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International Aid in Light of Global Poverty and Inequality

Some Unsubtle Propositions

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Abstract

This paper re-asserts the importance of certain old-fashioned questions relating to international aid: what is the quantum of aid available in relation to the need for it? How may patterns of allocation, at both the dispensing and receiving ends of aid, be determined so as to take account of both poverty and inter-national inequality in the distribution of incomes? Can some simple and plausible rules of allocation be devised? If so, what correspondence does reality bear to these rules? The questions are addressed with the aid of some simple analytics relating to optimal budgetary intervention in the alleviation of poverty. The ideas discussed are clarified by means of data employed in elementary empirical illustrations.

Keywords: international burden of poverty, lexicographic maximin solution, proportionality rule

JEL classification: D63, F5

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Tables are given in the Appendix.

1   Introduction

This is an old-fashioned paper which will re-assert some old-fashioned views on international aid, global poverty, and inter-country inequality. The literature on aid allocation has become increasingly complex, nuanced, and fine-tuned, but sometimes at the cost of disengagement with certain large and undeniable truths which are crucially germane to the issue. The present paper attempts to keep the broader picture in view while dealing with some simple rules of aid allocation which are motivated by considerations of `how much?', 'from whom?', and 'to whom?'. In the process, it addresses the following questions.

    —   How much poverty is there in the world?

    —   How much aid is available in relation to the need for it?

    —   How onerous is the redistributive effort entailed in eradicating global poverty?

    —   What relation do the amounts of aid disbursed by different countries have to the relative capabilities of these donor countries?

    —   What relation does the pattern of aid receipt bear to the relative needs of beneficiary countries?

These issues are addressed largely within the framework of a simple analysis of optimal budgetary intervention in the redress of poverty.

2   The magnitude of global poverty

We use 1997 data on country-wise GNP, population, aid disbursement, and aid receipt from the UNDP's *Human Development Report 1999*. *HDR 1999* presents information on a variety of socioeconomic indicators for a set of 174 countries. Information on GNP, population and aid receipt is available for a set of 156 countries which, together, we shall treat as constituting the 'world'. The per capita GNP in 1997 for this set of countries, at current prices, is US$5,167 (see Table 1). It seems reasonable to suggest that a country should be deemed to be *poor* if its per capita GNP is less than US$1,000. Unquestionably, this is an arbitrary judgment, but arguably not an unreasonable one. An international poverty line which is pitched at less than a fifth of the global per capita GNP can scarcely attract the criticism of excessive liberalism.

We shall let z stand for the international poverty line. x_i will stand for the per capita GNP of the ith poorest country, and p_i for its population. There are m countries, and total population is p ($= \Sigma_{i=1}^{m} p_i$). N will stand for the set of all countries, Q for the set of poor countries, and R for the set of nonpoor countries, where $Q \equiv \{i \in N \mid x_i < z\}$, and $R \equiv N \backslash Q$. We shall not be concerned with the *intra*-country distribution of income: throughout, the assumption will be that within any country, each person receives its per capita income. The cardinality of N is m, that of Q is q, and that of R is r. The global distribution of income is represented by the list $\mathbf{x} = [(x_1,p_1)\dots,(x_i,p_i)\dots,(x_m, p_m)]$, with $x_i \leq x_{i+1}$, for all i = 1,…,m-1. Table 2 presents information on the distribution of income for the poor countries of the world.

To obtain an idea of the extent of global poverty that obtains, we shall measure it in terms of the Foster-Greer-Thorbecke family of indices, which is given by:

$$P_\alpha(\mathbf{x};z) = (1/p)\Sigma_{i\in Q}p_i[(z - x_i)/z]^\alpha, \ \alpha \geq 0. \tag{1}$$

As is well-known, P_0 is the *headcount ratio*, or proportion of the world's population living in its poor countries. The headcount ratio violates the *monotonicity axiom*, which is the requirement that, other things equal, a diminution in any poor person's income should increase poverty. This index also violates the *transfer axiom*, which is the requirement that, other things remaining the same, any equalizing redistribution of income among the poor should increase poverty. For $\alpha \in (0,1)$, P_α satisfies monotonicity but violates transfer: in fact, every member of this family of indices favours *dis-equalizing* transfers among the poor. P_1 is the *per capita income-gap ratio*, or the proportionate deviation of the average income of the poor from the poverty line, expressed in per person terms; this index also satisfies monotonicity without satisfying transfer: it is sensitive only to the aggregate poverty gap, and not to its inter-personal distribution. The index P_2, by contrast, does attend to distributional considerations: it satisfies both the monotonicity and the transfer axioms. Using the data provided in Table 2, we have computed the values of P_0, $P_{0.5}$, P_1 and P_2: these are, respectively, 0.57, 0.36, 0.26, and 0.15. Familiarity with corresponding values of these indices for known poor countries suggests that the extent of global poverty is very considerable. This leads to our

First observation: There is a lot of poverty in the world.

3   AID in relation to its need

Let $D_i \equiv p_i(z-x_i)$ stand for the *ith poorest country's deficit*, or total shortfall of income from what is required in order to escape poverty. The *aggregate global deficit* is then given by $D = \Sigma_{i\in Q}D_i$. Table 3 provides information on the country-wise and total deficit for the set of poor countries. The aggregate deficit D is of the order of US$1444.1 billion. Data in Table 1 on aid received by various countries suggest that the total quantum of aid received in 1997 was of the order of US$40.2 billion. The amount of aid available, as a proportion of aid required to eradicate global poverty, works out to 2.78 per cent. This leads to our

Second observation: The quantum of aid available, in relation to the need for it, is vanishingly small.

4   The international burden of poverty

As we have seen, the aggregate poverty deficit, D, is in the region of US$1444 billion. From Table 1, it can be verified that the aggregate GNP of all the nonpoor countries—call this Y—is in the region of US$29,211.7 billion. The ratio of D to Y is just under 5 per cent, a number scarcely suggestive of an insuperable burden of international poverty. Indeed, the Brandt Commission on North-South Relations, in 1980, had recommended an international tax-cum-transfer arrangement, and it is worth considering the simple arithmetic of eradicating global poverty through aid

disbursements consistent with the implementation of a specific scheme of redistributive taxation, as discussed below.

