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POLICY REFORM AND AID EFFECTIVENESS IN AFRICA

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Policy Reform and Aid Effectiveness in Africa

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Abstract

This paper re-examines the ‘good policy environment’ argument for aid effectiveness and allocation in Africa. It does so while controlling for the role of social cohesion and its interplay with aid. The empirical results indicate that once we account for the role of social cohesion the impact of policy disappears. This casts doubt on the conclusions in Burnside and Dollar (2000) and the policy lessons derived from their findings. Our results have important policy implications as they suggest that conditioning aid allocation on ‘good policy environment’ may not necessarily lead to higher aid effectiveness.

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1. Introduction

In 1997, Craig Burnside and David Dollar published a *World Bank Policy Research Working Paper* titled “Aid, Policies, and Growth.” The paper was subsequently published in the *American Economic Review* in 2000 and has become since the late 1990s an influential contribution to the debate on aid effectiveness. The main findings of the paper are that the positive impact of aid on economic growth depends on the presence of good policies (good fiscal, monetary, and trade policies). Since then, several empirical studies (see for example, Hansen and Tarp, 2000; Easterly et al., 2004; Balamoune-Lutz, 2006; and Balamoune-Lutz and Mavrotas, 2009) have shown that the effect of policy is not robust.

The findings in Burnside and Dollar (2000) have some important policy implications with regards to aid allocation and conditionality. If aid is to be conditional on good policies, one should ensure that the policy effect is significant and robust. If good policies do indeed influence aid effectiveness and donors link aid to good policy then countries with good policies will receive more aid and grow faster (aid effectiveness). If on the other hand, good policies are not what matters the most to making aid effective, then countries with a good policy environment may receive more aid (rewarded by donors) but may still show low (or negative) growth rates.

The present paper re-examines the ‘good policy environment’ argument by using the Burnside-Dollar (henceforth BD) methodology and expanding the panel data on Africa slightly (using the dataset in Easterly et al., 2004). The study, however, is different from both Burnside and Dollar (2000) and Easterly et al. (2004) in that it focuses exclusively on African countries and controls for the effect of social cohesion on aid effectiveness. Our empirical results indicate that once we account for the role of social cohesion the impact of policies disappears. This casts doubt on the conclusions in Burnside and Dollar (2000) and the policy lessons derived from their findings. Our results have important policy implications as they indicate that conditioning aid allocation on ‘good policy environment’ may not necessarily lead to higher aid effectiveness. The empirical results

in the present paper suggest that countries with strong social cohesion may actually make good use of aid, while aid in countries with weak social cohesion may be ineffective, independently of the policy environment. However, our results also show that policy (policy reform) has direct positive effects on growth, independently of the level of aid.

The topic of aid effectiveness is of particular relevance to Africa due to the heavy dependence of many African countries on aid and concessional loans. Approximately half of the total number of the International Development Association (IDA) borrowing (eligible) countries is in Africa (about 40 countries). Many sub-Saharan African (SSA) countries have been in the fragile states group and the Low-Income Country Under Stress (LICUS) group. In addition, IDA aid allocation is to a large extent function of the Country Policies and Institutional Performance Assessment (CPIA) index, which is based in part on economic policy indicators.¹ Similarly, the roles of policy reform and social cohesion are of special importance to Africa, as most countries have undertaken or are undertaking policy reforms and many African countries are characterized by weak social cohesion, often caused by high ethnic fractionalization.²

The remainder of the paper is organized as follows. Section 2 provides a brief review of the literature on aid effectiveness. Section 3, describes the data and methodology. Section 4 discusses the estimation results. Section 5 includes summary and further discussion.

2. Aid effectiveness: A brief review of the literature

There exists an important body of empirical literature on the aid-growth nexus as well as some interesting reviews of the literature on this topic, including Mosley (1987), White (1992), Cassen (1994), Burnside and Dollar (2000), Tarp (2000) Hansen and Tarp (2000, 2001), Lensink and White (2001), Dalgaard and Hansen (2001), Dalgaard et al. (2004), McGillivray (2003), Easterly et al. (2004), Addison et al. (2005), McGillivray et al. (2005), Rajan and Subramanian (2005), Antipin and Mavrotas (2006), Baliaoune-Lutz (2006), Bourguignon and Sundberg (2007), Lahiri (2007), and Riddell (2007). The

¹ See the study by Baliaoune-Lutz (2008).

