The Pakistan Development Review
36 : 4 Part II (Winter 1997) pp. 947—957

Has Aid Helped in Pakistan?

SHAHRUKH RAFI KHAN

This paper has a two-fold objective: first, to examine the terms on which Pakistan receives aid and whether its debt situation is sustainable, and second, to examine the impact of aid and debt on economic growth. It is found that there is little encouraging that can be said about how the terms on which Pakistan has received aid over time have changed, and its current debt situation is not sustainable. Also reported is the analysis done elsewhere which shows that aid has a negative (Granger) causal impact on GDP, and aid has a robust negative impact on economic growth after controlling for supply-side shocks. We provide various reasons for this negative association.

1. INTRODUCTION

Aid theory in early years of thinking on economic development was straightforward. The developing countries were perceived to be in need of substantial investments in infrastructure and capital which could not be financed internally. According to the traditional two-gap theory, aid was necessary to bridge both the savings-investment gap and the trade gap in developing countries and was thus considered indispensable. Aid was advocated for establishing the preconditions for growth by strengthening institutions and building infrastructure and for enhancing growth via resources for investment. The increase in economic activity generated by aid supported investments was expected to increase output growth, eventually generating enough income to render aid superfluous.

Ridell (1987) and White (1992) present rich reviews of the long and as yet unresolved debates. For applied economists, the message is that most attempts at assessing the impact of aid on saving, investment and growth suffer from various flaws. These include unresolved theoretical issues, faulty data, particularly for cross-country analysis, specification errors that call into question the scientific rigor of the findings and the difficulty in modelling the mechanisms via which aid actually impacts various macroeconomic variables including growth.[1]

These reviews and the conclusions they reach would give pause to applied economists seeking to empirically test the aid-growth association as we do in this paper. We proceed because our contention is that causality and sensitivity tests, that have been used elsewhere, can make a contribution to the empirical debate on the association of aid with economic growth. The method used in this paper is straightforward and time

Shahrukh Rafi Khan is Executive Director, Sustainable Development Policy Institute, Islamabad.

Author's Note: Thanks are due to Safiya Aftab, Tariq Banuri, and Zia Mian for useful comments. Our analysis dealt with economic aid, since no data on military aid were available.

[1]Empirical research in Pakistan by Kemal (1992); Chisti and Hasan (1992); Khan and Rahim (1993) and McGillivray, White and Ahmad (1994) are subject to the same critique.

series data for other countries are readily available in the sources cited; thus the research done for this paper could easily be replicated for other countries, given the availability of some specific country knowledge.

In the next section, we review how the terms of aid have been changing over time in Pakistan. In the third Section three, we present the findings and we end with a discussion of the findings.[2]

2. AID TERMS AND STRUCTURE OF DEBT

While Pakistan's foreign debt is large (20.4 billion in 1993 in nominal terms), and has been growing rapidly (at an annual average rate of 7.8 percent between 1972 to 1993), in a cross country perspective it is still modest. Pakistan's total long term debt in 1992 was 57 percent below what one might expect it to be given its per capita GDP (in purchasing power parity terms) and population.[3] However, other than this, there is little encouraging that can be said about the current change in Pakistan's debt situation and about how the terms on which Pakistan receives aid over time have changed.

Concessional aid as a percentage of the total has declined, the average interest rate has increased, the maturity period has decreased, the net transfer has decreased and the grant element has decreased. Thus Pakistan's debt, the debt/GDP ratio, debt/export ratio and debt-service ratio have increased, particularly since 1987-88 when the more intensive phase of the structural adjustment period started. In the summary tables below, we present evidence to back these statements. Our analysis here covers the period 1972-73 to 1992-93.[4]

As mentioned above, Table 1 shows that the terms on which Pakistan has received

Table 1

Terms of Debt

Years	Average Interest Rate	Average Market Interest Rate[@]	Average Maturity Period (Years)	Average Grant Element	Concessional Aid as a % of Total
1972-73 to 1976-77	4	na	28	48	73
1977-78 to 1987-88	5	11.2	27	42	69
1988-89 to 1992-93	5	6.7	22	37	56

Source: *World Debt Tables*, World Bank.

