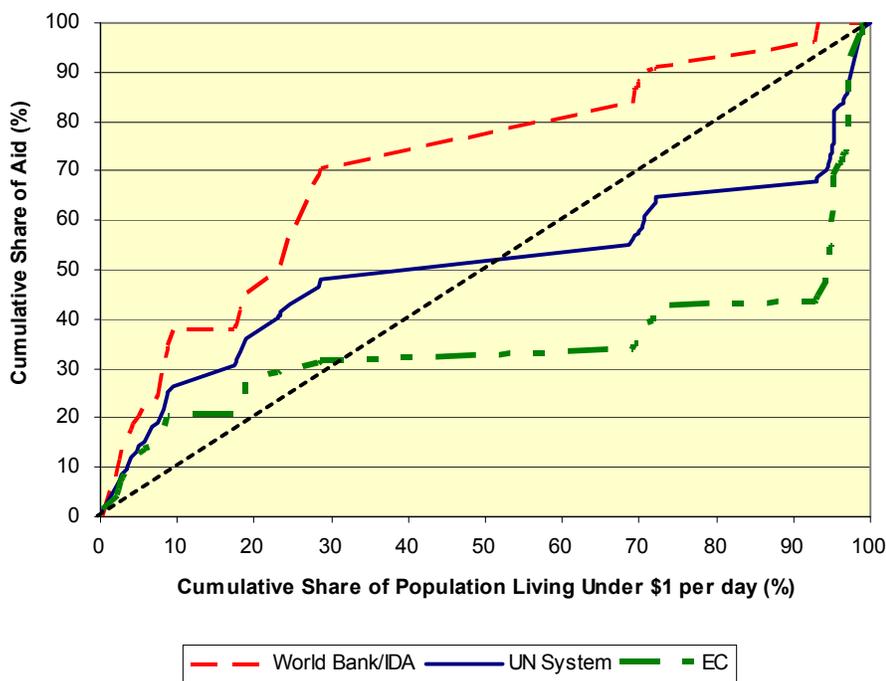
Table 1: Suits Index for the Major Bilateral Donors

	Population living under \$1 per day	Population
DAC, all	0.133	-0.130
USA	0.322	0.059
JAPAN	0.213	-0.178
GERMANY	0.267	0.005
UK	-0.405	-0.543
FRANCE	0.289	0.029
NETHERLANDS	-0.152	-0.306

b) The Distribution of Development Assistance by the Main Multilateral Aid Agencies

Figure 6 shows aid concentration curves for three most important multilateral providers of concessional aid: the European Union, World Bank and the United Nations system. As noted above, the International Monetary Fund and European Bank for Reconstruct and Development (and non IDA loans from the World Bank) are excluded from our analysis, because they were not significant providers of concessionary aid (measured in net ODA terms) in 2001.

Figure 6: Aid Concentration Curve for Multilateral Providers



The three main providers of concessional multilateral development assistance - the European Union, World Bank and the UN System - distribute their aid in quite different ways. The aid which the World Bank's provides through its concessional window (IDA) appears relatively well targeted towards the poorest countries with a Suits index of -0.42 for the \$1/day poor.¹¹ In contrast, the European Union spends large amounts of its aid on relatively well-off middle income countries (such as Brazil, South Africa, Turkey, Tunisia, and a number of countries in Eastern Europe and the former Soviet bloc). The EU's Suits index for poverty is +0.31. This is not, of course, to deny that there are not large numbers of poor people living in these countries – but these countries do not account for a large share of the world's absolute poor (according to the \$1/day criteria). The third largest multilateral donor, the UN System, has a marginally progressive distribution of aid with a Suits index of -0.01.

Table 2: Suits Index for the Major Multilateral Donors

	Population living under \$1 per day	Population
European Union	0.316	0.283
World Bank/IDA	-0.424	-0.643
UN System	-0.011	-0.180

Note: Only disbursements of net ODA (grants + concessional loans) are included in this analysis

¹¹ Just over a quarter (26%) of World Bank flows to developing countries in 2001 were non-concessional loans, mostly focused toward lower middle income and middle income countries.