Suppose the objective is to ensure that every presently poor country is enabled to each the poverty line of US$1,000 per capita. What would be a maximally equitable tax-transfer scheme which will realize this objective, in the sense of ensuring that the resulting global distribution of income cannot be Lorenz-dominated by any other distribution? This problem has been considered by Jayaraj and Subramanian (1996) in the context of *within*-country poverty eradication. The solution to the problem can be described as follows. Let the per capita income of the richest country be reduced to that of the next richest country. If the resulting tax revenue is sufficient to meet the aggregate poverty deficit D, then that is all that needs to be done. If not, reduce the per capita incomes of the two richest countries to the per capita income of the third richest country. If the resulting tax revenue is sufficient to meet the deficit D, then the exercise stops at this stage. If not, the per capita incomes of the three richest countries should be reduced to the level of the fourth richest country's per capita income … and so on, down the line, until we reach that marginal country for which the aggregate revenue raised is just equal to the aggregate poverty deficit D. What is entailed is the implementation of a 'lexicographic maximin' solution to the optimal taxation problem. Formally, let x* be a level of income, and q* the poorest of the rich countries, such that these are determined through the following equation:

$$\Sigma_{i=q*}^{m} p_i(x_i - x^*) = D. \tag{2}$$

Then, the optimal tax schedule $\{a^*_i\}_{i \in N}$ described earlier is given by:

$$a^*_I = 0 \ \forall \ i \in \{1,\ldots,q^*-1\}; \tag{3}$$
$$= p_i(x_i - x^*) \ \forall \ i \in \{q^*,\ldots,m\}.$$

Under the solution described by (3), the per capita incomes of the richest (m-q*) countries are equalized, through reduction, to a level of income x* such that the proceeds from this scheme of taxation are just sufficient to bridge the aggregate poverty deficit D.

Using the data provided in Table 1, it can be verified that only the richest seven countries of the world—Luxembourg, Switzerland, Japan, Norway, Denmark, Singapore, and the USA—would be involved in the redistributive exercise described above. The per capita incomes of these countries would have to be reduced to US$28,800, just a little below the US per capita income of US$29,080. The details are provided in Table 4. The figures in Table 4 suggest the following.

The post-tax-cum-transfer per capita GNP of the seven richest countries taken together will be over 90 per cent of their pre-tax-cum-transfer per capita GNP, while the post-tax-cum-transfer per capita GNP of the 63 poorest countries taken together will be over 180 per cent of their pre-tax-cum-transfer per capita GNP. From an impartial, 'arithmetical' point of view, a relatively small sacrifice by a small number of rich countries could yield a disproportionately large benefit to a large number of poor countries. The size of the population in the 'sacrificing' countries is 419 million, or 13 per cent of the size of the population, at 3,237 million, of the beneficiary countries. There need be no fear that the transfers will be anything like remotely immiserizing: at

the end of the redistributive exercise, the seven richest countries will enjoy an average standard of living very near that of the USA; and the per capita GNP of the richest country (US$28,800) will still exceed the per capita GNP of the poorest country (US$1000) by a factor of nearly 2,900 per cent.

The upshot of the preceding discussion leads us to our

> *Third observation: While the magnitude of global poverty is large, the international burden of poverty is small.*

5   The disbursement of aid in relation to donor capability

The redistributive tax system described in the previous section could attract the criticism of being extreme in its insistence on a certain sort of stringent egalitarianism. In this scheme, only seven of the richest countries are called upon to bear the burden of international poverty. In particular, only countries with a per capita GNP equalling or exceeding the US per capita GNP of US$29,090 are required to disburse aid. There may well be a case for a more broad-based spreading of the overheads of global deprivation. The criterion for 'aid liability' can be significantly relaxed—by requiring, for instance, that the burden of aid should be borne by countries with a per capita GNP in excess of US$10,000 (which is itself ten times the international poverty line of US$1,000). Let A be the set of these countries. For every country i in the set A, define $S_i \equiv p_i(x_i - 10,000)$ as *country i's surplus*, or the total excess of income over the cutoff level of US$10,000. The *aggregate global surplus* is then given by $S = \Sigma_{i \in A}S_i$. A reasonably equitable scheme of taxation would be one in which, from among the set A of rich countries, the ith poorest country's share in total aid disbursed is s_i, where $s_i = S_i/S$. One could refer to s_i as country i's 'normative share' in aid disbursement.

Table 1 indicates that there are 25 countries constituting the set A: Luxembourg, Switzerland, Japan, Norway, Denmark, Singapore, USA, Germany, Austria, Belgium, Iceland, France, Sweden, Netherlands, Hong Kong, Finland, UK, Australia, Italy, Canada, Ireland, Israel, New Zealand, Spain, Korea and Slovenia. Of these, 21 countries belong to the Development Assistance Committee (DAC) of the OECD. The *Human Development Report 1999* furnishes information for 1997 on the aid disbursed by each of the DAC countries. Using these data, and data provided in Table 1, Table 5 presents information, for each of the DAC countries, on its actual share a_i of aid disbursed by the DAC countries, and its normative share s_i. Table 5 suggests that for all but 3 of the 21 DAC countries, the actual aid share a_i is in excess of the normative share s_i: particularly noteworthy are the cases of Denmark, Sweden, the Netherlands and Norway, for each of which countries the ratio of a_i to s_i is in excess of 3. Japan, Italy and the USA are the countries for which the ratio of a_i to s_i is less than unity. Particularly noteworthy, and for reasons opposite to those which make the Nordic countries remarkable, is the case of the USA, whose actual aid share is just 40 per cent of its normative share. Indeed, at the levels of aid commitment of Japan, Italy and the USA, if the remaining DAC countries decided to disburse aid in accordance with their normative shares, then the total aid disbursement of the DAC countries would be less than three-fourths of the present (and already low) level. Clearly, a disproportionate aid effort has had to be put in by one group of countries in order to offset the aid reluctance of countries like the USA and Japan which account, respectively, for the highest and next highest share in the aggregate global surplus. This leads us to our

Fourth observation: The relative contributions to aid bear little relation to the relative capabilities of donor countries.

6   The receipt of aid in relation to beneficiary need

Bourguignon and Fields (1990) is one of the earliest efforts at engaging explicitly with the question of optimal budgetary intervention in the alleviation of poverty. Their approach can be adapted to the context of an aid allocation exercise. Specifically, if a budget B is available for aid disbursement, and if the objective of aid transfers is to minimize poverty, how much aid B_i should be allocated to the ith poorest country in the set Q of poor countries? The answer would depend on how one specifies the objective function (or equivalently, in the present case, on how one measures poverty) and also on the constraints under which the optimization exercise is carried out. Bourguignon and Fields (as adapted to our present concerns) consider different members of the Foster-Greer-Thorbecke P_α family of poverty measures, and they seek to minimize poverty as measured by each of these indices subject to the constraints (i) that the sum of aid transfers does not exceed the budgeted outlay B, (ii) that no country receives aid in excess of its poverty deficit, and (iii) that aid transfers are always non-negative.

