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FOREIGN AID, INEQUALITY, AND POVERTY: IS THE EFFECT IN SUB-SAHARAN AFRICA DIFFERENT?

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AN ABSTRACT OF THE RESEARCH PAPER OF
Kouassi Aziafo Magnon, for the Masters of Science degree in Economics, presented on February 20, 2012 at Southern Illinois University Carbondale.
TITLE: Foreign Aid, Inequality, and Poverty: Is the Effect in Sub-Saharan Africa Different?
MAJOR PROFESSOR: Dr. Kevin Sylwester
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by

Kouassi Aziafo Magnon

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A Research Paper
Submitted in Partial Fulfillment of the Requirements for the
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CHAPTER 1

INTRODUCTION

For more than 50 years foreign aid has been used by developed countries and aid agencies to stimulate growth, and consequently to alleviate poverty and reduce income disparity in poor countries. The effect of foreign aid on growth has proved controversial. For instance, Burnside and Dollar (2000) assert that foreign aid favors growth in the presence of good macroeconomic policies. Easterly (2003) finds that foreign aid does not have any significant effect on growth, even if good policies are implemented in recipient countries. However, there has been little work on the relationship between aid and poverty. But even here, the findings seem to be divisive. Collier and Dollar (2002) uncover that aid decreases poverty in the presence of good institutions. Arvin and Barillas (2002) reveal that though aid helps to diminish poverty in East Asia, it adversely affects poverty in low-income countries. Moreover, Masud and Yontcheva (2005) stipulate that there is no palpable evidence that aid eliminates income disparities.

These views above are consistent with the work by Chong, Gradstein, and Calderon (2009) who try to empirically examine the effect of foreign aid on inequality and poverty during the time frame 1972-2002. They approach the question using two econometric techniques: first with a cross sectional analysis and second with a panel data method to tackle potential endogeneity and persistence issues. In both the cross sectional approach and panel data analysis, they consecutively run inequality and various measures of poverty on foreign aid, foreign aid squared, corruption, the interactive term between foreign aid and corruption, schooling, the share of agriculture and industry in the total output, and income per capita. The poverty measures used are: the headcount index, the poverty gap, and the squared poverty gap, while the Gini

coefficient is used as a proxy for inequality. They uncover that though aid may lower the misery of the most vulnerable, especially when corruption is low, foreign aid insignificantly affects poverty and income inequality.

However, they fail to consider how foreign aid's impact on poverty and income inequality differs across regions. In fact aid could be less effective or perhaps has a more positive effect in other regions, but Chong et al. (2009) did not find this because they constrained their model to be the same across regions. Therefore, the purpose of this paper is to examine if foreign aid differently impacts inequality and poverty in sub-Saharan Africa following the methodological approach of Chong et al. (2009). The emphasis on sub-Saharan Africa seems interesting because of its singularity: the highest level of ethnic fractionalization and the greatest number of illegitimate states (Englebert, 2000).

The paper is structured as follows: section 2 provides some of the reasons why foreign aid's effect can differ in sub-Saharan Africa. Section 3 deals with the methodology and data. Section 4 presents the empirical results. Finally, section 5 offers the conclusions.

CHAPTER 2

PARTICULARITY OF SUB-SAHARAN AFRICA

The case of sub-Saharan Africa seems particular. The hope arisen at independence in the 1960's that aid would quickly lead to growth and eradicate poverty collapsed, despite the potential of the region. After receiving foreign aid for nearly five decades Africa still has the highest level of inequality and poverty. The causes of this terrible reality can mainly be found in the lack of legitimacy of political regimes, the ethnic fractionalization, and the resultant sociopolitical instability, high level of corruption, and low schooling. These characteristics presumably affect how aid is managed in sub-Saharan Africa.

1) Legitimacy and institutional weakness

For Englebert (2000), while in Asia the independent nations were quite the same as the pre-colonial kingdoms and states built through a common assumed history, most of the postcolonial African nations were more like conglomerates of communities, more a creation of the colonial master than true states. None of the new states matched with the pre-colonial states. For example, the Ashanti kingdom and the Mossy Empire were embedded in the new Ghana and Burkina Faso. The political regimes of these young nations, exogenously created by Europeans, suffered legitimacy, which hampered their ability to conceive development- oriented policies for two reasons: sociopolitical instability and institutional weakness.