Summary and Conclusions

This paper has shown that the way in which different donors distribute their development assistance differs markedly across countries. Notwithstanding the “small country” bias corresponding to their past development assistance efforts (and, in some cases, colonial past), the Netherlands and the UK broadly direct their bi-lateral development assistance to the poorest countries. In marked contrast, Japan and the US spend large amounts of their development assistance budgets in small, relatively well-off countries. France and Germany’s aid programmes are neither particularly pro nor anti-poor. Much of the development assistance (most of it in the form of loans) provided by the World Bank goes to the large developing countries (such as China, India and Indonesia) which account for a large share of world poverty or to the smaller least developed countries. In contrast, the European Union spends a large proportion of its aid on relatively well-off middle-income countries. The UN system occupies an intermediate position giving large amounts of aid to the poorest countries, but also spending considerable amounts in rather better of countries in Eastern Europe, North Africa and Latin America.

This analysis raises a number of important questions with regard to different donor’s commitment to the Millennium Development Goals (MDGs), the most important of which is to reduce absolute poverty (as measured by the \$1/day standard) by half by 2015. Why do the four of the six most important bilateral donors and two of the three most important multilateral give significant proportions of their aid budgets to relatively well-off middle income countries? To be sure there are considerable numbers of desperately poor people living in these countries, but there is no real evidence that development assistance is being directed at these sub-populations. Is it the case that the colonial past or geo-political objectives of donors take precedence over poverty reduction in the aid game? Does the desire to promote trade still distort the aid programmes of some bilateral donors? Even when aid does flow to the poorest countries, does it reach the poorest groups in these countries? In addition, why do all donors give less considerably less money to the three most populous poor countries – India, China and Nigeria – than their contributions to the global poverty headcount suggest should be given? Is it reasonable to assume that India and China now have strong enough economies to ‘grow out of poverty’ on their own? Is it reasonable to exclude Nigeria’s poor from international development assistance because of its governance record? In these and other large countries, a serious concern is that certain sub-regions of sub-populations will not benefit from significant growth or aid at the national level.

This analysis could be extended in a number of different ways. First, the above analysis has focused on examining the distribution of development assistance in a single year: 2001. Since donor’s aid disbursements can vary significantly from year to year, a three (or even five) year average might be more appropriate. Second, while this paper has focused on monetary poverty (specifically the World Bank’s \$1/day measure), the analysis could be extended to non-monetary indicators of poverty and ill-being - such as child malnutrition, primary school enrolments, under-five mortality, adult illiteracy and, perhaps, safe water and HIV/AIDS.¹² It may also be possible to re-do the monetary poverty calculations using nutritionally anchored national poverty lines (which would conform more closely to developing country governments’ own conceptualisation of poverty). Third, it would be interesting to compare the aid concentration curves of donors over different time periods, such as before and after the adoption of the MDGs. Fourth, the analysis could be extended to include other types of financial flows to developing countries (such as ‘Other Official Financing’ and Foreign Direct Investment). Finally, and perhaps most interestingly from the perspective of the Chronic Poverty Research Centre, the analysis could be extended to dynamic measures of poverty – such as the percentage of people living in chronic poverty.¹³

¹² I say, perhaps, for safe water and HIV/AIDS incidence because the international statistics on these are weaker than for the other non-monetary indicators mentioned. Reliable cross-country data is unlikely to be available for maternal mortality and slum dwellers, two other indicators used by the MDGs.

¹³ At present, the available international data does not allow chronic poverty – whether measured monetary or non-monetary terms – to be estimated very accurately at the country level. This is something which future Chronic Poverty Reports will tackle. See McKay and Baulch/CPR1 (forthcoming) for a preliminary attempt to quantify chronic monetary poverty both globally and for the most populous developing countries.

