PERSPECTIVES ON THE PRODUCTIVITY OF FOREIGN AID

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This paper was motivated by three sources of criticism that have been mounted against prevailing programs of foreign assistance. The first of these has questioned the value of the aid itself, alleging that it induces dependency, lack of initiative, and often corruption as well. The second line of attack, somewhat indirect, has focused on the linkage of actual foreign aid to a package of market-oriented policy prescriptions that have been lumped under the term "Washington Consensus", which typically then been roundly condemned by the critics.

The third source might be better labeled disappointment or malaise, rather than outright criticism. It stems from grossly exaggerated expectations of what results can reasonably be expected from foreign aid. Those who express this sort of disappointment are typically not speaking on the basis of close first-hand experience with actual aid projects and programs. Rather, they are asking, why have aid-receiving countries not grown faster? Why are their economies not all just booming? Such laments tend to be heard over the airwaves, or read in the print media, or voiced in academic seminars and legislative debates. This source is nonetheless quite important, because of its connection (often quite direct) to legislative appropriations of foreign aid funds. This paper is

directed more toward this third source of complaint than to the others, but it is definitely relevant to all of them. Its main objective is to give people as good sense of the sort of results that one can reasonably expect from successful programs in foreign assistance.

Few people on any side of the debate would argue that foreign aid had no redeeming features, and perhaps no one at all would argue that no money was badly spent or wasted. Most of those with experience in bilateral or multilateral aid agencies can point to specific examples of poor project design, incompetent management and/or corrupt practices. On the other side they will typically be able to point to projects or programs that were widely recognized as resounding successes. But what are the proportions of such successes and failures? What can we say of the great mass of projects and programs? Here one can dream of careful cost-benefit analyses being carried out for the full range of foreign assistance operations, with resulting precise estimates, perhaps country by country, category by category, and foreign source by foreign source. But such an exercise can live only in our dreams.

As a long-term advocate, practitioner and contributor to the technical literature of economic cost-benefit analysis, I can say without the slightest hesitation that: a) only a fraction of foreign assistance programs and projects are amenable to such a quantification of costs and benefits, b) even among those, there are many for which only a rough judgment is feasible (one cannot afford to spend $2 million assessing the worth of a project whose total cost is only $2 million), c) for many others, even when the project or program as a whole can be carefully evaluated, we might nevertheless have hardly a clue as to the share of benefits to be attributed to that part of the money which came from foreign aid. Some projects or programs partly or wholly financed by aid might otherwise

have nonetheless been undertaken with budgetary or private capital market financing. Yet others would have ended on the ash-heap of aborted ideas, were it not for the ten or twenty percent "sweetener" that was provided through foreign aid. We know such cases exist, but we do not typically know which projects fall into these categories.

I hope that the preceding paragraphs are sufficient to convince readers that we really cannot hope for a complete technical answer to the question of precisely how large were the net benefits of foreign aid. However, there is another exercise that we might perform that has the potential of possibly providing considerable aid and comfort to the critics and opponents of foreign aid. This consists of calculating a target return on foreign aid moneys, and comparing that target return to the actual growth of GDP in each recipient country, or area. Thus, suppose that over a particular period a country had received $10 billion in foreign economic aid. Suppose also that on careful consideration we judged that a 15% annual return on this sum would testify that it was indeed a good, successful investment. These supposed conditions suggest that if the increase in the country's GDP had been, say, only $500 million over the period during which the $10 billion of aid flows came in, this would be a very serious blow to those who claimed that this aid was doing great things. Even if, say, the country's GDP had grown by as much as $2.5 billion, supporters of foreign aid would have to claim that this aid (yielding a 15% real rate of return) was responsible for 60% of the total growth of the country -- leaving only the other 40% to be explained by all the private investment (from domestic and foreign sources), all the increase in the labor force, all the improvements in labor quality through education and training, and all the multiple management initiatives that brought about real cost reductions. One can imagine special cases in which such a 60-40 split

might be plausible, but they would surely be a rarity. Broadly speaking, I believe we should take as presumptive aid failures any cases where, in order to meet a plausible target rate of return, foreign aid would have to account for half or more of a country's total growth. On the other end of the spectrum, I would say that this exercise has nothing bad to say about aid in cases where even with a healthy attributed or target rate of return, foreign aid would have accounted for 10% or less of the total observed GDP growth a period. Under these circumstances it would not be hard to consider that maybe aid had an even healthier rate of return than the target!!