Suppose we add a mildly 'equality-preferring' fourth constraint which demands the following. Let j and k be two poor countries with aggregate poverty deficits D_j and D_k respectively. Let $\sigma_{j,k} \equiv D_j/(D_j + D_k)$, i.e., $\sigma_{j,k}$ is the share of j in the combined poverty deficits of j and k. Obviously, if $D_j \geq D_k$, then $\sigma_{j,k} \geq \frac{1}{2}$. Let $\sigma'_{j,k}$ be the value of $\sigma_{j,k}$ after the aid transfers have been made. Then, a preference for equality in aid distribution is compatible with the requirement that if j is the country with the larger poverty deficit, then the index of pairwise inequality $\sigma_{j,k}$ should not become larger after the distribution, that is, we would require that $\sigma'_{j,k} \leq \sigma_{j,k}$. Effectively, this constraint is compatible with the requirement that the poorer (in terms of poverty deficit) of two countries should not receive a smaller transfer. Suppose, further, that poverty is measured by the index $P_{0.5}$. Then, the aid allocation problem can be set up formally as a programming exercise of the following type:

$$\text{Minimize } P_{0.5}(D_1-B_1,\ldots,D_q-B_q;z) = (1/pz^{0.5})\Sigma_{i\in Q}(D_i - B_i)^{0.5} \qquad (4)$$
$$\{B_i\}_{i\in N}$$

subject to

i) $\Sigma_{i\in Q} B_i \leq B$;

ii) $B_i \leq D_i \ \forall \ i\in Q$;

iii) $B_i \geq 0 \ \forall \ i\in Q$; and

iv) $\forall \ j,k\in Q$, if $\sigma_{j,k} \geq \frac{1}{2}$, then $\sigma'_{j,k} \leq \sigma_{j,k}$.

From Subramanian (2004), we know that the solution to problem (4) is a proportional allocation rule, whereby each country receives aid in proportion to its share in the aggregate poverty deficit. The optimal aid allocation schedule is given by

$$B^*_i = d_i B \text{ (where } d_i \equiv D_i/D) \ \forall \ i\in Q. \qquad (5)$$

We shall refer to d_i as country i's *normative share* in aid receipts. The proportionality rule embodied in (5) is, we shall maintain, a reasonably rational guide to aid allocation decisions.

How has the pattern of *actual* country shares in aid receipts—call these the b_i—compared with the normative shares? Table 6, based on 1997 data available in the *Human Development Report 1999*, furnishes information on the amount of aid received by each country for which data are available on GNP, population, and aid receipt. We note first that, if a poverty line of US$1,000 per capita is accepted as an international poverty line, then several *nonpoor* countries have been aid recipients. In fact, the number of nonpoor aid receiving countries, at 72, exceeds the number of poor aid-receiving countries, at 63. Of the total aid receipts of US$40.2 billion, the share of the poor countries is only 62 per cent. Indeed, the per capita aid received by the nonpoor countries, at US$9.51, *exceeds* the corresponding figure for the poor countries, at US$7.70. Further, if we work out the aggregate poverty deficits for all aid-receiving countries—these deficits will obviously be negative for the nonpoor countries—and correlate these with the actual amounts of aid received by them, then we find that the coefficient of correlation is (-)0.015: there is no obvious relationship between aid received and the need for aid. Specific examples are worth noting: if we describe a country by an ordered pair of (per capita GNP, per capita aid received), then here are some pairs of numbers for selected countries, which suggest that it would be hard to find any need-related rationale for aid allocations:

Nonpoor countries	Poor countries
Panama: (3080, 40.9)	China: (860, 1.64)
Malta: (9330, 55.0)	India: (370, 1.74)
Jordan: (1520, 75.7)	Pakistan: (500, 4.16)
Lebanon: (3350, 77.1)	Bangladesh: (360, 8.24)
Israel: (16180, 202.3)	Ethiopia: (110, 10.95)

Israel's per capita GNP is nearly 44 times that of India, while India's aid receipt per capita is 0.009 times that of Israel.

Finally, and confining ourselves to the set Q of poor countries, it is instructive to look at the pattern of actual shares b_i in aid receipts in relation to the corresponding normative shares d_i. Table 7 presents the relevant information. A generous margin of deviation from unity of the actual-to-normative-share ratio would be the interval [0.5,1.5]. As it happens, and as Table 7 reveals, only 13 of the 63 poor countries fall within this band. For the rest, we have a wide range of variation in the ratio of actual aid share to normative aid share, with the polarities described by Bolivia (110) at one end of the spectrum, and India and Nigeria (0.1) at the other end.

In the light of the preceding discussion, we are led to our

> *Fifth observation: The relative receipts of aid bear little relation to the relative needs of beneficiary countries.*

7   Concluding observations

As threatened at the outset, this has been an unsubtle paper. There are a number of complications we have not taken on board: the possibility that income is not the only indicator of deprivation; the possibility that there are inter-country variations in the ability to effectively 'absorb' aid; the possibility that aid allocations are sometimes influenced by the historical specificity of events like colonialism which mediate bilateral relations; and, of course, the possibility that rich countries do not see themselves as being under a moral obligation to assist poor countries. In respect of the last complication, an argument that is often held out is that poor countries do not have a *right* to aid. Even setting aside the counter-view that aid is no more than a reparation for historical and contemporary wrongs such as colonialism and unfair trade practices, it is worthwhile to remind oneself of Timmermann's (2004) observation: 'Rights imply duties, but there can be duties without corresponding rights.' Despite all the simple-mindedness of the observations made earlier—namely that there is a great deal of poverty in the world, that the quantum of aid available is very small in relation to the magnitude of the poverty problem, that the redistributive effort that would be required to eradicate poverty is quite small, that there is little relationship between actual and normative aid shares at the dispensing end, and similarly little relationship between actual and normative aid shares at the receiving end—the orders of magnitude reviewed do not suggest that a greater accommodation of complexity will make substantial dents in the truth of these observations. The justification for simplemindedness derives from the persistence of the truths it reflects. Fussy sophistication in the discourse on aid which does not directly address these stubborn truths could largely be a matter of arranging the deck-chairs on the Titanic.

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Appendix: Tables

Table 1
Cross-country data on GNP, population and aid receipt, 1997

Country	GNP (US$ bn)	Population (mn)	Per capita GNP (US$)	Aid receipt (US$ mn)
Luxembourg	18.6	0.4	44,690	
Switzerland	305.2	7.3	43,060	
Japan	4,812.1	126.0	38,160	
Norway	159.0	4.4	36,100	
Denmark	184.3	5.3	34,890	
Singapore	101.8	3.4	32,810	1.0
USA	7,783.1	271.8	29,080	
Germany	2,321.0	82.1	28,280	
Austria	225.4	8.1	27,920	
Belgium	272.4	10.1	26,730	
Iceland	7.1	0.3	26,470	
France	1,541.6	58.5	26,300	
Sweden	231.9	8.9	26,210	
Netherlands	403.1	15.6	25,830	
Hong Kong	163.8	6.5	25,200	8
Finland	127.4	5.1	24,790	
UK	1,231.3	58.5	20,870	
Australia	382.7	18.3	20,650	
Italy	1,160.4	57.4	20,170	
Canada	595.0	30.3	19,640	
Ireland	65.1	3.7	17,790	
Israel	94.4	5.9	16,180	1,192
New Zealand	59.5	3.8	15,830	
Spain	569.6	39.6	14,490	
Korea	485.2	45.7	10,550	160
Slovenia	19.5	2.0	9,840	97
Malta	3.5	0.4	9,330	22
Argentina	319.3	35.7	8,950	222
Bahrain	5.2	0.6	8,640	84
Antigua & Barbuda	0.5	0.1	7,380	4
Saudi Arabia	143.4	19.5	7,150	15
Seychelles	0.5	0.1	6,910	15
Uruguay	20.0	3.3	6,130	57
Czech Republic	54.0	10.3	5,240	107
Chile	70.5	14.6	4,820	136
Brazil	784.0	163.7	4,790	487
Malaysia	98.2	21.0	4,530	241
Hungary	45.8	10.2	4,510	152
Trinidad & Tobago	5.6	1.3	4,250	33
Gabon	4.8	1.1	4,120	40
Croatia	19.3	4.5	4,060	44