Notes: @ = LIBOR for one year $ deposits (*International Financial Statistics Yearbook 1994*, IMF, Washington, D. C., p. 96).

[2]To meet space requirements, the details of the analysis and tables are not reported, but are available on request from the author.

[3]This result is based on the fitted value and residual of a cross-country regression using a sample of 49 LDCs, with long term debt as the dependent variable and population, population squared and GDP in purchasing power parity terms as predictor variables.

[4]The period after the creation of Bangladesh.

aid over time have worsened across the board. The average maturity period of loans, grant element in loans and concessional aid as a percentage of the total have all declined. The average interest rate on which loans are contracted increased by one percentage point at a time when market interest rates were declining. Thus in the 1988-89 to 1992-93 period, the loans are contracted at only two percent below the market interest rate down from 6 percent below in the 1977-78 to 1987-88 period.

With the worsening of the terms of the debt, one would expect the debt ratios to rise and debt indicators to worsen, particularly when the debt stock was increasing. This is evident from Table 2 below.

Table 2

Debt Ratios and Debt Indicators

Period	Average Debt-GNP Ratio	Average Debt Service-export Ratio	Average Net Transfer (Billion $)	Average Net Transfer as a % of GNP.	Nominal End Period Debt [@] (Billion $s)
1972-73 to 1976-77	57	0.21	0.51	5.08	6.8
1977-78 to 1987-88	42	0.20	0.16	0.87	13.9
1988-89 to 1992-93	48	0.24	0.14	0.30	20.4

Source: World Bank, *World Debt Tables*.

Notes: @ = End period is the last year of the period in question. For-example, for the 1972-73–1976-77 period, the end period year is 1976-77. For trended variables, such as debt, end-period numbers rather than period averages often give a better picture of the existing situation and how it has changed over time.

The debt-GNP ratio was exceptionally high in the 1970s, partly due to lower GNP growth rates. It rose 6 percent since 1988-89, which represents the start of the intensive bouts of structural adjustment, compared to the earlier sub-period. While debt has been steadily mounting (from $6.8 billion in 1977 to $20.4 billion in 1993), the net transfer (gross-inflows minus principal and interest payments) has rapidly declined. Thus, it declined from a substantive 5.1 percent of GNP in the 1972-73–1976-77 period to 0.3 of one percent in 1988-89–1992-93 period.

Sustainable debt management is possible if the likely trajectory of resource inflows will exceed or at least converge on the likely trajectory of resource outflows. The important outflows are imports and debt servicing and the important inflows are exports and remittances. Based on these flows, we compared debt servicing with the sum of remittances and export revenues minus the import bill. As a percentage of the GNP, this sum amounted to a negative 32.9 percent in the first period (1972-73–1976-77), improved to 3.10 percent (due to remittances) in the second period (1977-78–1987-88) but worsened again to 24.9 percent in the third period (1978-79–1992-93). The worsening of this inflow/outflow balance resulted from both a decline in remittances and the worsening of the balance of trade. The result is that Pakistan is now in a non-

sustainable situation with regards to managing its debt comfortably.

Given this analysis and the changing terms under which Pakistan is receiving aid, there is every likelihood that the debt/GDP ratio will continue to rise. Pakistan is in an all too familiar situation—as the country's dependence on foreign aid increases, the terms and conditions of aid inflows are becoming all the more stringent. Not only does debt repayment threaten to become "an exchange rate drag" in perpetuity,[5] the conditionality under which aid has been received since the later 1980s has also become more extensive and more stringent.[6] The total debt and debt ratios should be expected to improve over time if the aid, as the original theory suggested, enhanced growth and enabled the debt to be retired.