Description of the Exercise

It should already be clear that this exercise is by its nature macroeconomic. Hence it makes sense to look at the sum total of economic aid, regardless of source, rather than try somehow to isolate the contribution of a given source such as USAID. Thus what we are talking about is economic aid from all sources.

The next question is how to distinguish economic aid from other aid (particularly humanitarian), which cannot be reasonably considered as contributing positively to the expansion of a country's GDP. In such matters one is usually at the mercy of those who compile the data, and this case is no exception. Our data on foreign aid came from the OECD credit reporting system. Their data series on foreign aid is of relatively recent origin, with the series on aid commitments beginning in 1995, and the figures on outlays beginning in 2002. Since the objective of the exercise was to cover a substantial time period (if for no other reason that to allow a reasonable time for foreign aid programs and projects to have an effect on GDP), we chose to base our work on the longer (commitments) series, rather than the shorter one on disbursements. The use of data on

aid commitments means that our attributions of target returns will be overstated to the degree by which the commitments exceeded disbursements. This makes our test somewhat "easier to fail", but not in any open-ended way. Actually, for the period (2002-2007) for which we have time series for both, commitments exceed disbursements by only about 20%.

To focus on aid that would likely contribute to economic growth, the following categories were selected (OECD 450 series).

1. Economic Infrastructure and Services

2. Social Infrastructure and Services

3. Production Sectors

4. Multisector/Cross-Cutting

5. Commodity and General Program Assistance.

Left out of our figures (i.e., not included in the OECD 450 series) were

6. Humanitarian Aid

7. Actions Relating to Debt (e.g., forgiveness of old debts that had anyway gone

   unpaid or were still outstanding).

To get an idea of the importance of the left-out items, they together accounted for some 21% of the real cumulative total of foreign aid commitments during 1995-2007.[2]

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[2]

Serendipitously, the percentage accounted for by these left-out items is very close to the percentage difference between commitments and disbursements. Thus one can look at our results as coming close to reflecting our target rate of return times total disbursements (including humanitarian and aid debt relief) instead of as a somewhat overestimate of the impact on GDP of our target rate of return times cumulative aid in the five chosen categories. Of course, this serendipity applies on average across the whole range of countries and years examined. It certainly cannot be relied upon country by country.

Fortunately, the <u>OECD series is directly stated in constant U.S. dollars of 2007 purchasing power,</u> so it was unnecessary to carry out any conversion in the case of the foreign aid figures.

Data for real GDP were taken from the U.S. Department of Agriculture's Economic Research Service. Its series on real GDP by country was expressed in dollars of 2005 purchasing power. These were converted to dollars of 2007 purchasing power using the U.S. GDP deflators for the two years. From the resulting data on real GDP by country, expressed in U.S. dollars of 2007 purchasing power, we obtained: a) the level of real GDP of each country in 1995 and 2008, and b) the <u>increment of real GDP between these years, also for each country</u>.

To get an imputed return that we might plausibly expect on the cumulative real 450 aid that a country received from 1995 through 2007, we applied a 15% rate of expected real return to the cumulative real 450 aid series. The underlying basis for the 15% figure was the 10% real rate of return which has been for many years the World Bank's standard criterion rate of return for most projects submitted by developing countries. That is, this is the rate of discount that is advised to be used in the calculation of a project's expected net present value (in real terms). It is likewise the standard cutoff rate that is used to decide whether an estimated real internal rate of economic return on a project is adequate or not.[3]

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[3]