Table 1 continues

Table 1 (con't)
Cross-country data on GNP, population and aid receipt, 1997

Country	GNP (US$ bn)	Population (mn)	Per capita GNP (US$)	Aid receipt (US$ mn)
Mauritius	4.4	1.1	3,810	42
Mexico	348.6	119.2	3,700	108
Slovakia	19.8	5.4	3,680	67
Poland	138.9	38.7	3,590	641
St Lucia	0.6	0.1	3,510	24
Venezuela	79.3	22.8	3,480	28
Estonia	4.9	1.4	3,360	65
Lebanon	13.9	3.1	3,350	239
Botswana	5.1	1.5	3,310	125
South Africa	130.2	38.8	3,210	497
Grenada	0.3	0.1	3,140	8
Turkey	199.3	63.4	3,130	1
Panama	8.4	2.7	3,080	124
Dominica	0.2	0.1	3,040	14
Thailand	165.8	59.7	2,740	626
Russian Federation	394.9	147.7	2,680	718
Peru	63.7	24.4	2,610	488
Fiji	2.0	0.8	2,460	44
Latvia	6.0	2.5	2,430	81
St Vincent	0.3	0.1	2,420	6
Lithuania	8.4	3.7	2,260	102
Colombia	87.1	40.0	2,180	274
Belarus	22.1	10.4	2,150	43
Tunisia	19.4	9.2	2,110	194
Namibia	3.4	1.6	2,110	166
Paraguay	10.2	5.1	2,000	116
El Salvador	10.7	5.9	1,810	294
Iran	108.6	64.6	1,780	196
Dominican Republic	14.1	8.1	1,750	76
Guatemala	16.6	10.5	1,580	302
Ecuador	18.8	11.9	1,570	172
Jamaica	4.0	2.5	1,550	71
Jordan	6.8	6.1	1,520	462
Swaziland	1.5	0.9	1,520	27
Algeria	43.9	29.4	1,500	248
Romania	31.8	22.5	1,410	197
Kazakhstan	21.3	16.4	1,350	131
Vanuatu	0.2	0.2	1,340	27
Suriname	0.5	0.4	1,320	77
Morocco	34.4	26.9	1,260	462
Philippines	88.4	71.4	1,200	689
Egypt	72.2	64.7	1,200	1,947
Maldives	0.3	0.3	1,180	26
Bulgaria	9.8	8.4	1,170	206

Table 1 continues

Table 1 (con't)
Cross-country data on GNP, population and aid receipt, 1997

Country	GNP (US$ bn)	Population (mn)	Per capita GNP (US$)	Aid receipt (US$ mn)
Western Samoa	0.2	0.2	1,140	28
Syrian Arab Republic	16.6	14.9	1,120	199
Indonesia	221.5	203.4	1,110	832
Macedonia	2.2	2.0	1,100	149
Cape Verde	0.4	0.4	1,090	110
Equatorial Guinea	0.4	0.4	1,060	24
Ukraine	52.6	51.1	1,040	176
Uzbekistan	24.2	23.2	1,020	130
Bolivia	7.6	7.8	970	717
Papua New Guinea	4.2	4.5	930	349
Solomon Islands	0.4	0.4	870	42
Georgia	4.7	5.1	860	246
China	1055.4	1244.2	860	2,040
Sri Lanka	14.8	18.3	800	345
Guyana	0.7	0.8	800	272
Albania	2.5	3.1	760	155
Honduras	4.4	6.0	740	308
Zimbabwe	8.2	11.2	720	327
Côte d'Ivoire	10.2	14.1	710	444
Lesotho	1.4	2.0	680	93
Belize	0.6	0.2	670	14
Congo	1.8	2.7	670	268
Turkmenistan	3.0	4.2	640	11
Cameroon	8.6	13.9	620	501
Armenia	2.1	3.6	560	168
Guinea	3.8	7.3	550	382
Senegal	4.8	8.8	540	427
Azerbaijan	3.9	7.6	510	182
Pakistan	64.6	144.0	500	597
Kyrgyzstan	2.2	4.6	480	240
Moldova	2.0	4.4	460	63
Mauritania	1.1	2.5	440	250
Bhutan	0.3	1.9	430	70
Nicaragua	1.9	4.7	410	421
Comoros	0.2	0.6	400	28
Lao People's Democratic Rep.	1.9	5.0	400	341
Mongolia	1.0	2.5	390	248
Ghana	7.0	18.7	390	493
Haiti	2.9	7.8	380	332
Benin	2.2	5.6	380	225
India	357.4	966.2	370	1,678
Zambia	3.5	8.6	370	618
Bangladesh	44.1	122.5	360	1009
Kenya	9.7	28.1	340	457

Table 1 continues

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Table 1 (con't)
Cross-country data on GNP, population and aid receipt, 1997

Country	GNP (US$ bn)	Population (mn)	Per capita GNP (US$)	Aid receipt (US$ mn)
Togo	1.5	4.3	340	124
Gambia	0.4	1.2	340	40
Tajikistan	2.0	5.9	330	101
Uganda	6.6	20.0	330	840
Central African Republic	1.1	3.4	320	92
Viet Nam	24.0	76.4	310	997
Cambodia	3.2	10.5	300	372
Sudan	7.9	27.7	290	187
Nigeria	33.4	103.9	280	202
Yemen	4.4	16.3	270	366
Angola	3.0	11.7	260	436
Mali	2.7	10.4	260	455
Madagascar	3.6	14.6	250	838
Burkina Faso	2.6	11.0	250	370
Chad	1.6	7.1	230	225
Eritrea	0.9	3.4	230	123
Guinea-Bissau	0.3	1.1	230	125
Nepal	4.9	22.3	220	414
Tanzania	6.6	31.4	210	963
Malawi	2.1	10.1	210	350
Rwanda	1.7	6.0	210	592
Niger	2.0	9.8	200	341
Sierra Leone	0.8	4.4	160	130
Mozambique	2.4	18.4	140	963
Burundi	0.9	6.4	140	119
Congo, Democratic Republic	5.2	48.0	110	168
Ethiopia	6.5	58.2	110	637
Aggregate	29,211.7	5,653.1	5,167,377	40,147

Source: UNDP (1999: tables 11, 15, and 16).

