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Aid-Dependency and Attributes of an Aid-Exit Strategy

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Aid-Dependency and Attributes of an Aid-Exit Strategy

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Abstract

This paper tracks a group of developing countries which started off in the 1960s with a comparable and relatively high aid dependency but followed two different paths in the subsequent four decades: where one sub-group of countries became increasingly aid dependent while the other sub-group nearly exited aid-dependency. It then compares the trajectories of key macroeconomic variables in the two groups of countries in a bid to provide broad sketches of an aid-exit strategy. The paper shows that the likelihood of exiting aid dependency increases with the rate of investment and the share of manufacturing in GDP while it declines with the size of the saving-investment gap and the rate of inflation.

JEL: F35, O16

Key Words: Aid Dependency, Aid Exit, Investment, Domestic Saving, Inflation.

1. Introduction

Most of the literature on international aid falls in two broad categories. The largest part focuses on the relationship between foreign aid and economic growth in recipient countries. The other relatively small body of work focuses on the determinant of aid allocation across recipients. The literature that addresses the effectiveness of aid for economic growth is so far inconclusive. The widely quoted and controversial work by Burnside and Dollar (2000) concluded that aid promotes growth under 'good' policy conditions. The subsequent empirical work triggered by this seminal paper largely rejected this claim by showing the sensitivity of the finding to changes in the sample period and the specification of the model (Easterly, Levine and Roodman, 2000; Guillaumont and Chauvet, 2001). The literature that focuses on the distribution of aid across developing countries (Alesina and Dollar, 2000; Schraeder, Hook and Taylor, 1998; Maizels and Nissanke, 1984) has some clear conclusions – that bilateral aid is largely driven by colonial history and geopolitical interests of donors and that multilateral aid is relatively more sensitive to the underlying socioeconomic conditions of recipients. There are a few studies that also suggest that even multilateral aid is influenced by the strategic interests of their main financial contributors (Dreher, Sturm, Vreeland, 2009). In short, it is safe to conclude from the existing literature that aid allocation is not entirely benign in terms of meeting the needs of the needy. Studies that look at the allocation of aid also show that most of the recent increase in aid is skewed toward the social sector at the neglect of aid flow to productive sectors and economic infrastructure.

There is however very little discussion in the literature, if any, about aid-exit strategy. If one adheres to the literature which finds a positive effect of aid on growth under good policy conditions, the natural conclusion is that more aid – not less - should be given to countries that follow good policies. While this literature is silent about a strategy to reduce aid-dependency, the underlying assumption seems to be that once aid recipients reach a certain level of per capita income through an aid supported economic growth, they will naturally be weaned from aid dependency. The authors which did not

find any significant association between aid and growth also provide no clued as to the desirability as well as any strategies for exiting aid dependency – there seems to be a level of satisfaction that at least aid is not having a negative impact on growth and hence no pressing reason to reduce it. One also does not find clear guidance regarding the way out of aid dependence from the literature that focuses on aid allocation – it only suggest that unless colonial ties lose their relevance for aid allocation or there are shifts in the geopolitical interests of donors, the current patterns of aid allocation and hence aid dependency are likely to continue.

There are other authors, however, who vehemently argue that exiting from aid dependence should be a top policy priority. Although their arguments are not necessarily based on rigorous econometric work, they assert that aid promotes irresponsible behavior such as corruption and poor fiscal management as well as lack of political freedom and accountability in recipient countries (McPherson and Gray, 2000[1]). Some argue that financial resources equivalent to the volume of aid flow could be raised from financial markets which demand productive and responsible use of resources by recipients (see Moyo, 2009). In this argument large aid dependency actually undermines the ability of developing countries to raise funds from the international financial markets by sending a negative signal about their financial viability.

The purpose of this paper is not to make a fresh attempt at investigating the aid-growth nexus nor to evaluate the empirical merits of the arguments in favor of or against international development aid. Its primary objective is to characterize countries that experienced remarkable shifts in aid dependency since the 1960s. It does so by identifying developing countries that over the last few decades have managed to significantly reduce their degree of dependency on international aid and compare them with another group of developing countries which have seen their aid dependency reinforced or increased. It then compares the trajectories of key macroeconomic

[1] This paper has a debate format in which McPherson argues in favor of an aid-exit strategy while Gray doubts its relevance.

variables in the two groups of countries in a bid to sketch broad outlines of an aid-exit strategy for countries aspiring to get off aid dependency.