References

- Arthur, W.B., 1994, *Increasing Returns and Path Dependence in the Economy*, Ann Arbor: University of Michigan Press
- Burnside, C. and D. Dollar, 1997), "Aid, Policies, and Growth", *American Economic Review*; 90(4): 847-68
- Cassen, R., and Associates, 1994, *Does Aid Work?*, Oxford: Clarendon Press
- Chronic Poverty Research Centre, forthcoming, *Chronic Poverty Report 1*, Manchester and London: Institute of Development Policy and Management/Overseas Development Institute
- Clark, D., 1991, 'Trade versus aid: distributions of Third World development assistance', *Economic Development and Cultural Change*, 38(?): 829-37
- Clark, D., 1992, "Distributions of official development assistance among developing country aid recipients", *The Developing Economies*, 30(3): 189-97
- Deaton, A., 2001, 'Counting the World's Poor: Problems and Possible Solutions', *World Bank Research Observer*, 16(2): 125-147
- Easterly, W., 2000, *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*, Cambridge, Mass: MIT Press
- Hayter, T. and Watson, C., 1985, *Aid: Rhetoric and Reality*, London; Pluto Press (see also Hayter, T, 1971, *Aid as Imperialism*, Harmondsworth: Penguin)
- McGillivray, M. and White, H., 1995, "How well is aid allocated? Descriptive measures of aid allocation" *Development and Change* 26: 163-183
- OECD, 2002, *Geographic Distribution of Financial Flows to Aid Recipients 1996-2000* (available on-line at www.oecd.org/dac/stats)
- OECD, *Review of Development Cooperation* (various issues)
- McKay, A. and Baulch, B., forthcoming, "How many chronically poor people are there in the world? Some provisional estimates", Background Paper for the Chronic Poverty Report 1/CPRC Working Paper ??, University of Manchester
- Mosley, P., Harrigan, J, and Toye, J., 1991, *Aid and Power*, London: Routledge
- Randall, J., German, T. *et al.*, 2001, *The Reality of Aid*, London: Earthscan.
- Reddy, S., and Pogge, T., 2003, 'How *not* to count the poor', mimeo, Columbia University.
- Ravallion, M., Datt, G., and Van de Walle, D., 1991, 'Quantifying absolute poverty in the developing world', *Review of Income and Wealth*, 37(4): 345-362
- Suits, D., 1977, "Measurement of tax progressivity", *American Economic Review*, 67(4): 747-52
- UNCTAD, 2002, *The Least Developed Countries Report 2002: Escaping the Poverty Trap*, Geneva: United Nations Conference of Trade and Development
- White, H., 1996, "How much aid is used for poverty reduction?" *IDS Bulletin*, 27(1): 83-99
- White, H., and Toye, J., 1996, *Evaluating Programme Aid*, *IDS Bulletin*, 27(4)
- World Bank, 1998, *Assessing Aid*, Washington, D.C.: World Bank
- World Bank, 2002 and 2003, *World Development Indicators* (available on CD and on-line at www.worldbank.org/data/online-databases)

Note on Data Sources: The data underlying this paper was extracted from the OECD's Development Assistance Committee's online database and from World Development Indicators, 2003. A few adjustments were made, as described on page 7. The final dataset used for our analysis can be downloaded from http://www.chronicpoverty.org/pdfs/bilaterals_com.xls and http://www.chronicpoverty.org/pdfs/multilaterals_com.xls.

Appendix 1: Calculation and Interpretation of the Suits Index

For a continuous distribution, the Suits index may be calculated using the following expression:

$$S_d = 1 - \frac{1}{K} \int_0^{100} A_i(y) dy$$

where S_d is the Suits index for donor d , A_i is the cumulative distribution of aid ranked in terms of their per capita incomes, y , and K is the area of right angle triangle bounded by the bottom and right-hand side axes of the aid concentration curve box and the leading diagonal.