Readers should be aware that these rates of return are typically higher than the financial rate of return that a project will yield. If the only expected economic benefits and costs of a project are in the form of cash receipts and outlays, then the economic rate of return would be the same as an accountant would calculate, based on outlays and receipts measured in constant dollars. However, few public sector development projects have this "cost-only" characteristic. Typically many of the benefits and often some of the costs as well, do not accrue as cash flows to or from the project authority. Benefits and costs that accrue to others, even to other agencies of government, are not counted as such

We reached the 15% figure by applying a 5% per annum expected rate of real depreciation to the World Bank's standard 10% net rate. Some such adjustment was required because we are looking at the benefits of foreign aid as contributing a part of the observed growth in the country's GDP. It is called gross domestic product because it is gross of depreciation. Hence we have to think of foreign aid's contribution to it as being also gross of depreciation. In gauging the rate of depreciation to be applied one must recognize that foreign aid projects entail investments of widely varying economic lives, so that we must strike an average among depreciation rates of, perhaps, 2 to 3 percent per year for buildings, 5 to 7 percent for machinery, 8 to 12 percent for vehicles, and maybe 20 to 30 percent for computers and similar equipment. Five percent does not represent a careful weighted average of the underlying rates for the wide-ranging combinations of projects and programs that we observe in the packages of foreign aid that countries receive. Rather, it is chosen as a reasonable round number that quite surely does not understate the true relevant rate. Readers can think of a base case of a 10% real rate of return plus a 5% depreciation rate, and a plausible alternative of an 11% real rate of return combined with a 4% depreciation rate.

Results From Tables 1 and 2

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under standard accounting rules. These represent "externalities" that have to be added to the cash flows representing the "financial profile" of a project or program, in order to generate its "economic profile". Examples include: (1) the benefit (to the government) coming from new tax receipts stemming from a project (these are counted as a cost to the project in a financial analysis, but are offset by the government's external benefit in an economic analysis); (2) the earnings forgone by students or trainees engaged in an education or training program (these are not outlays of the project but are genuine costs for the participants); (3) the benefits that users of a road project will perceive in terms of lower maintenance and operating cost, and in terms of time saved as a result of higher speeds on an improved road, or more direct routings on a completely new link in a highway network. A proper economic analysis places values on externalities such as these, and incorporates them into the calculation of net present values and real economic rates of return.

Table 1 seeks to answer the question, how much GDP growth can we reasonably expect to have resulted from total foreign aid commitments (from bilateral and multilateral sources combined) made during the period from 1995 through 2007. The listed countries are the larger ones among aid recipients; they also account for some four-fifths of the aid commitments we are analyzing.

The quick summary from Table 1 is that, on average, a very healthy 15% real gross rate of return on total 450 aid commitments would by 2008 have yielded an annual benefit equal to some 2.2% of the total real GDP growth of the recipient countries, counting that growth all the way from the 1995 base year to the year 2008. Who could say, from a macroeconomic perspective, that it is doubtful that the cumulative total of aid could reasonably have produced this order of magnitude of benefits?

Doubts might begin to enter, however, for a few countries on the Table 1 list. Here we have Bolivia (28.1%), Honduras (21.7%), Afghanistan (24.4%), Paraguay (40.0%), Cameroon (36.1%), Cote d'Ivoire (20.6%), Ethiopia (26.6%), Ghana (20.8%), Tanzania (26.3%), Uganda (24.2%), and Zambia (24.0%). These countries are distinct outliers in terms of the fraction of growth due to foreign aid, but they are also outliers in terms of the total amount of aid they received, as a fraction of their respective GDPs (see Table 3). Nonetheless, these outliers together account for no more than 20% (93.47 billion) of the 466 billion total 450 aid received by the countries listed in Table 1.

Countries not covered in Table 1 are dealt with in Table 2. As indicated there, data are presented for individual countries in cases where only one or two countries in a region were omitted from Table 1. For the other regions the omitted countries are grouped under the rubric "Rest of Region". All these countries are small -- some, like

those in the Oceania region, extremely small. It would clearly take a much more extensive study than the present one to deal with all these cases individually.