2. Trajectories of Aid Dependency

Table 1 ranks 132 aid recipient countries based on their aid-to-GDP ratio and then reports the average aid-to-GDP ratio of countries in each decile for the past five decades. It shows that developing countries whose average aid-to-GDP ratio has been below the 5th decile have a very low and most importantly stable and even declining aid dependency during the last nearly 5 decades. Countries ranked at and above the 5th decile, however, have experienced a steady increase in aid to GDP ratio from the 1960s up until the end of the 1990s before experiencing a modest decline during 2000-2007. Perhaps more striking is the sharp increase in the aid dependency of the 10th decile where aid to GDP ratio increased from about 15% of GDP in the 1960s to more than one-third of GDP from the 1980s onwards. Even countries in the 8th and 9th deciles have seen their average aid to GDP ratios more than double since the 1980s as compared to the 1960s. This indicates a tendency for aid dependency to be persistent particularly for countries located at the two extremes of the distribution – a point that will be explored further in this paper.

Table 1: Trends in Aid Dependency: Average ODA to GDP Ratio

Deciles of ODA to GDP Ratio	1960s	1970s	1980s	1990s	2000-2007	1960-2007
1	-0.02	0.02	0.02	0.00	-0.78	-0.13
2	0.30	0.15	0.14	0.27	0.20	0.21
3	0.80	0.69	0.67	0.79	0.56	0.71
4	1.21	1.29	1.73	1.77	1.13	1.46
5	1.75	2.00	3.19	3.28	2.33	2.60
6	2.46	3.02	5.25	5.87	4.67	4.40
7	3.56	4.51	7.20	9.31	7.64	6.68
8	4.96	6.89	9.78	13.21	11.16	9.52
9	7.45	10.44	15.62	19.15	15.66	14.15
10	14.86	21.20	35.57	37.43	34.27	29.65
Average	3.72	5.01	7.93	9.14	7.70	6.93

Source: Authors' computation based on OECD data on ODA.

Since the composition of countries in the various deciles keeps changing, our interest in this paper is to identify those countries which have significantly reduced their reliance on international aid from those countries that have become more aid dependent. We are particularly interested in those developing countries that moved down the rank of aid-dependency by shifting from above the 5th decile to below the 5th decile during the sample period, representing a significant shift in relative dependence on aid. Although the countries that were below the 5th decile at the beginning of the sample period are relatively of less interest to us, as they have been less dependent on aid to begin with, we will use them as comparator countries whenever necessary.

Figure 1a compares deciles of aid-to-GDP ratio for 132 countries during the 1960s and 2000s (2000-2007). The figure has four quadrants defined by the additional horizontal and vertical lines corresponding to the 5th deciles of the two decades under consideration. The 45° line is simply the locus of countries that have experienced no change in their ranking of aid dependency during the 1960 and 2000s. These include highly aid dependent countries like Mali and Liberia, as well as relatively less aid dependent countries like Syria and the Philippines. Accordingly, countries below the 45° line have experienced a reduction in their aid dependency by moving down the rank of aid-to-GDP ratio from the 1960s. Conversely, countries positioned above the 45° line have witnessed an increase in aid dependency in the 2000s relative to their position in the 1960s.