² See Baliaoune-Lutz (2009).

findings in the empirical literature range from ‘aid having no effect at all’, or even ‘having negative effects’ on growth, to ‘aid having strong positive effects’ on growth. Within this range we find different types of conditional effectiveness.

The body of research that has argued that aid does not spur growth (or may even have negative effects) includes for example, White (1992), Boone (1994, 1996), Lal (1996, 2005), Martens et al. (2002), Easterly (2003), Rajan and Subramanian (2005), and Djankov et al. (2006). For example, Djankov et al. (2006) argue that “foreign aid has a negative impact on the democratic stance of developing countries, and on economic growth by reducing investment and increasing government corruption”.

Most studies that have argued in favor of conditional effectiveness cite ‘good policy environment’ as a crucial factor. Two notable exceptions³ are Dalgaard et al. (2004) and Baliaoune-Lutz and Mavrotas (2009). Dalgaard et al. focus on climate-related factors and show that aid is effective in enhancing growth, but the impact is smaller in countries with larger fraction of land in the tropics. On the other hand, Baliaoune-Lutz and Mavrotas find that social cohesion has a more robust impact on the effectiveness of aid while the effect of policy was insignificant.

In reaction to the finding in Burnside and Dollar (2000) study that ‘aid is effective in countries with good policy environment’, several scholars have re-examined the robustness of the policy effect. For example, Hansen and Tarp (2000) show that aid has a positive and significant effect on growth even in countries that do not have good policy environment. Antipin and Mavrotas (2006) conclude that “the marginal effect of the disputed (Aid/GDP) x Policy variable on real per capita GDP growth is substantially smaller than in Burnside and Dollar, thus casting serious doubts on the robustness of their findings, and most importantly, on the validity of the policy lessons emerging from the

³ In addition, Hansen and Tarp (2001) and Lensink and White (2001) tested the hypothesis that aid may have diminishing returns. Both studies find empirical evidence of decreasing returns to aid.

BD study.” Dalggaard and Hansen (2001) claim that “if anything, good policy is likely to reduce the growth effects of aid because they act as substitutes in the growth process.”

Easterly et al. (2004) use the BD data, and extend the period covered to 1997 (Burnside and Dollar used data for 1970-93) and add data that has become available since the late 1990s. Using this modified set of data, the authors show that the policy-aid interaction does not have any effect on growth. They conclude, “...adding additional data to the BD study of aid effectiveness raises new doubts about the effectiveness of aid and suggests that economists and policymakers should be less sanguine about concluding that foreign aid will boost growth in countries with good policies” (Easterly *et al.* 2004, pp. 779-89).

Similarly, Balamoune-Lutz and Mavrotas (2009) use both the original BD dataset and the Easterly et al. dataset, and focus on the interaction between social capital (social cohesion) and aid. The authors find that social cohesion has an important and robust impact on aid effectiveness while the aid-policy interaction was statistically insignificant. Balamoune-Lutz and Mavrotas (2006, pp. 511-12) write that “[i]t is rather surprising that while many agree that socio-cultural factors may affect the effectiveness of aid and may in turn be affected by aid, there is not a single empirical study that has explored the effect of social capital on aid effectiveness at the macro level... The use of aid for the ‘purpose it is meant for’ implies a relationship of trust. Such trust may, to a large extent, depend on the level of social capital.”

3. Data and methodology

We use the dataset in Easterly et al. (2004)⁴ who use the dataset from the Burnside and Dollar (2000) study and also develop a modified dataset where they add some new observations to the BD dataset as well as make some revisions to the data. The dependent variable is the rate of growth in GDP per capita. The main right-hand side (RHS) variables include (1) aid, defined as the ratio of Development Assistance to real GDP, from Chang et al., 1998; IMF 2002; and DAC 2002); (2) a policy index, which is a regression-weighted average of macroeconomic policies (see Burnside and Dollar, 2000);

⁴ Easterly et al. (2003) provide a detailed description of the data.

(3) an indicator of financial development, defined as the ratio of M2 to GDP; (4) The number of assassinations per million of people; (5) an indicator of ethnic fractionalization from Easterly and Levine (1997); (6) an indicator of institutional quality from Knack and Keefer (1995); (7) the logarithm of initial income per capita (from Summers and Heston, 1991, updated in Easterly et al. 2004) ; and (8) a dummy variable for sub-Saharan Africa. Unless noted otherwise, all data are from the World Bank World Development Indicators (2002). The estimations include fixed time effects to control for the effects of worldwide business cycles and the same instruments in the BD study (see Burnside and Dollar, 2000).