Nonetheless, the overall picture for Table 2 is reassuring. Total aid received by the "left out" group altogether was 146.29 billion; its imputed 15% rate of return would therefore be expected to yield 21.94 billion in 2008. This compares with total GDP growth of 793.54 billion for the group, between 1995 and 2008. We therefore impute that a successful use of the region's aid funds would have generated benefits equal to 2.8% (= 21.94÷793.54) of the total observed GDP growth in these "left out" countries. This is only very slightly greater than the 2.2% figure that we obtained for the countries included in Table 1.

Table 2 has its own outliers, of course -- Macedonia (19.4%), Mongolia (26.1%) and the Oceania region taken as a whole (22.8%). But these together account for only a small fraction (15.76 billion out of the Table 2 total of 146.29 billion) of foreign aid received by the group.

Results From Table 3

Table 3 expresses cumulative 450 foreign aid received by a country as a percentage of that country's 2008 GDP. This is done for the countries covered in Table 1. The purpose of Table 3 is to emphasize how it is pretty hard to expect major changes in a country's growth rate from a source which over a 13 year period has contributed cumulatively, say, 26% of a year's GDP. That represents just 2% of GDP, on average, per year. At a 15% real rate of return that would contribute 0.3% to the country's annual growth rate. Accumulated over 13 years that comes to about 4 percentage points of GDP -- it is thus a reasonable expectation for a successful foreign aid program to make

something like a 4% difference in a country's 2008 GDP, based on annual foreign and amounting to something like 2% of the receiving country's GDP. Yet we see that 36 of the 54 countries shown in Tables 1 and 3 received less than this amount of aid. Eight countries had aid receipts of between 2 and 4 percent of GDP per year during the 1995 through 2007 interval. Just five countries received between 4 and 6 percent, and another five over 6% of GDP in foreign aid. Even for these latter countries, a successful impact of this aid on economic growth would be in the order of six-tenths of a percentage point per year (for aid amounting to 4% of GDP per year), and nine-tenths of a percentage point for aid amounting to 6% of GDP per year).

Postscript

The big question is, of course, how can the legislators who vote for foreign aid, and the voters who elect them be brought to understand what constitutes a good, successful aid performance? I believe that those in the foreign aid community have a certain degree of responsibility to communicate the major message that a 15% gross-of-depreciation rate of return on aid funds (measured in terms of impact on GDP) is a really fine performance. Especially so when many projects and programs within the OECD 450 series have numerous other benefits, above and beyond their effect on GDP. The task of convincing the broad public of what might be called "sensible dimensions on the effects of foreign aid" is indeed a major challenge facing the practitioners of and believers in foreign assistance.

TABLE 1[a]

Fraction of Actual GDP Growth That Would Result From A

15% Real Rate of Return on Foreign Aid Commitments

(Billions of 2007 U.S. Dollars except for col. (4))

	(1) Cumulative 450 Aid 1995-2007	(2) Imputed 15% Return[b] on Col. (1)	(3) Change in GDP 1995-2008	(4) Ratio (2)÷(3)
Balkans				
Albania	4.29	.64	7.46	.086
Croatia	1.95	.29	18.97	.015
Serbia	10.29	1.54	4.54	.340
	16.53	2.47	30.97	.080
Former Soviet Union				
Azerbaijan	2.54	.38	26.62	.014
Georgia	3.31	.50	6.33	.079
Kazakhstan	2.40	.36	58.91	.006
Uzbekistan	2.31	.35	10.96	.032
	10.55	1.59	102.82	.016
Latin America				
Argentina	1.59	.24	100.00	.002
Bolivia	8.40	1.26	4.48	.281
Brazil	4.16	.62	380.93	.002
Chile	1.09	.16	83.00	.002
Colombia	8.41	1.26	51.29	.025
Costa Rica	1.21	.18	13.01	.014
Dominican Republic	2.16	.32	20.37	.016
Ecuador	2.96	.44	12.47	.036
El Salvador	2.88	.43	6.46	.067

[a]Covers countries with real 2008 GDP of over $10 billion U.S. dollars of 2007 purchasing power and with cumulative 450 aid of over $1 billion.

[b]Gross of depreciation rate of return.