Table 2
Distribution of income in poor countries, 1997

No.	Country	GNP per capita (US$)	Population
1	Bolivia	970	7.8
2	Papua New Guinea	930	4.5
3	Solomon Islands	870	0.4
4	Georgia	860	5.1
5	China	860	1244.2
6	Sri Lanka	800	18.3
7	Guyana	800	0.8
8	Albania	760	3.1
9	Honduras	740	6.0
10	Zimbabwe	720	11.2
11	Côte d'Ivoire	710	14.1
12	Lesotho	680	2.0
13	Belize	670	0.2
14	Congo	670	2.7
15	Turkmenistan	640	4.2
16	Cameroon	620	13.9
17	Armenia	560	3.6
18	Guinea	550	7.3
19	Senegal	540	8.8
20	Azerbaijan	510	7.6
21	Pakistan	500	144.0
22	Kyrgyzstan	480	4.6
23	Moldova	460	4.4
24	Mauritania	440	2.5
25	Bhutan	430	1.9
26	Nicaragua	410	4.7
27	Comoros	400	0.6
28	Lao People's Democratic Republic	400	5.0
29	Mongolia	390	2.5
30	Ghana	390	18.7
31	Haiti	380	7.8
32	Benin	380	5.6
33	India	370	966.2
34	Zambia	370	8.6
35	Bangladesh	360	122.5
36	Kenya	340	28.1
37	Togo	340	4.3
38	Gambia	340	1.2
39	Tajikistan	330	5.9
40	Uganda	330	20.0
41	Central African Republic	320	3.4
42	Viet Nam	310	76.4
43	Cambodia	300	10.5
44	Sudan	290	27.7

Table 2 continues

Table 2 (con't)
Distribution of income in poor countries, 1997

No.	Country	GNP per capita (US$)	Population
45	Nigeria	280	103.9
46	Yemen	270	16.3
47	Angola	260	11.7
48	Mali	260	10.4
49	Madagascar	250	14.6
50	Burkina Faso	250	11.0
51	Chad	230	7.1
52	Eritrea	230	3.4
53	Guinea-Bissau	230	1.1
54	Nepal	220	22.3
55	Tanzania	210	31.4
56	Malawi	210	10.1
57	Rwanda	210	6.0
58	Niger	200	9.8
59	Sierra Leone	160	4.4
60	Mozambique	140	18.4
61	Burundi	140	6.4
62	Congo Dem Rep	110	48.0
63	Ethiopia	110	58.2
	Aggregate	549.02	3237.4

Note: A 'poor country' is one with a per capita GNP of less than US$1,000.
Source: UNDP (1999: tables 11 and 16).

Table 3
Poverty deficits of poor countries, 1997

No.	Country	Poverty line	Per capita GNP	Per capita deficit (Poverty line minus pc GNP)	Population	Total poverty deficit (Population times pc poverty deficit)
		US$	US$	US$	million	US$ bn
1	Bolivia	1,000	970	30	7.8	0.234
2	Papua New Guinea	1,000	930	70	4.5	0.315
3	Solomon Islands	1,000	870	130	0.4	0.052
4	Georgia	1,000	860	140	5.1	0.714
5	China	1,000	860	140	1244.2	174.188
6	Sri Lanka	1,000	800	200	18.3	3.66
7	Guyana	1,000	800	200	0.8	0.16
8	Albania	1,000	760	240	3.1	0.744
9	Honduras	1,000	740	260	6.0	1.56
10	Zimbabwe	1,000	720	280	11.2	3.136
11	Côte d'Ivoire	1,000	710	290	14.1	4.089
12	Lesotho	1,000	680	320	2.0	0.64
13	Belize	1,000	670	330	0.2	0.066
14	Congo	1,000	670	330	2.7	0.891
15	Turkmenistan	1,000	640	360	4.2	1.512
16	Cameroon	1,000	620	380	13.9	5.282
17	Armenia	1,000	560	440	3.6	1.584
18	Guinea	1,000	550	450	7.3	3.285
19	Senegal	1,000	540	460	8.8	4.048
20	Azerbaijan	1,000	510	490	7.6	3.724
21	Pakistan	1,000	500	500	144.0	72.0
22	Kyrgyzstan	1,000	480	520	4.6	2.392
23	Moldova	1,000	460	540	4.4	2.376
24	Mauritania	1,000	440	560	2.5	1.40
25	Bhutan	1,000	430	570	1.9	1.083
26	Nicaragua	1,000	410	590	4.7	2.773
27	Comoros	1,000	400	600	0.6	0.36
28	Lao People's Dem. Rep.	1,000	400	600	5.0	3.00
29	Mongolia	1,000	390	610	2.5	1.525
30	Ghana	1,000	390	610	18.7	11.407
31	Haiti	1,000	380	620	7.8	4.836
32	Benin	1,000	380	620	5.6	3.472
33	India	1,000	370	630	966.2	608.706
34	Zambia	1,000	370	630	8.6	5.418
35	Bangladesh	1,000	360	640	122.5	78.40
36	Kenya	1,000	340	660	28.1	18.546
37	Togo	1,000	340	660	4.3	2.838
38	Gambia	1,000	340	660	1.2	0.792
39	Tajikistan	1,000	330	670	5.9	3.953
40	Uganda	1,000	330	670	20.0	13.4
41	Central African Rep.	1,000	320	680	3.4	2.312
42	Viet Nam	1,000	310	690	76.4	52.716
43	Cambodia	1,000	300	700	10.5	7.35
44	Sudan	1,000	290	710	27.7	19.667
45	Nigeria	1,000	280	720	103.9	74.808

Table 3 continues

Table 3 (con't)
Poverty deficits of poor countries, 1997

No.	Country	Poverty line	Per capita GNP	Per capita deficit (Poverty line minus pc GNP)	Population	Total poverty deficit (Population times pc poverty deficit)
		US$	US$	US$	million	US$ bn
46	Yemen	1,000	270	730	16.3	11.899
47	Angola	1,000	260	740	11.7	8.658
48	Mali	1,000	260	740	10.4	7.696
49	Madagascar	1,000	250	750	14.6	10.95
50	Burkina Faso	1,000	250	750	11.0	8.25
51	Chad	1,000	230	770	7.1	5.467
52	Eritrea	1,000	230	770	3.4	2.618
53	Guinea-Bissau	1,000	230	770	1.1	0.847
54	Nepal	1,000	220	780	22.3	17.394
55	Tanzania	1,000	210	790	31.4	24.806
56	Malawi	1,000	210	790	10.1	7.979
57	Rwanda	1,000	210	790	6.0	4.74
58	Niger	1,000	200	800	9.8	7.84
59	Sierra Leone	1,000	160	840	4.4	3.696
60	Mozambique	1,000	140	860	18.4	15.824
61	Burundi	1,000	140	860	6.4	5.504
62	Congo, Dem. Rep.	1,000	110	890	48.0	42.72
63	Ethiopia	1,000	110	890	58.2	51.798
	Aggregate		549.02	450.98	3237.4	1444.10

Note: A 'poor country' is one with a per capita GNP of less than US$1,000.