Burnside and Dollar use a panel of 56 countries and data averages for six 4-year periods from 1970 to 1993. The policy variable in their model (as well as in Easterly et al., 2004; and in Baliaoune-Lutz, 2006) is an index composed of three polices: budget surplus, inflation rates, and the Sachs and Warner (1995) openness index. This policy index is interacted with aid and the sign and statistical significance of the coefficient on this interaction term is evaluated.

In the present paper we use 4-year data averages from 27 African countries (including North Africa) for the period 1970-93 (the sample in Burnside and Dollar, 2000) and 1970-97 (the sample in Easterly et al., 2004). Some countries are missing data for some periods and may have data in one sample but not in the other (thus, the panel is unbalanced).

4. Estimation results

Burnside and Dollar (2000) estimate several ordinary least-squares (OLS) and two-stage least-squares (2SLS) equations and find that the coefficient on the aid-policy interaction term is positive and statistically significant in four OLS and two 2SLS estimations. In the present paper, we focus exclusively on 2SLS estimations because aid is more likely to be endogenous. The estimation results are reported in Tables 1-3.

In Table 1 we report results from re-estimating the BD 2SLS equations for the period 1970-93 (equations 5 and 8; 5/2SLS and 8/2SLS) where the authors find statistical evidence that policy has an impact on aid effectiveness. We use their dataset but we include only African countries. In columns (1)-(4) we include all African countries and in columns (5)-(8) we include only low-income countries. In columns (3), (4), (7) and (8) we omit outliers. In each case, we estimate the equation with and without the term ‘policy X aid²’. We find similar results to those obtained in BD. In low-income African countries (and excluding outliers), the variable policy has a positive effect on aid effectiveness; the coefficient on the interaction term between aid and policy is positive and statistically significant (column (7)).

Next, we use the dataset from Easterly et al. (2004) and focus on the BD period of time (1970-93), and include the interaction between ethnic fractionalization and aid. In this paper, we consider ethnic fractionalization as an indicator (or a proxy) for the level of social cohesion.⁵ The results displayed in Table 2 indicate that the coefficient on this term is consistently negative and statistically significant, suggesting that social cohesion enhances aid effectiveness; or alternatively, ethnic fractionalization reduces the impact of aid on growth. However, the coefficient on the term ‘policy X aid’ is no longer significant and we find evidence that aid does have a direct positive effect on growth in Africa.

The results in Table 3 are obtained from estimations and data similar to those underlying the results reported in Table 2, but here we extend the period to 1997 (so that the dataset covers 1970-97). The results indicate that social cohesion (ethnic fractionalization) influences aid effectiveness and the impact of policy on the effectiveness of aid disappears. In addition, we find that both aid and policy reforms (the policy variable) have strong direct positive effects on growth. While we find evidence of these effects in all countries in our sample, the effects of policy are stronger in low-income countries.

⁵ Easterly et al. (2005) use ethnolinguistic fractionalization as an indirect measure of social cohesion. Ethnolinguistic fractionalization is measured by the probability that two randomly selected individuals will not belong to the same ethnolinguistic group (see Easterly and Levine, 1997).

Overall, these findings are consistent with conclusions reported in other studies. Hansen and Tarp (2000), Dalgaard and Hansen (2001), Easterly et al. (2004), and Balamoune-Lutz and Mavrotas (2009) find the coefficient on the policy-aid interaction term to be statistically insignificant. However, Easterly et al. (2004) find that aid has no effect, while Hansen and Tarp (2000), Dalgaard and Hansen (2001) find statistical evidence that aid has a direct impact but there are diminishing returns to aid. The present study fails to find evidence of decreasing returns to aid but we do, however, find that aid has a direct positive effect on growth, once we control for the direct growth effects of the policy environment and social cohesion, and control for the interplay of social cohesion and aid.

In summary, we find that a good policy environment has a direct positive impact on growth but does not seem to influence the effectiveness of aid. The growth-effects of aid in Africa appear to be significantly influenced by social cohesion (using the index of social fractionalization as a proxy for social cohesion). The effect of social cohesion is significant and robust to several changes in the specification. Thus, it appears that reducing the negative effects of ethnic fractionalization or improving social cohesion could importantly enhance aid effectiveness.