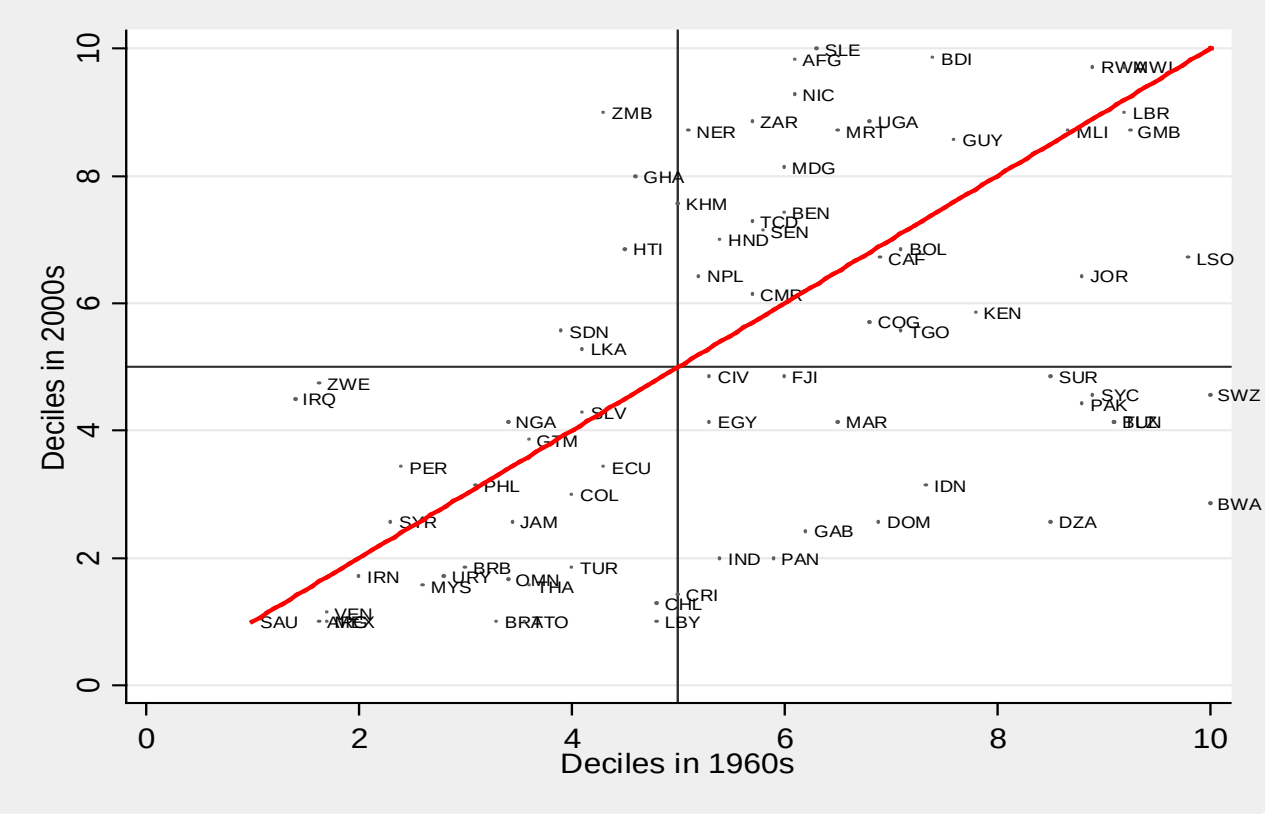

Figure 1a: Transition in Aid Dependency: Deciles of Aid-to-GDP Ratio during the 2000s relative to the 1960s

The countries in the North Eastern quadrant are countries which have remained above the 5th decile both during the 1960s and the 2000s showing a highly persistent aid dependency pattern. It is interesting to notice that the overwhelming majority of countries in this quadrant are located above the 45° line, meaning that they have become more aid dependent over the decadence. These include Afghanistan, Benin, Burundi, Cambodia, Cameroon, Chad, Guyana, Honduras, Madagascar, Malawi, Mali, Mauritius, Nepal, Nicaragua, Niger, Rwanda, Senegal, Sierra Leone, Cong DR. and Uganda[2]. It is easy to notice that this group is over represented by Sub-Saharan African countries. This compares badly with the countries in the opposite, i.e., South Western quadrant which not only had very low aid dependency to begin with but the overwhelming majority

[2] Other countries that fall in this category if we take the 1970s or 1980s include Ethiopia, Ghana, Liberia, Mozambique and Zambia.

of them have moved below the 45° line, meaning that they have reduced whatever small aid dependency they started with during the 1960s. These include countries like Argentina, Barbados, Brazil, Chile, Colombia, Ecuador, Iran, Jamaica, Libya, Malaysia , Mexico, Oman, Thailand, Trinidad and Tobago, Turkey, Uruguay and Venezuela. Countries with low initial aid-to-GDP ratio are thus very unlikely to become more aid dependent while those countries with high initial aid dependence not only more likely to remain aid-dependent but they tend to become increasingly so. One reason for this pattern is that large flows of aid relative to the size of the domestic economy tend to divert government effort toward activities that ensure the continuous flow of aid (McPherson and Gray, 2000).

