

Government Policy and the Effectiveness of Foreign Aid

Robert G Murphy
Department of Economics, Boston College

Nicholas G Tresp
UBS Investment Bank

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Abstract

This paper reconsiders the role of economic policy in determining the effectiveness of foreign aid for generating economic growth in developing countries. We update and modify the data set originally used by Burnside and Dollar (2000) in order to more fully consider the critique presented by Easterly et al. (2004). Our findings suggest that the relationship among foreign aid, government policy, and economic growth is tenuous and depends importantly on the subset of countries included in the analysis. Good policy enhances the effectiveness of foreign aid in spurring growth when we use the original set of countries included in Burnside and Dollar, but this relationship disappears for an expanded set of countries. Because the relationship among aid,

1 Introduction

Over the past 40 years, many papers have explored the role of foreign aid in spurring economic growth for developing countries. The findings of this extensive literature are mixed, with some authors arguing that aid has been effective in stimulating growth and others arguing for a much less sanguine view.¹ A firmer consensus, however, has emerged regarding the importance of economic policies as a determinant of growth. Countries with sound economic policies have generally experienced better economic performance.²

In a seminal paper, Burnside and Dollar (2000) build upon the consensus that policy is important for growth by investigating the role of economic policy in determining the effectiveness of foreign aid. Their findings suggest that aid conditioned on good policy does raise growth in developing economies.

The Burnside and Dollar results have generated a number of subsequent papers that also examine the aid-policy-growth relationship.³ These papers have considered variations and extensions of the Burnside and Dollar methodology. Some of these papers have supported Burnside and Dollar's findings while others have rejected them. Recent work by Easterly et al. (2004) stands out from these papers by using the same specification as Burnside and Dollar and only updating and expanding the data sample. Easterly et al. find that the role of policy in determining the effectiveness of foreign aid disappears when additional countries are added to the sample.

¹For the early debate on this issue, see Chenery and Strout (1966, 1968), Papanek (1972, 1973), and Newlyn (1973). See Boone (1996), Easterly (2003), Hansen and Tarp (2000), and Levy (1987) for more recent assessments.

²See, for example, Sachs and Warner (1995), Fischer (1993), Easterly and Rebelo (1993).

³For some examples, see, Dalgaard and Hansen (2001), Dalgaard et al. (2004), Guillaume and Chauvet (2001), Hansen and Tarp (2001), and Lensink and White (2001)

In this paper, we extend the work of Burnside and Dollar (2000) by updating their data set and exploring alternative formulations of how aid, policy and economic growth might be related. Our purpose is two fold. First,

The data used by Burnside and Dollar begin in 1970 and end in 1993. They compute average growth rates over successive four-year periods and match these with averages of the explanatory variables. This helps to lessen the influence of short-term fluctuations in growth that are not related to longer-term forces. Easterly et al. (2004) subsequently updated the data through 1997. We extend their data through 2001 and we revise the earlier data using the latest sources. One difference between our data and Burnside and Dollar's (and Easterly et al.) is that we use net official development assistance, which includes both grants and loans, as our aid variable instead of effective development assistance, which includes grants and only the concessional part of loans. The aid series used by Burnside and Dollar was computed by Chang (1999) and has not been updated beyond 1995. Easterly et al. extrapolated effective development assistance for an additional 2 years, through 1997, using its correlation with official development assistance. We chose not to extend this extrapolation through 2001, the end period of our data, out of concern that extrapolating out six years was pushing the limits of a simple approach.⁶

In Table 1, we present results from estimating equation (1). Our set of control variables include ones used previously by Burnside and Dollar. These are a measure of ethnolinguistic fractionalization developed by Easterly and Levine (1997), a measure of institutional quality developed by Knack and

levels.

⁶Net official development assistance has a correlation of only 0.75 with effective development assistance over the period for which the latter is available, 1974–1995, raising concerns about the usefulness of further extrapolating the series. Note also that the aid measure developed by Chang (1999) required important decisions about appropriate market interest rates with which to discount aid flows. By using the official development assistance data, we avoid concerns about these decisions regarding market interest rates. And since we are able to closely match the results of Burnside and Dollar and of Easterly et al. when we use net official development assistance as the aid variable, we have confidence that our results are not driven by the choice of our aid measure.