5. Summary and discussion

In this paper, we study the impact of aid on African countries, using data and estimation techniques previously used in the empirical literature. We examine, in particular, the impact of policy and social cohesion on the effectiveness of aid. The empirical results indicate that once we account for the role of social cohesion the impact of the interplay between policy and aid vanishes, which casts doubt on the conclusions in Burnside and Dollar (2000); that aid is effective only in good-policy environments. Our results carry potentially important implications for policy. They suggest that conditioning aid allocation on ‘good policy environment’ may not necessarily result in improved aid effectiveness. The findings imply that countries with high levels of social cohesion may be more able to put aid to good use. We also find that policy has direct positive effects on

growth,⁶ independently of the level of aid. These results imply that aid donors must try to find more effective ways to allocate and help manage aid in countries with weak social cohesion, such as targeting education and health projects and programs that would reduce the negative effects of ethnic fractionalization (social fragmentation) and/or projects that are not sensitive to these effects.

Aid allocation tends to be based on the Country Policy and Institutional Assessment (CPIA) ratings.⁷ The CPIA index tries to account for some factors that may have a positive effect on social cohesion by including an indicator of social inclusion/exclusion in the cluster for 'policies for social inclusion/equity'. The results derived in this paper imply that perhaps a more elaborate measure of social cohesion should be included in this cluster and should be assigned a significant weight. Furthermore, the results we obtain in this paper indicate that while policy reform has a significant impact on growth it does not directly influence the effectiveness of aid in Africa. Kanbur (2000) stresses the fact that African countries suffer from aid dependence, which he explains as African policymakers spending valuable time trying to comply with reporting procedures and negotiations with donors.

Kanbur (2000) cites Wuyts (1996) who reports that for "Mozambique, where there are 405 projects in the Ministry of Health alone and administrative costs run to 30 to 40% of project funds. Separate reporting requirements for each donor, and separate links between parts of different aid agencies and their counterparts in the various Ministries, mean that much of time, energy and political capital is spent in gaming with external actors" (as cited in Kanbur, 2000). It is quite reasonable to expect the time and resources devoted to negotiating with donors to be higher the worse the policy outcome. Furthermore, as argued by Adedeji (1995), Africa's independent policymaking and economic management have been reduced and 'narrowed' as a result of trying to obtain the

⁶ It is important to note that the effectiveness of policy reforms can also be influenced by institutional quality; see Addison and Balamoune-Lutz (2006) on empirical evidence of the significance of this interplay in the Maghreb countries.

⁷ We should point out that aid donors and aid agencies do not necessarily apply the policy-aid conditionality in a strict manner; see Kanbur (2000), Nunnenkamp and Thiele (2006), and Balamoune-Lutz and McGillivray (2008).

‘certificate of good behavior’ from international financial institutions and aid donors. What this suggests is that basing aid allocation on policy may in fact lead to more inefficiencies and waste of resources than would otherwise take place and could diminish the ability of policymakers to enact policies that could have stronger positive effects on aid effectiveness and growth, such as those that would improve social cohesion. Similarly, not allocating aid to a country that has strong social cohesion but weak policy environment (for e.g., based on inflation or the state of its budget surplus) would alter (reduce) the prospects of growth in two ways. First, the country receives less aid and hence is deprived of an additional source of growth since we showed that aid has a direct positive effect on growth in Africa. Second, since the country has strong social cohesion, it may actually get additional benefits from aid through its efficient use (the interplay between social cohesion and aid). Baliaoune-Lutz (2008) uses Arellano-Bond GMM estimations on African data and focuses in particular on the effect policy reform and institutions have on growth and the implications for aid conditionality in fragile states. The author finds that social cohesion has a positive effect on economic performance in fragile states in Africa, while political institutions have a negative effect. She also finds that trade reforms (policy) have ambiguous effects. High levels of trade openness have negative effects but the interplay between export diversification and openness at high levels of openness produces a positive impact on income. Baliaoune-Lutz (2008) concludes that

The results associated with the effects of political institutions and openness to trade seem to suggest the possibility of a ‘catch-22’, at least in the short run. If a fragile state tries to improve its political institutions or its openness to trade, and thus improve its CPIA, it may end up with lower per-capita income, and it would by definition of the formula used to allocate IDA funds get more money. However, while obtaining more aid may be a good outcome lower income implies more poverty (assuming no changes in income distribution). Thus, aid would not result in significant poverty reduction. (Baliaoune-Lutz, 2008, p. 13)

Taking into account the impact of social cohesion on aid effectiveness may shed new light on the so-called *micro-macro paradox* (Mosley, 1987), which refers to the fact that micro-based studies generally find strong evidence that aid is effective while macro-type studies do not. Micro-based studies tend to focus on projects handled by small groups

(teams) where social cohesion is often strong. Our results show that aid works better in countries where social cohesion is high, thus they seem to reconcile the micro and macro evidence.