Continued

Table 1 (continued)

	(1) Cumulative 450 Aid 1995-2007	(2) Imputed 15% Return[b] on Col. (1)	(3) Change in GDP 1995-2008	(4) Ratio (2)÷(3)
Latin America (cont.)				
Guatemala	3.54	.53	15.53	.034
Honduras	6.04	.91	4.17	.217
Jamaica	1.15	.17	1.01	.172
Mexico	2.73	.41	330.90	.001
Paraguay	7.28	1.10	2.75	.400
Peru	7.04	1.06	50.72	.021
	60.44	8.18	1077.69	.008
Middle East				
Iraq	27.70	4.16	94.27	.044
Jordan	4.74	.71	7.55	.094
Lebanon	2.50	.38	6.55	.057
Syria	1.76	.26	15.29	.017
Turkey	9.20	1.38	202.75	.007
	45.90	6.85	326.41	.021
South Asia				
Afghanistan	15.25	2.29	9.54	.240
Bangladesh	21.91	3.29	36.13	.091
India	44.92	6.74	616.47	.011
Pakistan	14.28	2.14	70.11	.031
Sri Lanka	9.32	1.40	16.08	.087
	95.68	15.86	748.33	.021
North Africa				
Algeria	3.56	.53	48.07	.011
Egypt	17.58	2.64	67.51	.039
Morocco	11.37	1.71	24.60	.064
Tunisia	6.68	1.00	16.98	.059
	39.19	5.88	159.16	.037
Southeast Asia				
Indonesia	24.28	3.64	157.82	.023
Malaysia	3.09	0.46	82.30	.006
Philippines	12.21	1.83	57.13	.032
Thailand	8.31	1.25	79.97	.010
Viet Nam	29.23	4.38	45.72	.096
	77.12	11.56	422.94	.037

Table 1 (continued)

	(1) Cumulative 450 Aid 1995-2007	(2) Imputed 15% Return[b] on Col. (1)	(3) Change in GDP 1995-2008	(4) Ratio (2)÷(3)
Sub-Saharan Africa				
Angola	3.18	.48	57.00	.008
Botswana	1.04	.16	5.19	.030
Cameroon	19.82	2.97	8.32	.361
Cote d'Ivoire	4.26	.64	3.11	.206
Ethiopia	14.69	2.28	8.28	.266
Ghana	10.69	1.60	7.72	.208
Kenya	11.07	1.66	12.09	.137
Nigeria	9.71	1.46	65.39	.022
South Africa	9.64	1.45	105.82	.014
Sudan	3.52	0.53	25.85	.020
Tanzania	3.56	2.04	7.75	.263
Uganda	10.60	1.59	6.56	.242
Zambia	8.13	1.22	5.08	.240
	109.91	15.86	318.16	.050
Table 1 Totals	466.01	69.90	3186.48	.022

TABLE 2[a]

Fraction of Actual GDP Growth That Would Result From A

15% Real Rate of Return on Foreign Aid Commitments

(Billions of 2007 U.S. Dollars except for col. (4))

	(1) Cumulative 450 Aid 1995-2007	(2) Imputed 15% Return[b] on Col. (1)	(3) Change in GDP 1995-2008	(4) Ratio (2)÷(3)
Balkans				
Macedonia	2.64	.40	2.04	.194
East Asia				
Mongolia	2.61	.39	1.50	.261
Latin America/Caribbean				
Total Region	72.87	10.93	1198.7	.009
From Table 1	60.94	8.18	1077.1	.008
Rest of Region	11.93	2.75	121.6	.023
Middle East				
Total Region	58.50	8.78	749.19	.012
From Table 1	45.90	6.85	326.41	.021
Rest of Region	12.60	1.93	422.78	.005
South Asia				
Bhutan	1.01	.15	.94	.160
Nepal	8.86	1.03	3.43	.300
North Africa				
Libya	0.08	.01	29.94	.000
Oceania				
Region	10.51	1.58	6.92	.228

[a]Covers countries left out of Table 1. If a region has one or two of these, their data are shown individually. Otherwise, they are shown as "Rest of Region".

[b]Gross of depreciation rate of return.