However, there are a number of countries in our sample which started with very high aid dependency during the 1960s but significantly reduced it in the ensuing decades. These are countries in the South Eastern quadrant of Figure 1a. Not only have these countries reduced their aid dependency (as they lie below the 45° line) but also moved from above the 5th decile during the 1960s to below the 5th decile in the 2000s. These include Algeria, Belize, Botswana, Cote d'Ivoire, Dominican Republic, Egypt, Fiji, Gabon, India, Indonesia, Morocco, Pakistan, Panama, Seychelles, Suriname, Swaziland and Tunisia[3]. These countries demonstrate that it is possible to break out of the persistent cycle of aid dependency. The persistence in aid dependency that we noticed earlier is therefore not a universal phenomenon and for that reason we explore these countries in further detail in the following sections to characterize an aid-exit strategy. The reverse side of this story is the experiences of countries in the North Western quadrant of Figure 1a, i.e., the few countries whose aid dependence in the 2000s is way above what it was in the 1960s as they cross the 5th decile from below. These include Ghana, Haiti, Sri-Lanka, Sudan and Zambia.

[3] Except for Cote d'Ivoire and Egypt, and to some extent Fiji, the shift in the ranking of these countries from the 1960s to the 200s is very significant.

3. Macroeconomic Attributes of Persistent Aid Dependence

Standard macroeconomic frameworks consider international development aid as a resource transfer that fills the saving-investment gap of a developing country. Aid flows would therefore bolster domestic investment which in the long-run would raise income levels and hence domestic saving rates. In such an environment aid becomes increasingly less important as the economy achieves its domestic resource balance. This transition obviously requires a domestic policy environment which is conducive to investment particularly by the private sector. A crucial aspect of such a policy stance is price stability as high inflation amplifies uncertainty both in the financial and real sectors undermining investment. Behind stable macroeconomic outcomes are prudent fiscal and monetary policies carried out by a responsible and accountable government. Once investment projects hit the ground, their average rate of return depends on the structure of the domestic economy. Different sectors have different potentials for productivity growth, and history reveals that a growing manufacturing sector has been associated with rapid productivity (Rodrik, 2005). The latter in turn provide the basis for generating sufficient resources for a sustainable and ultimately aid-independent economic growth. Since developing countries also face a foreign exchange gap, breaking into new export markets and increasing the share of exports in GDP are vital for meeting the investment demands of a growing economy. Further to export earnings, the ability to attract FDI could accelerate the pace of reduction in aid dependency as it signals the viability of the domestic economy to the rest of the world.

The literature which is skeptical about international aid, however, argues that aid might lead to a moral hazard among governments of recipient countries undermining fiscal responsibility, i.e. promoting unproductive spending and reducing tax efforts, which in turn reduces public saving. Aid also creates an aid-dependent mentality among citizens which erodes creativity and self-reliance. In this literature, more aid perpetuates aid dependence by undermining the activities and institutions it is meant to support. This

literature therefore aggressively advocates for a reduction of aid flows as rapidly as practically possible.

The focus of this paper is not as such to evaluate whether aid has been effective in promoting economic growth. In what follows we rather compare some macroeconomic variables, consistent with the simple analytical framework highlighted above, of the countries that managed to significantly reduce their aid dependence from those that saw their aid dependence increase over time. To sharpen the comparison we select countries which were in the same relative position during the 1960s, i.e., countries above the 5th decile in the distribution of aid-to-GDP ratio in the 1960s. However, in the ensuing decades these countries followed opposite trajectories with one group becoming increasingly aid dependent while the other group showed clear evidence of exiting from aid dependence. It is interesting to note that although both groups of countries were above the 5th decile in the 1960s, the average initial aid-to-GDP ratio was slightly higher for the group of countries that subsequently reduced aid dependency. Table 2 below provides the relevant comparisons.