3. FINDINGS

We used two simple approaches to test the association of aid and output.[7] The first was to test for the Granger causality between aid and economic growth.[8] The second was to estimate the association of aid on economic growth in a standard growth model and rigorously test, via a sensitivity analysis proposed and used by Levine and Renalt (1992), to see if the coefficient of aid was robust.

The result of the Granger causality tests indicated that higher GDP did not Granger cause higher aid but that aid negatively Granger caused GDP. This finding was not sensitive to the lag-length and suggested that a ten percent increase in aid is associated with a 0.4 percent decline in GDP.

The results from estimating the growth equation support these findings. We added subsets of the conditioning variables (two variables at a time) to the base regression equation with capital, labour and aid and estimated twenty-one augmented growth equations.[9] These conditioning variables include size of exports as a percentage of GDP as a proxy for openness, foreign direct investment, inflation, size of industry, terms of trade, age dependency ratio and total debt stock as a percentage of GDP. We found aid to have a negative and highly significant coefficient irrespective of the conditioning variable combination used.[10] Also, the base aid-output elasticity coefficient was 0.04. This elasticity

[5]By this we mean that Pakistan will continue to have to push export growth, which gives a articular slant to the economy, and turn over the foreign exchange earnings as debt repayment.

[6]See chapter five of eds. Banuri, Khan and Mahmood (1997) for an account of these onditionalities and their social and economic impact.

[7]Our interest is in the impact of aid, as an aggregate variable, on economic growth. This is because policy leverage is conditional on the sum of loan and grant aid. Nonetheless, we also explored the separate impact of grants (with and without technical assistance) on economic growth. We explored the robustness of the association between aid and economic growth and not the channels via which aid can affect growth. Mosley, Hudson and Horrel (1987) model the channels via which aid can influence growth.

[8]Granger (1969).

[9]We used two conditioning variables at a time because of the small sample.

[10]The results of the base regression were much weaker when only grants (with or without technical assistance) was used instead of the aid variable. Also, the results were much weaker when aid was included in the base regression contemporaneously.

varied from a high of 0.06 to a low of 0.03. The sensitivity test showed that our finding of a negative and significant association of aid with growth was robust.[11] Nevertheless, due to the small sample size, we can only view these results as suggestive.

The debt/GDP ratio was not a robust variable. Fry (1992) showed that the debt/GDP ratio in excess of 50 percent has a negative impact on economic growth due to capital flight and a decline in the quantity and efficiency of investment.[12]

While we did not have data to estimate sector production functions, we were able to correlate project aid to the agricultural and industrial sectors with output in these sectors for the period 1972-73 to 1987-88. These sectors combined accounted for about a third of total cumulative project aid over this period, with industry drawing about double the amount drawn by agriculture.[13] Both partial correlation coefficients were very low and insignificant when aid was used as a contemporaneous variable. Aid lagged one period had a positive correlation with the agricultural sector (.48) which was significant at the 10 percent level but with industry it was negative (–.37) and insignificant.[14] While the agricultural coefficient is positive, as a partial correlation coefficient it is low and only weakly significant. Thus there is little support for aid effectiveness even with sectoral disaggregation.

4. DISCUSSION AND CONCLUSION

There is little about the aid/debt scenario for Pakistan that is positive. With the intensive period of structural adjustment in the late 1980s, the debt/GDP ratio and the debt service/export ratio rose compared to the mid-1970s to late 1980s period. Concessional aid as a percentage of the total has fallen, the average interest rate is higher, the maturity period is lower and the grant element is lower. Thus not only is Pakistan heavily in debt, but also, the changing terms of the debt are going to make it much harder to get out of the debt trap.