Source: Derived from Tables 1 and 2 of this paper.

Table 4
Redistributive taxation for eradicating global poverty, 1997
The 'lexicographic maximin' solution

No. Country	Per capita GNP	Income level (x*) to which pc GNP must be reduced	Per capita tax (pc GNP – x*)	Population	Total tax (pc tax times population)	GNP	Tax-GNP ratio
	US$	US$	US$	million	US$ bn	U$ bn	%
1 Luxembourg	44,690	28,800	15,890	0.4	6.4	18.6	34.41
2 Switzerland	43,060	28,800	14,260	7.3	104.3	305.2	34.11
3 Japan	38,160	28,800	9,360	126.0	1179.4	4812.1	24.51
4 Norway	36,100	28,800	7,300	4.4	32.1	159.0	20.19
5 Denmark	34,890	28,800	6,090	5.3	32.3	184.3	17.53
6 Singapore	32,810	28,800	4,010	3.4	13.6	101.8	13.36
7 USA	29,080	28,800	280	271.8	76.1	7,783.1	0.98
Aggregate				418.6	1,444.0	13,364.1	10.78

Note: The quantity x* is defined in equation (2) in the text.

Source: Derived from Tables 1, 2 and 3 of this paper.

Table 5
Actual and normative aid shares in disbursement for the DAC countries, 1997

No.	Country	Per capita GNP	Per capita surplus (pc GNP minus 10,000)	Population	Total surplus (Population times pc surplus)	Aid disbursed	Actual share in aid disbursed (aid disbursed/aggregate aid disbursed)	Normative share in aid disbursed (total surplus/ aggregate total surplus)	Actual share/normative share
		US$	US$	million	US$ bn	US$ bn	%	%	
1	USA*	29,080	19,080	271.8	5,185.94	6.878	14.23	35.40	0.40
2	Japan*	38,160	28,160	126.0	3,548.16	9.358	19.37	24.22	0.80
3	Germany*	28,280	18,280	82.1	1,500.79	5.857	12.12	10.25	1.18
4	France*	26,300	16,300	58.5	953.55	6.307	13.05	6.51	2.00
5	UK*	20,870	10,870	57.4	635.90	3.433	7.10	4.34	1.64
6	Italy*	20,170	10,170	30.3	583.76	1.266	2.62	3.98	0.66
7	Canada*	19,640	9,640	15.6	292.09	2.045	4.23	1.99	2.13
8	Netherlands*	25,830	15,830	7.3	246.95	2.947	6.10	1.69	3.61
9	Switzerland*	43,060	33,060	18.3	241.34	0.911	1.89	1.65	1.45
10	Australia*	20,650	10,650	39.6	194.90	1.061	2.20	1.33	1.65
11	Spain*	14,490	4,490	10.1	177.80	1.234	2.55	1.21	2.11
12	Belgium*	26,730	16,730	8.1	168.97	0.764	1.58	1.15	1.37
13	Austria*	27,920	17,920	8.9	145.15	0.527	1.09	0.99	1.10
14	Sweden*	26,210	16,210	5.3	144.27	1.731	3.58	0.99	3.65
15	Denmark*	34,890	24,890	4.4	131.92	1.637	3.39	0.90	3.46
16	Norway*	36,100	26,100	6.5	114.84	1.306	2.70	0.78	3.46
17	Hong Kong	25,200	15,200	3.4	98.80	–	–	–	–
18	Singapore	32,810	22,810	5.1	77.54	–	–	–	–
19	Finland*	24,790	14,790	5.9	75.43	0.379	0.78	0.51	1.51
20	Israel	16,180	6,180	3.7	36.46	–	–	–	–
21	Ireland*	17,790	7,790	45.7	28.82	0.187	0.39	0.20	1.98
22	Korea	10,550	550	3.8	25.14	–	–	–	–
23	New Zealand*	15,830	5,830	0.4	22.15	0.154	0.32	0.15	2.13
24	Luxembourg*	44,690	34,690	0.3	13.88	0.095	0.20	0.10	2.11
25	Iceland	26,470	16,470		4.94	–	–	–	–
	Aggregate				14,649.50	48.32			

Note   *   = the Development Assistance Committee (DAC) countries of the OECD. Data on aid disbursed are only for these countries.

Source: Derived from Table 1 of this paper and UNDP (1999: table 14).

Table 6
Aid, income and poverty deficit data for all aid-receiving countries, 1997

No.	Country	Per capita GNP US$	Per capita deficit (Poverty line minus pc GNP) US$	Population million	Total poverty deficit (population times pc poverty deficit) US$ bn	Aid receipt US$ bn
A) Nonpoor countries						
1	Singapore	32,810	-31,810	3.4	-108.154	0.001
2	Hong Kong	25,200	-24,200	6.5	-157.300	0.008
3	Israel	16,180	-15,180	5.9	-89.562	1.192
4	Korea	10,550	-9,550	45.7	-436.435	0.16
5	Slovenia	9,840	-8,840	2.0	-17.680	0.097
6	Malta	9,330	-8,330	0.4	-3.332	0.022
7	Argentina	8,950	-7,950	35.7	-283.815	0.222
8	Bahrain	8,640	-7,640	0.6	-4.584	0.084
9	Antigua & Barbuda	7,380	-6,380	0.1	-0.638	0.004
10	Saudi Arabia	7,150	-6,150	19.5	-119.925	0.015
11	Seychelles	6,910	-5,910	0.1	-0.591	0.015
12	Uruguay	6,130	-5,130	3.3	-16.929	0.057
13	Czech Republic	5,240	-4,240	10.3	-43.672	0.107
14	Chile	4,820	-3,820	14.6	-55.772	0.136
15	Brazil	4,790	-3,790	163.7	-620.423	0.487
16	Malaysia	4,530	-3,530	21.0	-74.130	0.241
17	Hungary	4,510	-3,510	10.2	-35.802	0.152
18	Trinidad & Tobago	4,250	-3,250	1.3	-4.225	0.033
19	Gabon	4,120	-3,120	1.1	-3.432	0.04
20	Croatia	4,060	-3,060	4.5	-13.770	0.044
21	Mauritius	3,810	-2,810	1.1	-3.091	0.042
22	Mexico	3,700	-2,700	119.2	-321.840	0.108
23	Slovakia	3,680	-2,680	5.4	-14.472	0.067
24	Poland	3,590	-2,590	38.7	-100.233	0.641
25	St Lucia	3,510	-2,510	0.1	-0.251	0.024
26	Venezuela	3,480	-2,480	22.8	-56.544	0.028
27	Estonia	3,360	-2,360	1.4	-3.304	0.065
28	Lebanon	3,350	-2,350	3.1	-7.285	0.239
29	Botswana	3,310	-2,310	1.5	-3.465	0.125
30	South Africa	3,210	-2,210	38.8	-85.748	0.497
31	Grenada	3,140	-2,140	0.1	-0.214	0.008
32	Turkey	3,130	-2,130	63.4	-135.042	0.001
33	Panama	3,080	-2,080	2.7	-5.616	0.124
34	Dominica	3,040	-2,040	0.1	-0.204	0.014
35	Thailand	2,740	-1,740	59.7	-103.878	0.626
36	Russian Federation	2,680	-1,680	147.7	-248.136	0.718
37	Peru	2,610	-1,610	24.4	-39.284	0.488