The new leaders, collaborators with the colonial administration, were not members of the pre-colonial and traditional aristocracy; they were seen as atypical leaders, and were systematically contested. Englebert (2000) unveils that the lack of legitimacy has been one of the main causes of political and social instability in sub-Saharan African countries. Doyle and Sambanis (2000) assert that sub-Saharan Africa witnessed 40% of the civil wars between 1945

and 1997. Ericksson, Wallensteen, and Sollenberg (2003) affirm that 50% percent of the ongoing internal conflicts were in sub-Saharan Africa. For instance, every country in West Africa witnessed a military coup or rebellion. Englebert (2000) uncovers that the exogenous conception of African states damaged the cohesion and development of the nation, altering by the same way the quality of their institutions. For Elbadawi and Sambanis (2000), the institutional alteration favors civil wars in sub-Saharan Africa. Furthermore, Ake (1996) affirms that the instability has prevented the continent from focusing on developmental issues. Civil wars have perverted the quality of institutions in sub-Saharan Africa. In this situation, it is less likely that foreign aid will lead to policies lowering inequality and poverty.

This growing instability slowed down economic progress. The contested regimes hardened themselves, establishing autocratic and corrupt regimes, whose main goal was to consolidate power and privilege. They were inclined to greater corruption. Moreover, they established institutions and institutional designs enabling them to preserve their privilege (van de Walle, 2001). Supposedly, illegitimate regimes could use aid less effectively; aid could be used to reward political supporters, instead of poverty and inequality reduction.

Additionally, African states inherited weak institutions, less appropriate for generating wealth, from the colonial masters (Platteau, 2009). Because the environment of sub-Saharan Africa being hostile to a significant European settlement, the colonial governments built institutions adapted to resource extraction (Acemoglu, Johnson, and Robinson, 2001). Because institutions are persistent over time, these pernicious institutions led to extractive economies that are less likely to adequately manage aid and implement development oriented policies capable of lowering income disparity and poverty. Moreover, African leaders presumably perverted the already weak institutions inherited through a growing corruption, and the apparent hostility to

any kind of institutional improvement (van de Walle, 2001). Accordingly, the institutional weakness and the lack of legitimacy led to bad governance and harmful policies intended to protect the privileges of less accountable and authoritarian political elites, as in the case of Zimbabwe, and Congo (the former Zaire) (Svensson,2005). Consequently, inequality and poverty grew regardless of the good intention of donors to alleviate poverty.

2) Ethnic fractionalization

There is a link between ethnic fractionalization and the growing economic malaise in sub Saharan Africa. Because of colonization, sub-Saharan African countries have the highest ethnic heterogeneity in the world (Easterly and Levine, 1997); the colonial masters in order to maintain their hegemony exacerbated the differences between the various ethnic communities within their colonies. The ethnic heterogeneity has led to the development of ethnocentrism, the ethnic polarization of political elites, and conflicts detrimental to the development of the continent (Krause and Suzuki, 2005). In this situation, any resource including foreign aid will be diverted from development projects and used to consolidate the ethnic hegemony or simply used to reward political allies. Furthermore, regions are excluded from development programs because of their ethnic origin. Ethnic heterogeneity led to less efficient development strategies, and increasing corruption (Easterly and Levine, 1997). African political regimes often acquire legitimacy from ethnic groups, since even in democracy votes are ethnically driven (Norris and Mattes, 2003); candidates belonging to the main ethnic groups are more likely to gain power. In this situation politicians feel more accountable to their ethnic groups than to the nation. The resulting lack of national legitimacy weakened the potential of successive governments to promote inequality and poverty alleviating policies and to allocate foreign aid to the needy. The ethnic fractionalization of sub-Saharan countries has had a ruining effect on the capability of aid

to reduce inequality and poverty, because of the rent seeking inherent to polarized societies. The fractionalization favored growth reducing and suboptimal policies (Alesina, 1994); Africa has the lowest investment records in human capital, which negatively affected the ability to manage aid to build development infrastructure (Englebert, 2000). Milanovic (2003) claims that the high ethnic diversity has been the main cause of the increasing income inequality and poverty in Africa. Moreover, the exacerbation of ethnic antagonisms and discrimination by polarized and corrupt political elites has led to civil wars in sub-Saharan Africa like the Rwandan case in the early 1990's, destroying development infrastructure like schools, bridges, and hospitals. Consequently, inequality and poverty worsened (Milanovic, 2003). In addition ethnic marginalization might affect the civic culture of marginalized groups, further weakening institutions. In this hostile environment, it seems hard to implement any workable redistributive policies, and foreign aid could fail to reduce inequality and poverty.