Keefer (1995), assassinations as a measure of civil unrest, the ratio of M2 to GDP as a proxy for financial development, dummy variables for Sub-Saharan Africa and East Asia, and dummy variables for time periods. Descriptions of each variable and data sources are provided in the appendix.⁷ In keeping

income countries.¹⁰ In all cases, the aid-policy interaction variable is never significant at standard levels, though its p-value (not shown) is smaller for those regressions restricted to the country group used in Burnside and Dollar than for our expanded country set.¹¹

Thus, when we restrict the data set to only those countries considered in Burnside and Dollar, we find results similar to theirs regardless of sample period, but when we include additional countries (and continue to remove outliers) the aid-policy interaction variable is no longer significant regardless of sample period. Our findings hold for both OLS and 2SLS estimation methods.¹² Our findings thereby confirm for our updated data the conclusions of Easterly et al. regarding the effect of including additional countries on the Burnside and Dollar results.

The additional countries included in our updated data (and also in the data set used by Easterly et al.) are Burkina Faso, Congo, Iran, Jordan, Mali, Myanmar, Papua New Guinea, and Uganda. To investigate the apparent influence of these countries on the results, we checked to see whether any of the observations for these countries were close to being identified as outliers. When we apply the Hadi method to identify outliers, the observations are rank-ordered by their distance from the mean values of the

¹⁰Low-income countries are those with per capita real income, measured in constant 1985 dollars, below \$1900 in 1970, the same criteria used in Burnside and Dollar (2000). As in Burnside and Dollar, we include Nicaragua in this group because its income fell significantly below the threshold early in the sample period, although it was slightly above in 1970.

¹¹Burnside and Dollar find a significant effect for the interaction variable in the subset of low-income countries that is no longer present in our revised data.

¹²Tables 1 and 2 provide test statistics supporting the validity of the instruments in the 2SLS estimates. In all cases, the Anderson canonical correlations likelihood-ratio test (LR Statistic) overwhelmingly rejects the null hypothesis that the equation is underidentified. The Hansen-Sargan test (J Statistic) never rejects the overidentifying restrictions at the 1-percent level, although it does reject at the 5-percent level for estimates using the smaller sample of low-income countries shown in Table 2.

variables. Using this method, observations with variables having values that are more than two standard deviations from their mean are removed from the data. Thirty observations were just within the two-standard-deviation cutoff. Of these, one-third were from the additional countries added to Burnside and Dollar's set. The high concentration of observations from these countries near the cutoff for outliers may in part explain why the results are so sensitive to whether or not these countries are included in the sample.

Close examination of these countries also reveals some interesting pecu-

variable itself enters negatively. They interpret these results as suggesting that increasing returns to aid may occur in the presence of good policy.

Using our data set, we estimated this specification. Table 3 reports our results. As in Burnside and Dollar (2004), we generally find a positive significant coefficient for the aid-squared-policy interaction variable and a negative coefficient for the aid-policy interaction variable.¹³

One way to capture the possible non-linear nature of the growth-aid-policy relationship while remaining agnostic on its exact specification is to suppose that good policy enhances the probability that a given amount of

match qualitatively the results reported in Table 1, confirming the sensitivity of our findings to the particular country group considered.¹⁵ Our simple threshold model thus provides little support for a more general non-linear relationship between growth, aid, and policy.

4 Summary

This paper has reconsidered the role of economic policy in determining the effectiveness of foreign aid for generating economic growth in developing

when using more complex specifications and/or more sophisticated econometric analysis. Future research should instead focus on using case study approaches to understand more fully successful examples of countries in which aid and policy have helped foster growth and development.

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Table 1 – Growth Regressions

BD Country Set 1970-1993		BD Country Set 1970-2001		Expanded Country Set 1970-1993		Expanded Country Set 1970-2001	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS

Table 4 – Growth Threshold Model Results

	All Countries				L B Count	e Countries	
	BD Country Set		Expanded Country Set			Expanded Country Set	
	(1)	(2)	(3)	(4)		(5)	(7)
Outliers In							



Appendix

Description of Variables Used in Regressions

VARIABLE	DESCRIPTION	SOURCE
Log Initial Per Capita Real GDP	Log of per capita PPP real GDP for the first year of each time period, constant 1996 dollars	Summers and Heston, 1991; World Penn Tables, updated using per capita real GDP growth Easterly and Levine, 1997