The issue of aid effectiveness is an important one. At least in the case of development aid, donors, policymakers and scholars should normally be interested in assessing whether aid leads to higher growth and whether it contributes to poverty reduction. The empirical literature includes contradictory findings. Many studies have argued that aid is ineffective. For example, Boone (1994, 1996) finds that aid did not lead to higher growth. Easterly (1999) draws similar conclusions, although his focus was on short-run relationships between aid and growth. Kanbur (2000) even titled his article 'the failure of aid'. On the other hand, other scholars have argued that aid is, indeed, growth enhancing. For example, Sachs et al (2004) contend that aid can play a vital role in helping countries to achieve the necessary growth to escape the poverty trap.

Finally, as argued by Clemens et al. (2004), it is important to note that different types of aid may have different effects on growth. It may be more insightful to distinguish between 'developmental aid' and 'geopolitical aid'.⁸ However, in the case of African countries, and with the exception of a small number of countries (the main exception is Egypt), aid tends to be developmental (and humanitarian relief) purposes.

References

Adedeji, A. (1995), "An African Perspective on Bretton Woods", in Mahbub ul Haq et.al. (eds) *The UN and Bretton Woods Institutions: New Challenges for the Twenty First Century*, St. Martin's Press.

Addison, Tony and Mina Balamoune-Lutz (2006), "Economic Reform When Institutional Quality is Weak: The Case of the Maghreb", *Journal of Policy Modeling* 28, 1029-1043.

Addison, T., G. Mavrotas, and M. McGillivray (2005), "Aid to Africa: An Unfinished Agenda", *Journal of International Development*, 17: 989-1001.

⁸ Mavrotas and Ouattara (2007) distinguish between project aid and financial program aid and show that the two types of aid have different effects on the behavior of the recipient government.

Antipin, Jan-Erik and George Mavrotas (2006), “On the Empirics of Aid and Growth: A Fresh Look”, UNU/WIDER Research Paper No. 2006/05.

Baliamoune-Lutz, Mina (2006), “Aid Effectiveness: The Aid-Social Capital-Growth Nexus”, Paper presented at the WIDER Conference on *Aid: Principles, Policies and Performance*, Helsinki, June 16-17, 2006.

Baliamoune-Lutz, Mina (2008), “Institutions, Trade, and Social Cohesion in Fragile States”, Brooks World Poverty Institute Working Paper 39, The University of Manchester.

Baliamoune-Lutz, M. (2009). ‘Human Well-Being Effects of Institutions and Social Capital’. *Contemporary Economic Policy*, 27 (1): 54-66.

Baliamoune-Lutz, Mina and George Mavrotas (2009), “Aid Effectiveness: Looking at the Aid–Social Capital–Growth Nexus”, *Review of Development Economics* 13(3):510-515.

Baliamoune-Lutz, Mina and Mark McGillivray (2008), “State Fragility Concept and Measurement”, UNU/WIDER Research Paper No. 2008/44.

Boone, P. (1994), “The Impact of Foreign Aid on Savings and Growth”, Working paper 1265, Centre for Economic Performance, London School of Economics, London.

Boone, P. (1996), “Politics and the Effectiveness of Foreign Aid”, *European Economic Review* 40: 289-329.

Bourguignon, F. and Sundberg, M. (2007), “Is Foreign Aid Helping: Aid Effectiveness – Opening the Black Box”, *American Economic Review* (97)2: 316-321.

Burnside, C. and Dollar, D. (2000), “Aid, Policies and Growth”, *American Economic Review* 90 (4): 847-869.

Cassen, R. (1994), *Does Aid Work?*, 2nd edition. Oxford: Oxford University Press.

Clemens, M. A., Radelet, S. and Bhavnani, R. (2004), “Counting Chickens when they Hatch: The Short-term Effect of Aid on Growth”, CGD working paper no. 44, Center for Global Development, Washington, DC.

Dalgaard, Carl-Johan and Henrik Hansen (2001), “On Aid, Growth and Good Policies”, *Journal of Development Studies* 37(6): 17–41.

Dalgaard, Carl-Johan, Henrik Hansen and Finn Tarp (2004), “On the Empirics of Foreign Aid and Growth”, *Economic Journal* 114: F191-F216.