The harsher terms on which Pakistan gets aid make the debt trap more formidable as does the economics of the aid-growth nexus. At first, our findings about the negative Granger causal effect of aid on GDP and the statistically robust negative impact of aid on economic growth may appear odd. In fact, one could argue that these results imply that Pakistan would be progressively better off the more of its resources it gifted to another country. But such an argument represents a fundamental misunderstanding about the nature of aid. Aid represents a package including policy parameters such as prescriptions about fiscal, trade and exchange rate policy. Had these policies suited Pakistan's economic environment, aid would have positively impacted

[11]An advantage of the co-integration analysis which we utilised is that it helped in avoiding spurious results.

[12]See Table 1 for Pakistan's debt/GDP ratio.

[13]Cassen *et al*. (1990), Annex, Tables and Bibliography, Table 10-z.

[14]The contemporaneous and one period lagged aid correlation coefficient was .32 ($p = .23$) and .48 ($p = .07$) with agricultural output and –.14 ($p = .59$) and –.36 ($p = .18$) with industrial output.

GDP growth. Another way of looking at this is to expect the debt/GDP ratio to fall if aid was really successful. Table 2 shows that while this ratio declined in the late-1970s to the late 1980s, it rose again from the late 1980s to the early 1990s reflecting Pakistan's inability to retire its debt. Co-incidently, this represents a period of intensive structural adjustment. There are several factors that could neutralise the effectiveness of aid. Aid goes to the public sector and blockages, inefficiency, misuse and leakage are likely to reduce the effectiveness in the use of these resources as is the case with other public sector expenditures. Additional reasons identified in the literature include project selections biased towards prestigious but economically unsound large projects, foreign exchange intensive projects and infrastructure rather than productive projects.[15] The lack of government-donor and intra-donor co-ordination could similarly reduce the effectiveness of aid.[16] As is well known, much aid returns to the country of origin in the form of expensive consulting contracts.[17] Similarly, the effectiveness of aid can be reduced by "tying" agreements calling for the purchase of equipment and materials from donors at costs much more than cheaper alternatives of similar quality.[18]

The above factors explain why aid may not be as effective as it might otherwise be. For the negative association, one can turn to the earlier literature on the negative aid saving association. This literature has been reviewed in detail in the surveys by Ridell (1987) and White (1992) referred to earlier. Prominent advocates of this negative association include Griffen and Enos (1970) and Weisskopf (1972). Using a two stage least square model with growth estimated in the first stage and the fitted growth used in a saving function in the second stage, we also identified a negative association of official transfers and the saving rate between the 1971 and 1990 period. However, the magnitude of the effect was extremely small and, besides that, the saving equation was not cointegrated.

In general, the negative aid-saving association may be one of the channels explaining the negative aid-growth association. However, other factors have also been identified in the literature as possible explanations. That there is a short-run recessionary impact of adjustment policies is unlikely to be questioned by any economist. In addition, aid and debt leads to a destructive "foreign exchange drag". As noted by [Cassen *et al*. (1990), p. 1.16], debt repayment represents an outflow of free standing foreign exchange in contrast to the conditional and tied inflow of foreign exchange that aid represents. Further, foreign exchange, relatively easily available in the short run, can induce the "dutch disease" syndrome (making exports non-competitive due to the artificial appreciation of the exchange rate). Finally, the negative

[15][Ridell (1987), pp. 114].

[16][Cassen *et al*. (1990)].

[17][Cassen *et al*. (1990), p. 2A.9] report that consulting draws away about 10 percent of all aid in Pakistan.

[18][Cassen *et al*. (1990), p. 1.50] speculate, based on the findings of an earlier study, that "tying" increases the cost of procurement in Pakistan by about 30 percent.

impact of commodity aid on local production has been discussed in the literature.[19]

Surprisingly, the notion of aid to the public sector inducing inefficiency by providing a soft-budget constraint has not been discussed in the literature. This concept was originated by Kornoi (1986) and is widely viewed as an important explanatory factor in the failing of socialist economies. The extension of this concept to aid-recipient governments seems quite self-evident, and this may be the most important explanatory factor in explaining the negative growth-aid association.