For a discrete distribution (of which the distribution of development assistance across developing countries would be an example) the Suits index can be calculated using the following trapezoid approximation:

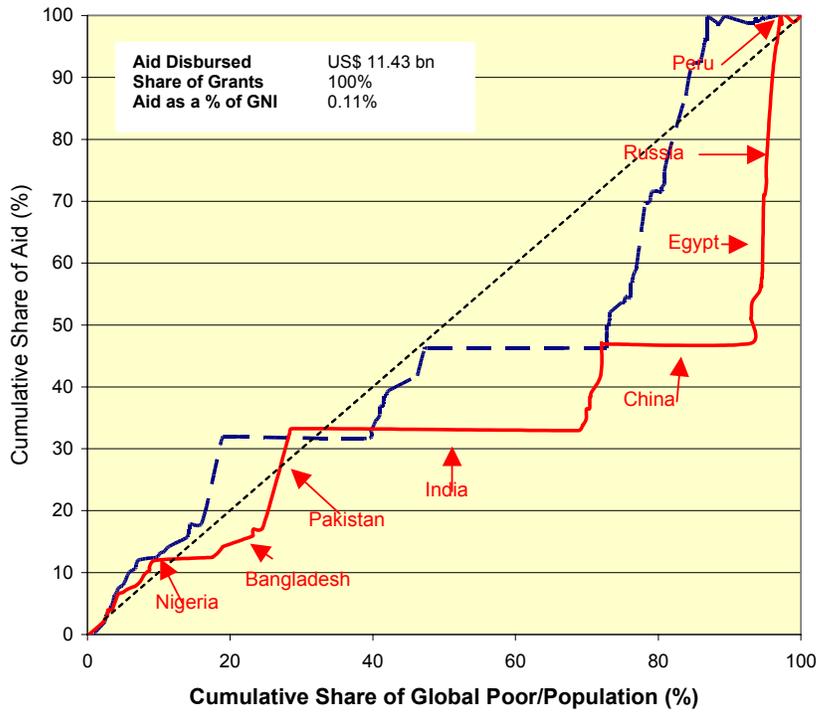
$$\begin{aligned} S_d &= 1 - \frac{.5p_1CA_1 + .5p_2(CA_2 - CA_1) + p_2CA_1 + \dots + .5p_n(CA_n - CA_{n-1}) + p_nCA_{n-1}}{.5} \\ &= 1 - p_1CA_1 + p_2(CA_2 + CA_1) + \dots + p_n(CA_n + CA_{n-1}) \\ &= 1 - \sum p_i(CA_i + CA_{i-1}) \end{aligned}$$

where p_i is the population share of country i and CA_i is the cumulative aid share of country i and all poorer countries. Notice that unlike previous papers that have calculated the Suits' index (White and McGillivray, 1995) using trapezoid formula involving ranks, this formula allows for the population shares of different countries to differ substantially.