We start comparing domestic saving and investment rates (both expressed as percent of GDP) as they ultimately determine a countries ability to stand on its own feet. Countries which progressively exited from aid dependency already started in the 1960s with an average domestic saving rate about 7 percentage points higher than the group of countries which became increasingly aid dependent. However, the crucial point is that in the subsequent decades, the aid exiters increased their saving rate to more than 20% GDP while in the countries with growing aid dependency the saving rate slipped below 10% of GDP. While this does not constitute a causal relation, it seems consistent with the claim by the opponents of international aid that more aid undermines the incentive for domestic saving particularly of the public sector (McPherson and Gray, 2000; Moyo 2009).

In terms of investment efforts, countries with significant reduction in aid dependency experienced a sharp increase in investment to GDP ratio during the 1970s and 1980s, where it amounted to more than a quarter of GDP, and continued to invest at a respectable rate of about 23% in the 1990s and 2000s. While the investment rate also increased in the countries with rising aid dependency, it remained around 18% of GDP for three decades and reached above 20% only in the 2000s. The steady rise in the relative importance of international aid for the latter group of countries therefore did not translate into a higher rate of capital accumulation. On the other hand, the decline in the relative importance of aid among the former group of countries was not accompanied by a slowdown in their capital accumulation rate.

Table 2: Comparison of Selected Macroeconomic Variables for Countries with Different Paths of Aid Dependency during 1960 -2007

	1960s	1970s	1980s	1990s	2000-2007
Countries with Growing Aid Dependency					
Aid to GDP Ratio	4.34	7.09	11.13	15.24	13.34
Domestic Saving Rate	10.62	9.52	5.52	6.07	6.82
Investment Rate	14.19	17.74	18.49	18.77	21.32
GDP Growth	3.52	3.44	1.97	1.93	4.14
Inflation	3.26	12.01	137.67	52.98	6.95
Export to GDP Ratio	17.76	19.92	18.53	26.60	23.11
Manufacturing to GDP Ratio	8.43	9.22	9.92	10.66	10.22
FDI to GDP Ratio (net inflow)	1.19	1.03	2.67	5.04	1.19
Countries Exiting from Aid Dependency					
Aid to GDP Ratio	6.85	6.01	3.81	3.23	1.19
Domestic Saving Rate	17.33	24.10	21.48	21.36	23.59
Investment Rate	19.67	27.95	25.04	22.97	22.91
GDP Growth	5.24	6.87	3.56	3.71	3.49
Inflation	24.13	10.31	9.45	13.12	5.82
Export to GDP Ratio	23.74	27.24	29.55	31.32	33.78
Manufacturing to GDP Ratio	12.95	12.60	12.90	13.70	13.16
FDI to GDP Ratio (net inflow)	2.21	1.27	1.55	2.96	2.21

Source: Authors' computation based on data from WDI 2009

Table 2 also shows that economies with persistent and growing aid dependency experienced a steady decline in annual GDP growth up until the beginning of the 2000s

where growth started to recover strongly; GDP growth fell below 2% during the 1980s and 1990s. In the meantime, aid exiters registered relatively strong economic growth (above 5%) during the 1960s and 1970s. Although economic growth slowdown during the 1980s and 1990s it stayed above 3% on average for these group of countries. Even after the recovery in the 2000s, growth in the increasingly aid dependent countries only marginally exceeded that of aid exiters. The significant reduction in the aid-to-GDP ratio in the latter group of countries is therefore not a result of their outstanding growth performance during the 2000s but rather a cumulative effect of what has happened since the 1970s.

Although inflation was a lot better in the 1960s for countries which became increasingly aid dependent, their macroeconomic environment became very volatile in the subsequent decades with very high inflation rates which at time reached three digits. On the contrary, inflation was very measured and relatively stable in countries that almost graduated from aid dependency. Although one cannot draw causal relations from this trend alone, it is obvious that a better macroeconomic management, as represented by price stability, seems to be a very important attribute of an aid exit strategy.