The public choice literature which discusses inefficient rent-seeking and empire building also provides a rationale for this association in so far as aid enables inefficient administrative structures to survive. The realisation for the need for accountable government has not yet translated into effective institutional reform.

The reasoning above and our findings show that it is possible to rule out the counter factual that matters may have been even worse without aid. Given the negative Granger causal effect of aid on GDP and the robust negative and significant statistical association of growth and aid, one can only expect Pakistan to get more and more indebted. As earlier mentioned, our method explores an aggregate association. Our findings thus are not inconsistent with the existence of effective (where the benefits out-weigh the costs) donor programmes and projects initiated by bilateral and multilateral aid agencies.[20] Also, it is possible that we have identified a negative association in the "second phase" of aid receiving whereas in the "first phase" of aid receiving, on more generous terms, the infrastructure basis of later growth may have been established.

If aid in the aggregate sense is "bad", why does Pakistan continue to solicit it? While aid may have a negative impact on the economy, it could benefit at least some of those who decide whether or not to solicit it. Even if one can rule out overt vested interests, aid represents the path of least resistance. Policy-makers in Pakistan jump from managing one crisis to the next one and grasp at whatever straws they can in the process, no matter how harmful they are in the long run. Furthermore, sensible long run policies are not avoided because they inflict pain on the poor. Pakistan's policy-makers have shown themselves quite adept at testing these limits. Sensible long run policies are avoided because they inflict pain on the elites.

The only alternative to aid is to raise revenues internally and to institute just economies in expenditures. But this would mean sensible long run policies like tax reform, including closing exemptions and other tax loopholes, asking legislators to start taxing their agricultural incomes and the cutting of luxurious expenditures by

[19]Commodity aid was about a quarter of total non-military aid in 1987-88, the latest year for which such disaggregated data are available. [Cassen *et al*. (1990), Annex, Tables and Bibliography, Tables 2z and 6z].

[20]For examples, see Cassen *et al*. (1990), pp. 1.12–1.22.

politicians and the civil and military bureaucracies at state expense. The issue of peace and cutting the military budget has also been raised many times by others. This and other economies are now more necessary than ever.

REFERENCES

Banuri, T., S. R. Khan, and M. Mahmood (eds) (1997) *Just Development: Protecting the Vulnerable and Promoting Growth*. Karachi: Oxford University Press.

Cassen, R., and Associates (1986) *Does Aid Work*? New York: Oxford University Press.

Cassen, R., A. Duncun, S. Guisinger, E. Hooper, and O. Noman (1990) *The Effectiveness of Aid to Pakistan.* Islamabad: Economic Affairs Division. Pakistan and UNDP.

Chishti, S., and M. A. Khan (1992) Foreign Aid, Defence Expenditure and Public Investment in Pakistan. *The Pakistan Development Review* 31:4 895–908.

Edwards, S. (1993) Openness, Trade Liberalisation and Growth in Developing Countries. *Journal of Economic Literature* 31: 1358–1393.

Fry, M. J. (1992) Some Stabilising and Destabilising Effects of Foreign Debt Accumulation in Developing Countries. *Economic Letters* 39: 315–321.

Granger, C. W. J. (1969) Investigating Causal Relations by Econometric Methods and Cross-sectoral Methods. *Econometrica* 37: 424–438.

Griffen, K. B., and J. L. Enos (1970) Foreign Assistance, Objectives, and Consequences, *Economic Development and Cultural Change* 18: 313–327.

International Monetary Fund (1994) *International Financial Statistics.* Washington, D. C.: IMF.

Levine, R., and D. Renelt (1992) A Sensitivity Analysis of Cross-country Growth Regressions. *American Economic Review* 82: 942–963.

Kemal, A. R. (1992) Self-reliance and Implications for Growth and Resource Mobilisations. *The Pakistan Development Review* 31:4 1101–1110.