- Djankov, S., Montalvo, J. G., and Reynal-Querol, M. (2006), “Does Foreign Aid Help?”, *Cato Journal*, 26(1): 1-28.
- Easterly, W. (1999), “The Ghost of Financing Gap: Testing the Growth Model used in the International Financial Institutions”, *Journal of Development Economics*, 60, 423-438.
- Easterly, William (2003), “Can Foreign Aid Buy Growth?”, *Journal of Economic Perspectives* 17(3): 23-48.
- Easterly, William and Ross Levine (1997), “Africa’s Growth Tragedy: Politics and Ethnic Divisions”, *Quarterly Journal of Economics* 112(4): 1203–250.
- Easterly, William, Ross Levine and David Roodman (2004), “Aid, Policies, and Growth: Comment”, *American Economic Review* 94(3): 774-780
- Easterly, William, Jozef Ritzen and Michael Woolcock (2005), “Social Cohesion, Institutions, and Growth”, DRI working paper No. 17.
- Hansen, Henrik and Finn Tarp (2000), “Aid Effectiveness Disputed”, *Journal of International Development* 12(3): 375–98.
- Hansen, Henrik and Finn Tarp (2001), “Aid and Growth Regressions”, *Journal of Development Economics* 64(2): 547–70.
- Kanbur, Ravi (2000), “Aid, Conditionality and Debt in Africa”, in, *Foreign Aid and Development: Lessons Learnt and Directions for the Future*, Finn Tarp (ed), Routledge, 2000.
- Lahiri, S. (ed) (2007), *Theory and Practice of Foreign Aid*, Elsevier Publishers.
- Lal, D. (1996), “Foreign aid: An Idea Whose Time Has Gone”, *Economic Affairs* (Autumn), 9-13.
- Lal, D. (2005), “The Threat of Economic Liberty from International Organizations”, *Cato Journal* (25)3: 503-520.
- Lensink, Robert and Howard White (2001), “Are There Negative Returns to Aid?”, *Journal of Development Studies* 37(6): 42–65.
- Martens, B., Mummert, U., Murrell, P., and Seabright, P. (2002), *The Institutional Economics of Foreign Aid*, Cambridge, UK: Cambridge University Press.
- Mavrotas, George and Bazoumana Ouattara. (2007), “Aid Modalities and Budgetary Response: Panel Data Evidence”, *Review of World Economics*, 143(4): 720-741.

McGillivray, Mark (2003), "Aid Effectiveness and Selectivity: Integrating Multiple Objectives into Aid Allocations", WIDER Discussion Paper No. 2003/71.

McGillivray, Mark, Simon Feeny, Niels Hermes, and Robert Lensink (2005), "It Works; It Doesn't; It Can, But That Depends: 50 Years of Controversy over the Macroeconomic Impact of Development Aid", WIDER Research Paper No. 2005/54

Mosley P. (1987), *Overseas Aid: Its Defence and Reform*, Wheatsheaf Books: Brighton.

Nunnenkamp, Peter and Rainer Thiele (2006), "Targeting Aid to the Needy and Deserving: Nothing But Promises?", *The World Economy* 29 (9): 1177-1201.

Rajan, R., and Subramanian, A. (2005), "Aid and Growth: What Does the cross-country Evidence Really Show?", IMF Working paper WP/05/127, International Monetary Fund, Washington, DC.

Riddell, R. (ed) (2007), *Does Foreign Aid Really Work?*, Oxford: Oxford University Press.

Sachs, J. D. (2005a), *The End of Poverty: Economic Possibilities of Our Time*, Penguin, New York.

Sachs, J. D. (2005b), *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals (UN Millennium Project)*, Earthscan, London.

Sachs, J. D., McArthur, J.W., Schimdt-Traub, G., Kruk, M., Bahadur, C., Faye, M. and McCord, G. (2004), "Ending Africa's Poverty Trap", *Brookings Papers on Economic Activity* 1: 117-240.

Tarp (ed.) (2000), *Foreign Aid and Development: Lessons Learnt and Directions for the Future*, Routledge Studies in Development Economics 17: London.

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

Wuyts, M. (1996), "Foreign Aid, Structural Adjustment, and Public Management: The Mozambican Experience," *Development and Change* 27(4): 717-749.