Not only have the countries which gradually exited from aid dependency managed to grow faster over the last five decades, their economies were also becoming increasingly export oriented. The share of exports increased steadily for this group of countries from about a quarter of GDP in the 1960s to about one-third of GDP in the 2000s. In countries with growing aid dependency, however, the export to GDP ratio stayed just below 20% from the 1960s to the 1980s, before increasing in the 1990s and 2000s to reach a level of export ratio already attained by aid exiters in the 1960s and 1970s. Increased participation in export markets therefore seems to be a predictor of potential exit from aid dependence. Countries which slashed their reliance on aid do not seem to have a different economic structure than those which became more aid dependent. The share of manufacturing in GDP is only slightly higher in the former than in the latter group of countries and in both cases the increase in the share of manufacturing over time is

relatively slow. Table 2 also does not show any significant difference in net FDI inflows between the two groups of countries suggesting that FDI perhaps did not play a critical role in determining the trajectories in aid dependency.

4. The Probability of Exiting from Aid Dependency

In this section we consolidate the discussion in section 3 by estimating the probability of exiting from aid dependency conditional on the variables that are associated with it. Table 3 provides the results of a linear probability regression model. The dependent variable is a dummy variables which takes the value 1 if a country reduced its ranking of aid dependency from above the 5th decile during the 1960s to below the 5th decile during the 2000s, and takes the value zero if a country stays above the 5th decile in both decades. The explanatory variables are the logarithms of the variables discussed in the preceding section except for GDP growth rate. Since both saving and investment rates are positively associated with the probability of exiting from aid dependency, in Table 3 we specified the probability model by including the saving-investment gap (in logarithms) rather than including the two variables together.

Table 3 : Linear Probability Estimates of Exiting Aid Dependence

	Coefficients	T-statistic
Ln(Investment/GDP)	0.3053 (0.0981)	3.11
Ln(Saving-Investment Gap)	-0.1652 (0.0620)	-2.66
GDP-growth	0.2622 (0.5564)	0.47
Ln(Inflation)	-0.0711 (0.0276)	-2.58
Ln(Export/GDP)	0.0546 (0.0953)	0.57
Ln(Manufacturing/GDP)	0.2796 (0.1301)	2.15
Ln (FDI/GDP)	0.0089 (0.0287)	0.31
Constant	0.4608	1.04

	(0.4426)	
Number of countries	46	

Source: Authors' estimation results based on OECD and WDI data

The results are consistent with the descriptive results we discussed in section 3. The investment to GDP ratio has a positive and highly significant coefficient in the regression model suggesting that it is an important precursor of exiting aid dependency. Investment is thus not only an indicator of the contemporaneous health of an economy but also a source of internal dynamics to reduce aid dependency. It is also interesting to note that countries with a persistent and growing saving-investment gap are significantly less likely to reduce their aid dependence as compared to countries which finance most of their investment through domestic saving. In other words, two countries with the same investment rate will stand different chances of exiting from aid dependency depending on their domestic saving rate. As was evident in section 3, the group of countries which slashed their aid dependence during the sample period have not only increased their investment rate but they backed it up by higher domestic saving rates. The ability to mobilize domestic financial resources and to invest them on productive sectors are therefore key attributes of an aid-exit strategy. One might tend to interpreted this result as a verification of an obvious argument that a widening saving-investment gap leads to more aid flows which is in fact what aid was supposed to do. However, the investment rate in countries with growing aid dependency has been stagnant as indicated in Table 2 while their domestic saving rate was declining for most of the sample period.

Table 3 also shows that economic growth is positively associated with the likelihood of graduation from aid dependence although the coefficient is not statistically significant. This finding is consistent with the wider literature on aid which fails to find a statistically significant long-term relationship between aid and economic growth in developing countries. In our case, the interpretation is that economic growth does not necessarily lead to significant reduction of aid dependence.