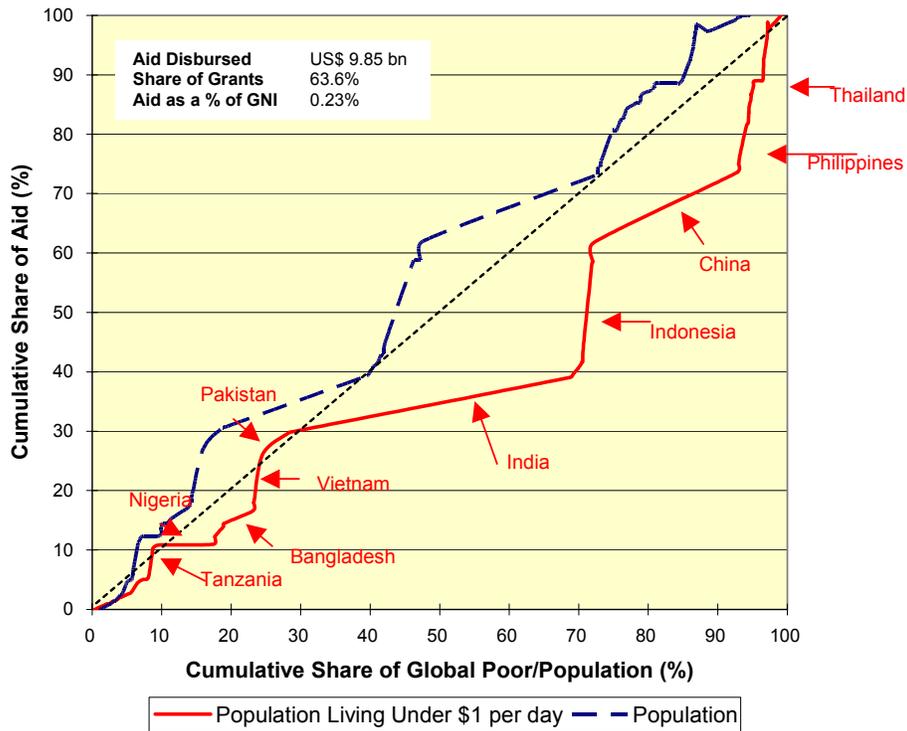
Like the Gini coefficient, the Suits index can be a problematic summary measure of distribution. It is well known that when two Lorenz curves cross, the Gini coefficient is an ambiguous measure of the distribution of income. Similarly, when two aid concentration curves cross, the Suits index is an ambiguous measure of the progressivity or regressivity of the distribution of aid (or indeed, taxation revenue). Nonetheless, just like the Gini coefficient, the Suits index also provides a useful way of summarising a great deal of distributional information into a single summary statistic.

Appendix 2: Aid Concentration Curves for the Leading Bilateral and Multilateral Donors

US- Aid Concentration Curves (2001)

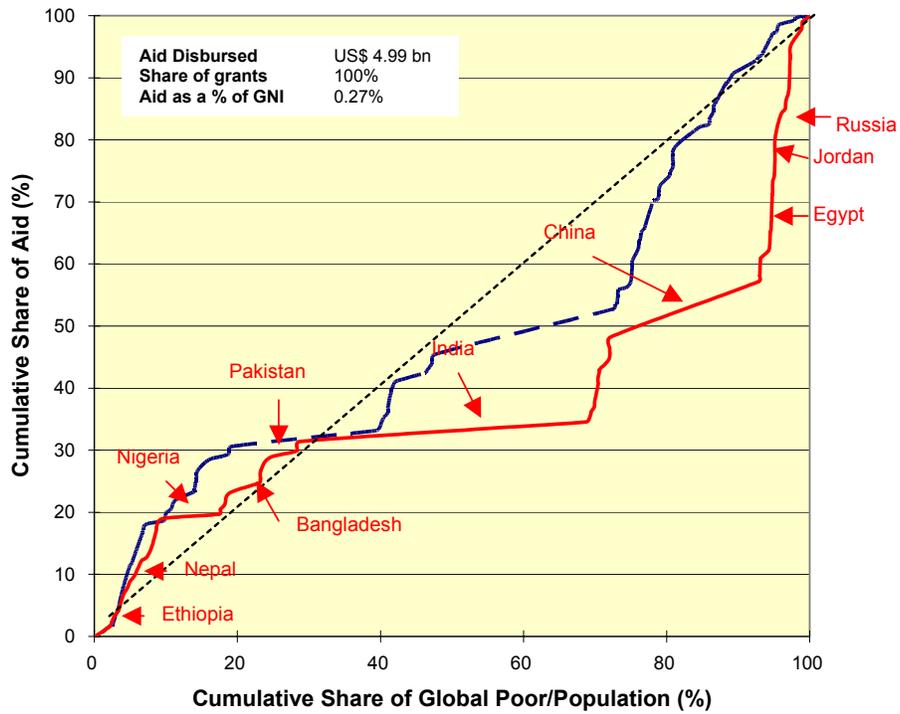


Japan- Aid Concentration Curve (2001)