Table 1
2SLS estimations, data from Burnside-Dollar sample, 1970-93
Dependent variable: Growth rate in real GDP

	5/2SLS (low and middle- income, outliers included)		5/2SLS (low and middle- income, outliers excluded)		8/2SLS (low-income, outliers included)		8/2SLS (low income outliers excluded)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Initial GDP	0.07 (1.53)	0.27 (1.50)	0.26 (1.48)	0.13 (1.36)	-0.82 (2.13)	-0.46 (2.13)	-0.76 (2.11)	-0.82 (2.06)
Eth. Fract.	-0.25 (1.57)	0.51 (1.81)	0.81 (1.44)	0.41 (1.69)	-0.39 (1.55)	1.14 (1.64)	0.67 (1.43)	0.55 (1.54)
Assassinations	-0.12 (2.06)	-0.61 (2.08)	-1.05 (2.07)	-0.64 (2.32)	0.09 (2.09)	-0.93 (2.16)	-0.97 (2.11)	-0.85 (2.19)
Eth. Fract. X Assassinations	-2.48 (5.56)	-1.22 (6.23)	-0.57 (6.25)	-1.38 (6.23)	-1.06 (5.13)	1.44 (6.12)	1.07 (5.80)	0.87 (5.85)
Institutional quality	0.71 (0.48)	0.53 (0.48)	0.52 (0.43)	0.67 (0.46)	0.72 (0.48)	0.38 (0.48)	0.53 (0.45)	0.58 (0.45)
M2/GDP (lagged)	0.006 (0.03)	0.001 (0.04)	-0.002 (0.03)	-0.001 (0.04)	0.008 (0.04)	-0.002 (0.04)	0.003 (0.04)	0.003 (0.04)
SSA	-2.36 (2.56)	-3.34 (2.24)	-3.79** (1.59)	-3.35 (2.15)	-2.79* (1.56)	-4.78** (2.03)	-4.31*** (1.53)	-4.19** (1.89)
Policy index	0.28 (0.69)	-0.83 (1.44)	-1.34* (0.77)	-0.74 (1.48)	0.70 (0.69)	-1.61 (1.36)	-1.00 (0.78)	-0.80 (1.23)
Aid	-0.11 (0.34)	-0.15 (0.32)	-0.33 (0.33)	-0.45 (.38)	-0.16 (0.40)	-0.27 (0.38)	-0.39 (0.38)	-0.42 (0.40)
Aid X Policy	0.12 (0.15)	0.69 (0.70)	0.66*** (0.17)	0.01 (1.39)	0.09 (0.15)	1.29** (0.61)	0.66*** (0.16)	0.47 (0.93)
(Aid) ² X Policy		-0.04 (0.05)		0.10 (0.21)		-0.09* (0.05)		0.03 (0.14)
Observations	100	100	98	98	94	94	92	92
R ²	0.24	0.30	0.32	0.30	0.29	0.30	0.36	0.36

Table 2
Data from Easterly et al. (2004), 1970-93; accounting for social cohesion
Dependent variable: Growth rate in real GDP

	5/2SLS (low and middle - income, outliers included)		5/2SLS (low and middle - income, outliers excluded)		8/2SLS (low-income, outliers included)		8/2SLS (low income outliers excluded)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Initial GDP	1.04 (1.47)	0.52 (1.62)	-0.47 (1.04)	-0.86 (1.27)	-0.08 (1.31)	-1.08 (1.55)	-0.84 (1.45)	-1.09 (1.57)	-1.10 (1.57)
Eth. Fract.	6.10 (3.98)	4.28 (4.09)	7.18** (3.38)	4.69 (3.94)	5.69* (3.32)	4.12 (3.73)	6.43* (3.22)	4.53 (3.55)	5.62 (3.70)
Assassinations	-2.81 (2.29)	-2.18 (2.04)	-2.86 (2.37)	-1.99 (1.95)	-1.83 (2.44)	-1.66 (1.86)	-2.32 (2.34)	-0.94 (2.47)	-1.21 (2.41)
Eth. Fract. X Assassinations			-0.12 (6.00)		-0.98 (5.93)		-0.36 (5.81)	-1.96 (5.91)	-1.52 (5.84)
Institutional quality	0.11 (0.31)	0.07 (0.34)	0.34 (0.29)	0.20 (0.32)	0.20 (0.29)	0.22 (0.31)	0.36 (0.31)	0.23 (0.31)	0.25 (0.32)
M2/GDP (lagged)	0.007 (0.04)	-0.007 (0.04)	-0.005 (0.04)	-0.01 (0.04)	-0.005 (0.04)	-0.01 (0.04)	-0.002 (0.04)	-0.02 (0.04)	-0.02 (0.04)
SSA	-2.65 (1.74)	-2.19 (1.79)	-4.18** (1.67)	-3.12* (1.67)	-3.42** (1.48)	-3.26** (1.52)	-4.28*** (1.60)	-3.45** (1.51)	-3.65** (1.52)
Policy index	0.94 (0.72)	1.09** (0.43)	0.48 (0.93)	1.44*** (0.43)	1.33* (0.72)	1.41*** (0.45)	0.65 (0.94)	1.52*** (0.47)	1.52*** (0.47)
Aid	2.89** (1.29)	1.28 (1.45)	2.53** (1.18)	0.96 (1.62)	2.65** (1.06)	0.99 (1.36)	2.21** (1.07)	1.09 (1.51)	2.01* (1.01)
Aid X Policy	-0.001 (0.22)		0.39 (0.34)		-0.06 (0.20)		0.37 (0.33)		
(Aid) ²		0.19 (0.18)		0.25 (0.28)		0.19 (0.19)		0.19 (0.23)	
Aid X Eth. Frac.	-3.34* (1.89)	-3.07* (1.83)	-3.91** (1.18)	-3.44* (1.78)	-3.18** (1.55)	-3.08* (1.68)	-3.59** (1.52)	-3.18* (1.62)	-4.46* (2.49)
(Aid) ² X Eth. Fract.									0.28 (0.32)
Observations	106	106	103	103	100	100	98	98	98
R ²	0.33	0.21	0.37	0.10	0.39	0.21	0.37	0.22	0.21