Another important result from the regression analysis is the statistically significant negative effect of inflation on the chances of overcoming aid dependence. After taking into account the effects of investment and the domestic resource gap, countries with rapid inflation will find it more difficult to break away from reliance on foreign aid. This suggests that tackling inflation is very crucial for a growth process that in the long-run can wean itself from international aid. Table 3 also shows that it is not as such the export orientation of countries that affects the likelihood of aid exit but rather the structure of the economy in terms of the share of manufacturing value added in GDP. This is quite different from the story emerging from the simple bi-variate description in the previous section where the countries with different trajectories of aid dependence seem to have widely different performance in exports rather than in the share of manufacturing. It appears that the variation in manufacturing value added is more systematic and its effect more precisely measured than that of export to GDP ratio with respect to reduction of aid dependency although the absolute difference between the two groups of countries in the GDP share of manufacturing is relatively small.

5. Sensitivity Analysis

In this section we check the robustness of the preceding results. Specifically, we examine the extent to which our findings could have been driven by the composition of countries and by the starting period of the analysis. To that effect we consider another initial point for the empirical analysis and select countries which were above the 5th decile in the global distribution of aid-to-GDP ratio in the 1970s. This exercise has also increased the sample size by 9 countries. These include Bangladesh, Dominica, Grenada, Guineas-Bissau, Kiribati and Tonga, which became more aid dependent over the years, as well as Chile, Costa Rica and Libya which, although they were just below the 5th decile initially have managed to move down to the 1st decile of the aid-to-GDP ranking in the 2000s, representing unmistakable exit from aid dependency. The results with this new composition of countries is presented in Table 4. The different macroeconomic trends we observed earlier between the group of countries that did and

did not reduce their aid dependency by comparing the 1960s with the 2000s are intact regardless of a different starting point for our analysis as well as a change in the composition of countries. In other words the key aspects of the way out of aid dependency discussed above are not driven by the fixed effects that are unique to individual countries.

Table 4: Comparison of Selected Macroeconomic Variables for Countries with Different Paths of Aid Dependency during 1970 -2007

	1970s	1980s	1990s	2000-2007
Countries with Growing Aid Dependency				
Aid to GDP Ratio	7.85	13.75	16.25	13.39
Domestic Saving Rate	8.95	3.63	5.78	6.63
Investment Rate	17.60	20.86	20.16	21.73
GDP Growth	3.30	2.03	2.11	3.95
Inflation	12.10	122.89	46.73	6.59
Export to GDP Ratio	20.20	18.13	24.44	21.67
Manufacturing to GDP Ratio	9.21	9.73	10.32	10.08
FDI to GDP Ratio (net inflow)	1.13	1.16	2.99	5.38
Countries Exiting from Aid Dependency				
Aid to GDP Ratio	7.21	4.49	3.68	1.32
Domestic Saving Rate	25.57	21.26	20.61	23.26
Investment Rate	27.93	25.06	22.02	21.70
GDP Growth	7.01	4.11	3.84	3.37
Inflation	11.11	10.10	13.34	5.42
Export to GDP Ratio	30.29	32.47	34.16	37.18
Manufacturing to GDP Ratio	11.37	12.27	13.38	13.05
FDI to GDP Ratio (net inflow)	2.26	1.48	1.29	2.75

Source: Authors' computation based on data from WDI 2009

In Table 5 we re-estimate the linear probability model with two different specifications. The results in column 2 refer to the likelihood of exiting from aid dependence for groups of countries that were in similar levels of aid dependency during the 1970s. The dependent variable in column 2 is a dummy variable that takes the value 1 for countries positioned above the 5th decile during the 1970s but moved below the 5th decile in the 2000s, and takes the value zero for any country that stays at or above the 5th decile both in the 1970s and 2000s. In column 4 we carry out another sensitivity analysis by

considering a reduction in aid dependency without limiting the sample only to countries that were highly aid dependent in the initial period. The dependent variable in column 4 is therefore a dummy variable distinguishing between countries that reduced their aid dependency by any amount although they might not have necessarily crossed the 5th decile from above (in which case the dummy variable will take the value 1), and those countries whose aid dependence has increased in 2000s regardless of where they were in the initial period (in which case the dummy variable will take the value 0). In essence we are considering countries that are below and above the 45° line regardless of in which quadrant they were located initially.