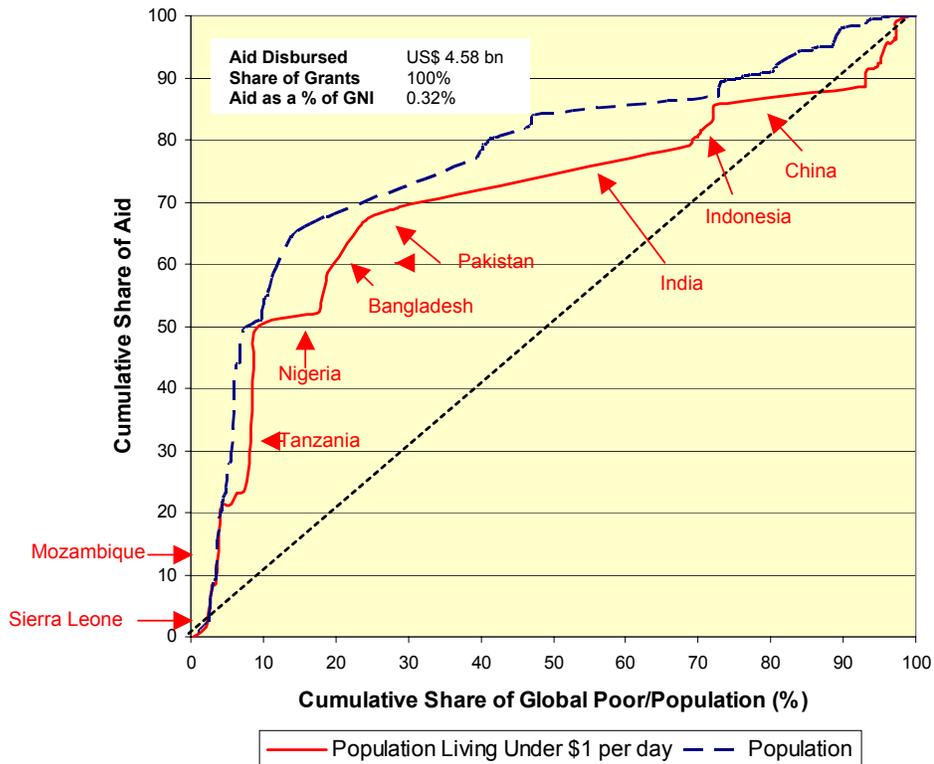


Appendix 2 (cont)

Germany- Aid Concentration Curve (2001)