Table 3
 ELR data and ELR sample, 1970-97; accounting for social cohesion
 Dependent variable: Growth rate in real GDP

	5/2SLS (low and middle-income, outliers included)		5/2SLS (low and middle-income, outliers excluded)		8/2SLS (low-income, outliers included)		8/2SLS (low income outliers excluded)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Initial GDP	0.84 (1.33)	0.89 (1.31)	-0.60 (0.99)	-0.44 (1.12)	-0.36 (1.08)	-0.99 (1.21)	-0.97 (1.22)	-0.96 (1.30)
Eth. Fract.	4.39 (1.33)	4.59 (1.26)	6.32** (3.08)	4.77* (2.84)	4.83* (2.84)	5.44* (2.99)	5.35* (2.98)	9.55 (6.68)
Assassinations	-0.06 (0.97)	-0.36 (0.35)	-0.29 (0.94)	-0.26 (0.90)	-0.35 (0.34)	-0.34 (0.89)	-0.36 (0.35)	-0.24 (0.92)
Eth. Fract. X Assassinations	-0.74 (2.81)		-0.28 (2.54)	-0.13 (2.46)		-0.07 (2.37)		-0.43 (2.42)
Institutional quality	0.06 (0.30)	0.07 (0.37)	0.27 (0.29)	0.19 (0.29)	0.21 (0.27)	0.28 (0.31)	0.26 (0.27)	0.24 (0.28)
M2/GDP (lagged)	0.01 (0.04)	0.02 (0.03)	0.01 (0.04)	0.01 (0.04)	0.01 (0.03)	0.01 (0.04)	0.01 (0.03)	0.01 (0.04)
SSA	-2.39 (1.85)	-2.42 (1.74)	-3.78** (1.67)	-3.26** (1.54)	-3.32** (1.45)	-3.67** (1.68)	-3.58** (1.68)	-3.59** (1.57)
Policy index	1.12* (0.66)	0.92** (0.36)	0.94 (0.82)	1.58** (0.63)	1.21*** (0.32)	1.29 (0.80)	1.43*** (0.39)	1.38*** (0.40)
Aid	2.27** (0.94)	2.26** (0.95)	2.30*** (0.83)	2.27*** (0.78)	2.09*** (0.77)	2.03** (0.82)	2.11*** (0.80)	2.46*** (0.76)
Aid X Policy	-0.08 (0.23)		0.18 (0.38)	-0.15 (0.20)		0.07 (0.35)		
Aid X Eth. Frac.	-2.24 (1.46)	-1.36 (1.44)	-3.32** (1.28)	-2.52** (1.16)	-2.52** (1.17)	-2.96** (1.25)	-2.92** (1.29)	-3.41** (1.36)
(Eth. Fract.) ²								-3.39 (5.99)
Observations	128	128	124	121	121	118	118	118
R ²	0.27	0.27	0.30	0.33	0.32	0.31	0.31	0.31