Table 6 continues

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Table 6 (con't)
Aid, income and poverty deficit data for all aid-receiving countries, 1997

No.	Country	Per capita GNP	Per capita deficit (Poverty line minus pc GNP)	Population	Total poverty deficit (population times pc poverty deficit)	Aid receipt
		US$	US$	million	US$ bn	US$ bn
38	Fiji	2,460	-1,460	0.8	-1.168	0.044
39	Latvia	2,430	-1,430	2.5	-3.575	0.081
40	St Vincent	2,420	-1,420	0.1	-0.142	0.006
41	Lithuania	2,260	-1,260	3.7	-4.662	0.102
42	Colombia	2,180	-1,180	40.0	-47.200	0.274
43	Belarus	2,150	-1,150	10.4	-11.960	0.043
44	Tunisia	2,110	-1,110	9.2	-10.212	0.194
45	Namibia	2,110	-1,110	1.6	-1.776	0.166
46	Paraguay	2,000	-1,000	5.1	-5.100	0.116
47	El Salvador	1,810	-810	5.9	-4.779	0.294
48	Iran	1,780	-780	64.6	-50.388	0.196
49	Dominican Republic	1,750	-750	8.1	-6.075	0.076
50	Guatemala	1,580	-580	10.5	-6.090	0.302
51	Ecuador	1,570	-570	11.9	-6.783	0.172
52	Jamaica	1,550	-550	2.5	-1.375	0.071
53	Jordan	1,520	-520	6.1	-3.172	0.462
54	Swaziland	1,520	-520	0.9	-0.468	0.027
55	Algeria	1,500	-500	29.4	-14.700	0.248
56	Romania	1,410	-410	22.5	-9.225	0.197
57	Kazakhstan	1,350	-350	16.4	-5.740	0.131
58	Vanuatu	1,340	-340	0.2	-0.068	0.027
59	Suriname	1,320	-320	0.4	-0.128	0.077
60	Morocco	1,260	-260	26.9	-6.994	0.462
61	Philippines	1,200	-200	71.4	-14.280	0.689
62	Egypt	1,200	-200	64.7	-12.940	1.947
63	Maldives	1,180	-180	0.3	-0.054	0.026
64	Bulgaria	1,170	-170	8.4	-1.428	0.206
65	West Samoa	1,140	-140	0.2	-0.028	0.028
66	Syrian Arab Republic	1,120	-120	14.9	-1.788	0.199
67	Indonesia	1,110	-110	203.4	-22.374	0.832
68	Macedonia	1,100	-100	2.0	-0.200	0.149
69	Cape Verde	1,090	-90	0.4	-0.036	0.11
70	Equatorial Guinea	1,060	-60	0.4	-0.024	0.024
71	Ukraine	1,040	-40	51.1	-2.044	0.176
72	Uzbekistan	1,020	-20	23.2	-0.464	0.13
	Aggregate			1,600.2		15.216

Table 6 continues

Table 6 (con't)
Aid, income and poverty deficit data for all aid-receiving countries, 1997

No.	Country	Per capita GNP	Per capita deficit (Poverty line minus pc GNP)	Population	Total poverty deficit (population times pc poverty deficit)	Aid receipt
		US$	US$	million	US$ bn	US$ bn

B) Poor countries

No.	Country	Per capita GNP	Per capita deficit	Population	Total poverty deficit	Aid receipt
1	Bolivia	970	30	7.8	0.234	0.717
2	Papua New Guinea	930	70	4.5	0.315	0.349
3	Solomon Islands	870	130	0.4	0.052	0.042
4	Georgia	860	140	5.1	0.714	0.246
5	China	860	140	1,244.2	174.188	2.04
6	Sri Lanka	800	200	18.3	3.66	0.345
7	Guyana	800	200	0.8	0.16	0.272
8	Albania	760	240	3.1	0.744	0.155
9	Honduras	740	260	6.0	1.56	0.308
10	Zimbabwe	720	280	11.2	3.136	0.327
11	Côte d'Ivoire	710	290	14.1	4.089	0.444
12	Lesotho	680	320	2.0	0.64	0.093
13	Belize	670	330	0.2	0.066	0.014
14	Congo	670	330	2.7	0.891	0.268
15	Turkmenistan	640	360	4.2	1.512	0.011
16	Cameroon	620	380	13.9	5.282	0.501
17	Armenia	560	440	3.6	1.584	0.168
18	Guinea	550	450	7.3	3.285	0.382
19	Senegal	540	460	8.8	4.048	0.427
20	Azerbaijan	510	490	7.6	3.724	0.182
21	Pakistan	500	500	144.0	72.0	0.597
22	Kyrgyzstan	480	520	4.6	2.392	0.24
23	Moldova	460	540	4.4	2.376	0.063
24	Mauritania	440	560	2.5	1.4	0.25
25	Bhutan	430	570	1.9	1.083	0.07
26	Nicaragua	410	590	4.7	2.773	0.421
27	Comoros	400	600	0.6	0.36	0.028
28	Lao People's Dem. Rep.	400	600	5.0	3.0	0.341
29	Mongolia	390	610	2.5	1.525	0.248
30	Ghana	390	610	18.7	11.407	0.493
31	Haiti	380	620	7.8	4.836	0.332
32	Benin	380	620	5.6	3.472	0.225
33	India	370	630	966.2	608.706	1.678
34	Zambia	370	630	8.6	5.418	0.618
35	Bangladesh	360	640	122.5	78.4	1.009
36	Kenya	340	660	28.1	18.546	0.457
37	Togo	340	660	4.3	2.838	0.124

Table 6 (con't)
Aid, income and poverty deficit data for all aid-receiving countries, 1997