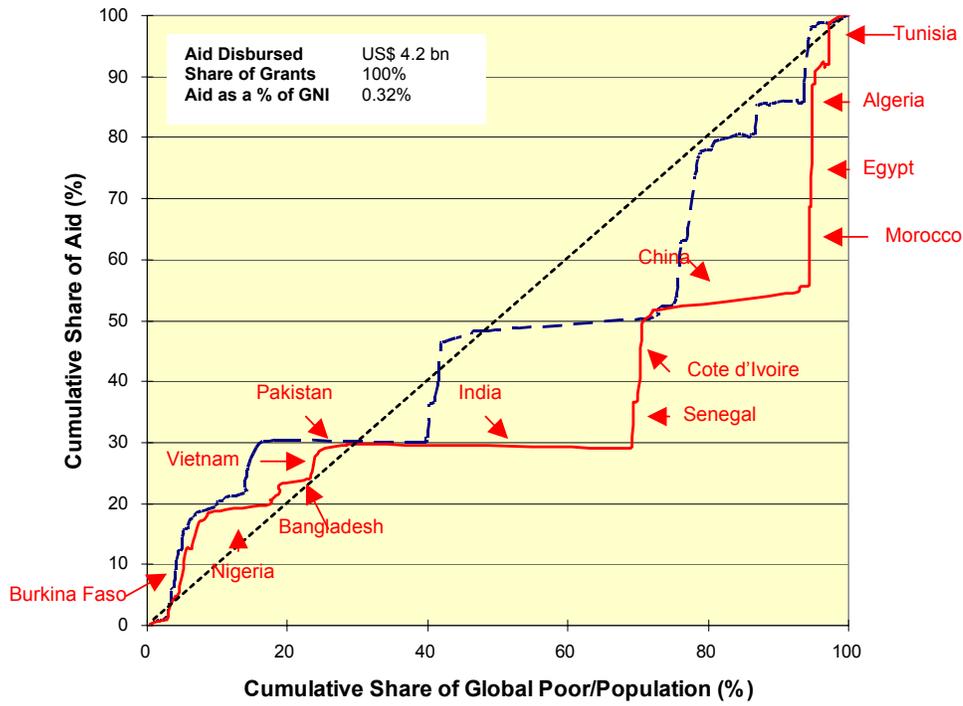


UK- Aid Concentration Curves (2001)

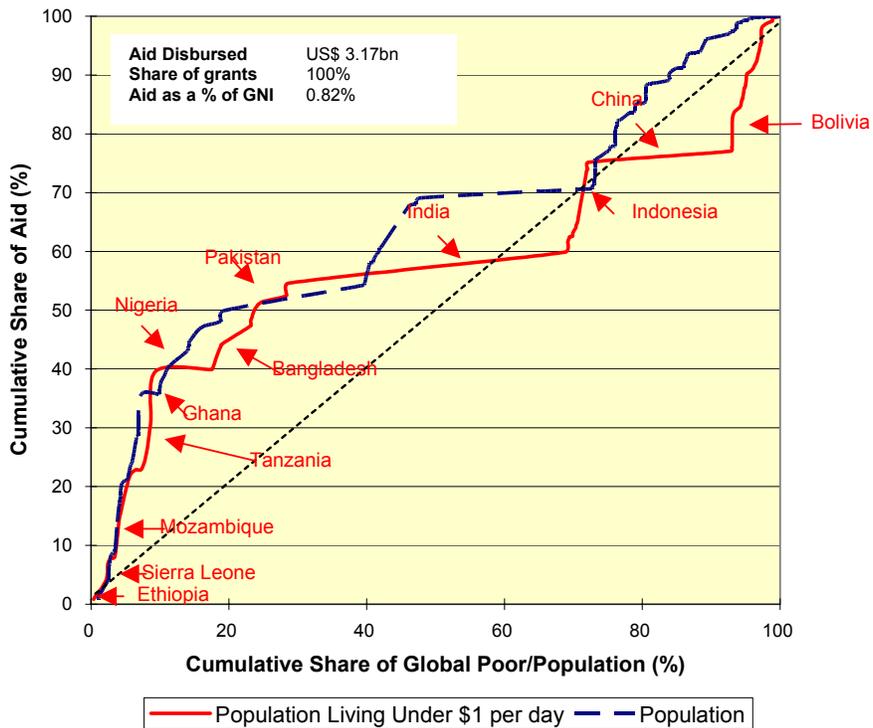


Appendix 2 (cont)

France- Aid Concentration Curve (2001)