Table 2 (continued)

	(1) Cumulative 450 Aid 1995-2007	(2) Imputed 15% Return[b] on Col. (1)	(3) Change in GDP 1995-2008	(4) Ratio (2)÷(3)
Southeast Asia				
Region	87.46	13.12	538.98	.024
From Table 1	77.12	11.56	422.94	.037
Rest of Region	10.34	1.56	116.04	.014
Sub-Saharan Africa				
Region	195.62	29.34	406.51	.072
From Table 1	109.91	15.86	318.16	.050
Rest of Region	85.71	13.48	88.35	.066

TABLE 3

Cumulative Foreign Aid (1995-2007) As a Percentage of GDP

(Billions of 2007 U.S. Dollars, Except for col. (3))

	(1) Cumulative 450 Aid 1995-2007	(2) Level of GDP 2008	(3) (1) as a Percentage Of (2)
Balkans			
Albania	4.29	14.94	28.6%
Croatia	1.95	46.46	4.0%
Serbia	10.29	12.78	80.5%
	16.53		
Former Soviet Union			
Azerbaijan	2.54	32.98	8.0%
Georgia	3.31	10.46	32.0%
Kazakhstan	2.40	103.31	2.4%
Uzbekistan	2.31	21.74	10.6%
	10.55		
Latin America			
Argentina	1.59	278.87	0.7%
Bolivia	8.40	12.50	66.0%
Brazil	4.16	1222.05	0.4%
Chile	1.09	193.56	0.2%
Colombia	8.41	157.50	5.3%
Costa Rica	1.21	27.56	4.7%
Dominican Republic	2.16	37.49	5.6%
Ecuador	2.96	43.04	6.7%
El Salvador	2.88	20.83	14.0%
Guatemala	3.54	41.54	8.7%
Honduras	6.04	10.90	55.3%
Jamaica	1.15	10.18	11.3%
Mexico	2.73	911.37	0.3%
Paraguay	7.28	10.87	66.7%
Peru	7.04	118.21	6.0%
	60.44		

Table 3 (continued)

	(1) Cumulative 450 Aid 1995-2007	(2) Level of GDP 2008	(3) (1) as a Percentage Of (2)
Middle East			
Iraq	27.70	247.06	11.3%
Jordan	4.74	16.57	28.7%
Lebanon	2.50	23.18	10.7%
Syria	1.76	41.23	4.3%
Turkey	9.20	476.91	2.0%
	45.90		
South Asia			
Afghanistan	15.25	16.13	94.7%
Bangladesh	21.91	71.74	30.7%
India	44.92	1074.53	4.0%
Pakistan	14.28	158.42	9.3%
Sri Lanka	9.32	34.39	27.3%
	95.68		
North Africa			
Algeria	3.56	127.11	2.7%
Egypt	17.58	140.67	12.7%
Morocco	11.37	64.64	17.3%
Tunisia	6.68	35.25	18.7%
	39.19		
Southeast Asia			
Indonesia	24.28	443.03	5.3%
Malaysia	3.09	176.22	1.8%
Philippines	12.21	150.80	8.2%
Thailand	8.31	235.63	3.5%
Viet Nam	29.23	76.01	38.7%
	77.12		
Sub-Saharan Africa			
Angola	3.18	77.78	4.0%
Botswana	1.04	11.06	9.3%
Cameroon	19.82	19.82	100.0%
Cote d'Ivoire	4.26	18.40	23.3%
Ethiopia	14.69	14.84	98.7%
Ghana	10.69	16.22	66.7%

Table 3 (continued)

	(1) Cumulative 450 Aid 1995-2007	(2) Level of GDP 2008	(3) (1) as a Percentage Of (2)
Sub-Saharan (cont.)			
Kenya	11.07	26.59	41.3%
Nigeria	9.71	144.79	6.7%
South Africa	9.64	295.69	3.3%
Sudan	3.52	43.68	8.0%
Tanzania	3.56	15.12	23.3%
Uganda	10.60	12.14	87.3%
Zambia	8.13	12.58	64.7%
	109.91		