Table 5: Linear Probability Estimates of Exiting Aid Dependence

	Coefficients	T-stat	Coefficients	T-stat
	2	3	4	5
Ln(Investment/GDP)	0.1947 (0.0953)	2.04	0.2254 (0.0853)	2.64
Ln(Saving-Investment Gap)	-0.1290 (0.0577)	-2.24	-0.1610 (0.0522)	-3.09
GDP-growth	0.4752 (0.6475)	0.73	0.2854 (0.5070)	0.56
Ln(Inflation)	-0.0452 (0.0280)	-1.61	-0.0335 (0.0258)	-1.30
Ln(Export/GDP)	0.0996 (0.1043)	0.95	0.0694 (0.0782)	0.89
Ln(Manufacturing/GDP)	0.2885 (0.1347)	2.14	0.4139 (0.1037)	3.99
Ln (FDI/GDP)	0.0103 (0.0302)	0.34	0.0028 (0.0249)	0.11
Constant	0.7450 (0.4099)	1.82	0.9556 (0.3545)	2.70
Number of countries	48		64	

Source: Authors' estimation results based on OECD and WDI data

The investment rate and the saving-investment gap in column 2 of Table 5 have the same sign and significance as in Table 3, although the coefficients are a bit lower. Once again GDP growth remains statistically insignificant. While inflation retains its negative association with the likelihood of aid exit, its coefficient is statistically significant at a level slightly beyond the conventional levels of significance. The manufacturing share of GDP

remains as important for graduation from aid dependency for this sample of countries as it was for the previous sample while export and FDI are not statistically significant.

If we make the distinction among countries less stringent by including even those countries that reduced aid dependency without necessarily crossing the 5th decile, as we did in column 4 of Table 5, the results remain similar except that inflation is not any more significant, i.e., managing inflation is only relevant for a drastic reduction of aid dependence but not for a mild reduction.

The exercise in this section shows that there is a clear pattern in macroeconomic variables that we have considered that distinguish countries that exit aid dependency (countries on their way out of aid dependency) from those countries that have become increasingly aid dependent. These differences are robust to different starting points for analysis as well as changes in the composition of the sample.

6. Conclusion

This paper shows that countries with low initial degree of aid dependency are more likely to remain less aid dependent and further reduce their aid-to-GDP ratio while countries with high initial aid dependency are more likely to remain highly aid dependent or even become increasingly so. While this shows a certain degree of path dependence in aid dependency, this is not a universal phenomenon. There are a group of developing countries that significantly reduced their initial high level of reliance on international aid. The paper goes further to characterize this group of countries which initially were heavily aid dependent but managed to get out of it. The paper attempted to identify key attributes of an aid-exit strategy by systematically comparing the latter group of countries with another group of countries which failed to reduce their initial high aid dependency rate.

The analysis shows that the likelihood of exiting from heavy reliance on international development aid increases with the rate of investment. Strengthening policies and institutions that promote public and private investment, be it through infrastructure development or macroeconomic stability, is a reliable path to exiting from aid dependency. Unfortunately, evidence shows that a declining share of aid is being allocated to infrastructure development. Increasing the flow of aid alone therefore does not in itself lead countries out of aid dependency if it not accompanied by aggressive capital accumulation.

A functional and well developed financial system that could support high investment rate is also equally important as a widening saving-investment gap is more than likely to delay graduation from aid dependency. Donors and recipient countries should therefore watch out for aid flows not to inadvertently stifle domestic savings even when investment rates are high. Consistent with this observation is the critical role of managing inflation which has been shown to reinforce persistent aid reliance if it remains unchecked. This calls for fiscal and monetary policies that will keep inflation at bay.

The paper also shows that even a small increase in the share of manufacturing in GDP has a potential to facilitate an aid exit. While the exact nature of policies will obviously differ across countries, a clear industrial policy and strategy is a key prerequisite for an aid-exit strategy.

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