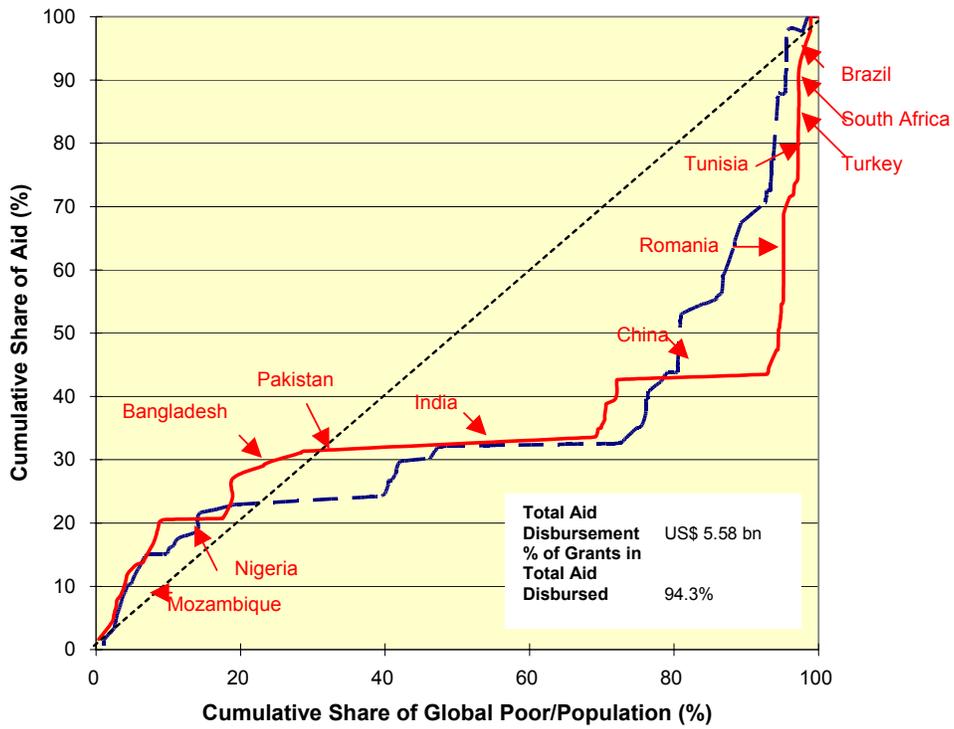


Netherlands- Aid Concentration Curve (2001)

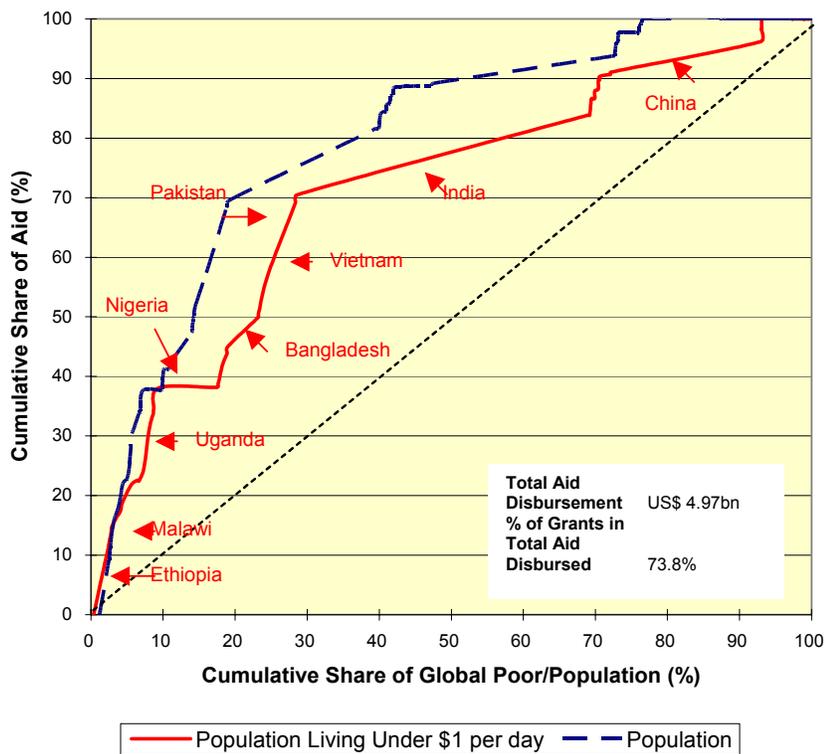


Appendix 2 (cont)

EC- Aid Concentration Curves (2001)



WB(IDA) - Aid Concentration Curves (2001)



Appendix 2 (cont)