Khan, N. Z., and E. Rahim (1993) Foreign Aid, Domestic Saving and Economic Growth, 1960–1988. *The Pakistan Development Review* 32:4 1157–1167.

Kornai, J. (1986) The Soft Budget Constraint. *Kyklos* 39: 3–30.

McGillivray, M., H. White, and A. Ahmed (1994) Evaluating the Effectiveness of Structural Adjustment Policies on Macroeconomic Performance: A Review of the Evidence with Special Reference to Pakistan. Paper prepared for presentation at AERC/Goethe Conference on Political and Socioeconomic Consequences of Policy-based Lending, Karachi.

Mosley, P., J. Hudson, and S. Horrell (1987) Aid, the Public Sector, and the Market in Less Developed Countries. *Economic Journal* 97: 616–641.

Ridell, R. C. (1987) *Foreign Aid Reconsidered*. London: Johns Hopkins University Press.

Sims, C. A. (1972) Money, Income, and Causality. *American Economic Review* 62: 540–552.

Weisskopf, T. E. (1972) The Impact of Foreign Capital Inflows on Domestic Saving in Underdeveloped Countries. *Journal of International Economics* 2: 25–38.

White, H. (1992) The Macroeconomic Impact of Development Aid: A Critical Survey. *Journal of Development Studies* 28: 163–240.

Comments

The paper presented by Shahrukh Rafi Khan addresses the most important economic problem Pakistan is facing currently. The question he has raised is whether foreign aid is useful or detrimental to economic growth in Pakistan. Using standard regression analysis, the author shows that growth in foreign aid in a year results in reduced rate of economic growth in the same year. The results also show that the negative effect of the growth rate of aid on the GDP growth rate is not very sensitive to various conditioning variables included in the regression equation, one at a time.

These results are in sharp contrast to the traditional view that foreign aid contributes to economic growth. The author provides several convincing arguments to explain the negative association between aid and growth. One of the main arguments is that aid can contribute to economic growth when it is assumed that parameters of the economy remain unchanged. Since aid is usually contracted as a package that includes specific policy prescriptions, such an assumption is unrealistic. According to the author, some other factors that can neutralise the contribution of aid to economic growth include mismanagement, inefficiency, and leakages in the utilisation and allocation of aid. Thus, the paper does an excellent job in explaining the results and concludes that the presumed positive contribution of foreign aid to economic growth is based on misperceived assumptions that do not hold in reality.

While the paper addresses the core issue of the current debt problem in Pakistan and the conclusions reached are plausible, I have a few observations on the way the relationship between aid and growth is structured in the theoretical part of the paper. As the author has mentioned in the introduction, the relationship between aid and growth is quite complicated. The model developed in the paper, however, does not provide sufficient theoretical underpinnings that can be linked to the observations. In my opinion, the econometric approach adopted in the paper is inappropriate to address the problem at hand.

Whether aid is good or bad for the economy is an inter-temporal problem. When the focal point of analysis is economic growth, the relationship could be framed in a better way around a dynamic structure. This is how the literature treats the problem. The traditional dynamic models of, for example, Kemp and Hamada or the gap models can be easily modified to consider the effects of changing parameters (for example, due to inefficiency or policy prescriptions) on the relationship between aid and growth. Using a straight-line relationship between aid and growth can at best be a crude approximation.

An alternative framework of analysis could be to trace the effect of aid injections on the time paths of the key parameters that affect the savings rate and

productivity and then determine the effect of the latter on the time path of growth rate. Such an analysis is more likely to expose the complex relationship between aid and growth. For example, one can determine the timing of the turning-points when the nature of the relationship is altered in a fundamental way.

Despite the above observations, it is difficult to understate the contribution of this paper to the understanding of a complex problem. An important contribution of the paper is that, despite being a quantitative exercise, it relates the results with some of the well-known qualitative issues relating to aid, which are often discussed but seldom incorporated in formal economic modelling exercises.

Eatzaz Ahmad

Quaid-i-Azam University,
Islamabad.