No.	Country	Per capita GNP	Per capita deficit (Poverty line minus pc GNP)	Population	Total poverty deficit (population times pc poverty deficit)	Aid receipt
		US$	US$	million	US$ bn	US$ bn
38	Gambia	340	660	1.2	0.792	0.04
39	Tajikistan	330	670	5.9	3.953	0.101
40	Uganda	330	670	20.0	13.4	0.84
41	Central African Rep.	320	680	3.4	2.312	0.092
42	Viet Nam	310	690	76.4	52.716	0.997
43	Cambodia	300	700	10.5	7.35	0.372
44	Sudan	290	710	27.7	19.667	0.187
45	Nigeria	280	720	103.9	74.808	0.202
46	Yemen	270	730	16.3	11.899	0.366
47	Angola	260	740	11.7	8.658	0.436
48	Mali	260	740	10.4	7.696	0.455
49	Madagascar	250	750	14.6	10.95	0.838
50	Burkina Faso	250	750	11.0	8.25	0.37
51	Chad	230	770	7.1	5.467	0.225
52	Eritrea	230	770	3.4	2.618	0.123
53	Guinea-Bissau	230	770	1.1	0.847	0.125
54	Nepal	220	780	22.3	17.394	0.414
55	Tanzania	210	790	31.4	24.806	0.963
56	Malawi	210	790	10.1	7.979	0.35
57	Rwanda	210	790	6.0	4.74	0.592
58	Niger	200	800	9.8	7.84	0.341
59	Sierra Leone	160	840	4.4	3.696	0.13
60	Mozambique	140	860	18.4	15.824	0.963
61	Burundi	140	860	6.4	5.504	0.119
62	Congo, Dem. Rep.	110	890	48.0	42.72	0.168
63	Ethiopia	110	890	58.2	51.798	0.637
	Aggregate			3,237.4	1444.1	24.931

Note: A 'poor country' is one with a per capita GNP of less than US$1,000.

Source: Based on data in Table 1 of this paper.

Table 7
Actual and normative aid shares of aid-receiving poor countries, 1997

No.	Country	Total poverty deficit (from Table 6)	Aid receipt	Actual share in aid received (aid received/aggregate aid received)	Normative share in aid received (total deficit/aggregate total deficit)	Actual aid share/normative aid share
		US$ bn	US$ bn	%	%	
1	Bolivia	0.234	0.717	1.785937	0.016204	110.2167
2	Guyana	0.16	0.272	0.67751	0.01108	61.14953
3	Papua New Guinea	0.315	0.349	0.869305	0.021813	39.85282
4	Solomon Islands	0.052	0.042	0.104616	0.003601	29.05294
5	Georgia	0.714	0.246	0.612748	0.049443	12.39313
6	Congo, Dem. Rep.	0.891	0.268	0.667547	0.061699	10.81935
7	Belize	0.066	0.014	0.034872	0.00457	7.630066
8	Albania	0.744	0.155	0.386081	0.05152	7.493814
9	Honduras	1.56	0.308	0.767181	0.108026	7.10183
10	Mauritania	1.4	0.25	0.622712	0.096946	6.423269
11	Mongolia	1.525	0.248	0.61773	0.105602	5.849598
12	Nicaragua	2.773	0.421	1.048646	0.192023	5.461053
13	Guinea-Bissau	0.847	0.125	0.311356	0.058652	5.308487
14	Lesotho	0.64	0.093	0.231649	0.044318	5.226936
15	Rwanda	4.74	0.592	1.474581	0.328232	4.492494
16	Guinea	3.285	0.382	0.951503	0.227477	4.182849
17	Zambia	5.418	0.618	1.539343	0.375182	4.102926
18	Lao People's Dem. Rep.	3.0	0.341	0.849379	0.207742	4.088625
19	Côte d'Ivoire	4.089	0.444	1.105936	0.283152	3.9058
20	Armenia	1.584	0.168	0.418462	0.109688	3.815033
21	Senegal	4.048	0.427	1.063591	0.280313	3.794299
22	Zimbabwe	3.136	0.327	0.814507	0.217159	3.750731
23	Kyrgyzstan	2.392	0.24	0.597803	0.165639	3.609061
24	Cameroon	5.282	0.501	1.247914	0.365764	3.411799
25	Sri Lanka	3.66	0.345	0.859342	0.253445	3.390644
26	Comoros	0.36	0.028	0.069744	0.024929	2.797691
27	Madagascar	10.95	0.838	2.087329	0.758258	2.752796
28	Haiti	4.836	0.332	0.826961	0.33488	2.469426
29	Benin	3.472	0.225	0.56044	0.240427	2.331025
30	Bhutan	1.083	0.07	0.174359	0.074995	2.324951
31	Uganda	13.4	0.84	2.092311	0.927914	2.254855
32	Mozambique	15.824	0.963	2.398685	1.095769	2.189042
33	Mali	7.696	0.455	1.133335	0.532927	2.126623
34	Cambodia	7.35	0.372	0.926595	0.508968	1.820538
35	Gambia	0.792	0.04	0.099634	0.054844	1.816682
36	Angola	8.658	0.436	1.086009	0.599543	1.811395
37	Azarbaijan	3.724	0.182	0.453334	0.257877	1.757947

Table 7 continues

Table 7 (con't)
Actual and normative aid shares of aid-receiving poor countries, 1997

No.	Country	Total poverty deficit (from Table 6)	Aid receipt	Actual share in aid received (aid received/aggregate aid received)	Normative share in aid received (total deficit/aggregate total deficit)	Actual aid share/normative aid share
		US$ bn	US$ bn	%	%	
38	Eritrea	2.618	0.123	0.306374	0.181289	1.689973
39	Burkina Faso	8.25	0.37	0.921613	0.57129	1.613214
40	Malawi	7.979	0.35	0.871796	0.552524	1.577843
41	Togo	2.838	0.124	0.308865	0.196524	1.571641
42	Niger	7.84	0.341	0.849379	0.542899	1.564525
43	Ghana	11.407	0.493	1.227987	0.789904	1.554604
44	Chad	5.467	0.225	0.56044	0.378575	1.480395
45	Central African Rep.	2.312	0.092	0.229158	0.1601	1.431344
46	Tanzania	24.806	0.963	2.398685	1.717748	1.396412
47	Sierra Leone	3.696	0.13	0.32381	0.255938	1.265189
48	Yemen	11.899	0.366	0.91165	0.823973	1.106407
49	Moldova	2.376	0.063	0.156923	0.164532	0.953758
50	Tajikistan	3.953	0.101	0.251575	0.273735	0.919049
51	Kenya	18.546	0.457	1.138317	1.28426	0.88636
52	Nepal	17.394	0.414	1.03121	1.204487	0.856141
53	Burundi	5.504	0.119	0.296411	0.381137	0.777701
54	Viet Nam	52.716	0.997	2.483374	3.65044	0.680294
55	Bangladesh	78.4	1.009	2.513264	5.428987	0.462934
56	Ethiopia	51.798	0.637	1.586669	3.586871	0.442355
57	China	174.188	2.04	5.081326	12.06205	0.421266
58	Sudan	19.667	0.187	0.465788	1.361886	0.342017
59	Pakistan	72.0	0.597	1.487035	4.985804	0.298254
60	Turkmenistan	1.512	0.011	0.027399	0.104702	0.261689
61	Congo, Dem. Rep.	42.72	0.168	0.418462	2.958244	0.141456
62	India	608.706	1.678	4.17964	42.15124	0.099158
63	Nigeria	74.808	0.202	0.503151	5.180251	0.097129
	Aggregate	1444.1	24.93			

Note: A 'poor country' is one with a per capita GNP of less than US$1,000.

Source: Based on data in Tables 1 and 6 of this paper.