CHAPTER 3

DATA AND METHODOLOGY

1) Data

The data used in this paper comes from the same sources as those used by Chong et al. (2009). Our data cover the time frame 1972-2008[1]. Table 1 lists the variables and their sources[2], while table 2a and table 2b, respectively, furnish the summary statistics of cross-sectional data for all aid recipient countries and sub-Saharan African countries. Moreover, table 3a and table 3b present the summary statistics for the panel data for aid recipient countries and sub-Saharan African countries.

Table1: Variables and their sources

Variables	Sources
Gini index	United Nations (WIID 2008)
Poverty headcount index	PovcalNet, World bank,2010
Poverty gap	PovcalNet, World bank,2010
Squared poverty gap	PovcalNet, World bank,2010
Official development assistance (ODA)	OECD,2010
Effective development assistance (EDA)	OECD,2010
Commitment	OECD,2010
GDP per capita	WDI 2010,World bank
Inflation rate	WDI 2010,World bank
Liquid liabilities	WDI 2010,World bank
Primary Enrollment	WDI 2010,World bank, Barro and Lee (2011)
Corruption	International country risk guide (ICRG 2009)
Ethnic fractionalization	Alesina et al. (2003)
Agriculture value added	WDI 2010,World bank
Industry value added	WDI 2010,World bank

We consider three measures of foreign aid. The ODA, official development assistance, comprises grants and concessional loans net of repayments, and debt forgiveness. The EDA,

[1] Chong et al. (2009) consider 1972-2005

[2] For the definition and details about the variables see Chong et al. (2009)

effective development assistance, does not take into account concessional loans, and it is available only for the period 1975-1995. To get an approximation for EDA over the entire period, we take advantage of the high correlation between ODA and EDA, so we run a regression of EDA on ODA. Finally, Commitment considers not only the components of ODA but also firm obligations. The foreign aid measures are in current US dollars.

The Gini coefficient is used as a proxy for inequality. The Gini coefficient is chosen because of its availability and its ability to reflect households' income and expenditures. However, because the index is computed from surveys, it can be noisy. Moreover, it can be subject to compatibility issues because the surveys' methodology may vary from one survey to another. The index may be income-based, consumption-based individual-based, or household-based.

The poverty measures are available from the early 1980's, and are computed on the basis of a $ 1.25 PPP per day threshold. Three measures are considered in this analysis: the headcount index, the poverty gap, and the squared poverty gap. The headcount index captures the percentage of the population below the poverty line, while the poverty gap reveals the intensity and the prevalence of poverty. In addition, squared poverty gap captures the variations in the harshness of poverty and distributional variations among the poor. For both inequality and poverty measures, when for a country several measures are reported for a particular year, we choose the one representing the best quality data. Moreover, for countries with high levels of urbanization, like those in Latin America, only the urban inequality or poverty measures are used.

The other variables used in the analysis are: the enrollment rate, GDP per capita, GDP, liquid liabilities, the share of agriculture in output, and the share of industry in output. GDP per

capita is evaluated in year 2000 constant dollars; while GDP is evaluated in current US dollars because the foreign aid being also evaluated in current US dollar the ratio of aid to GDP remains unaffected by price fluctuations. In addition, to complete the data on education, we exploit the dataset of Barro and Lee (2011) to get data missing between 1972 and 1990 in the World Bank dataset. The Barro-Lee educational attainment database covers 146 countries over the period 1950-2010.These control variables are considered because they can help assess inequality and poverty. For illustration, economists believe that higher level of educational attainment is associated with lower inequality (Sylwester, 2003). Moreover, higher inflation may aggravate the severity of poverty, since inflation negatively affects the purchasing power of consumers. Furthermore, it is believed that higher levels of income per capita are associated with lower levels of inequality and poverty (Kuznets, 1955). The initial income per capita is necessary to capture the importance of initial conditions among aid recipient countries.

Table2a: cross sectional summary statistics for the entire sample

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Obs
Gini index	50	48.6	78.6	28.9	10.6	116
headcount index	52.5	54.3	92.6	4.7	22.1	92
Poverty gap	23.3	21.1	63.3	0.7	14.1	92
Squared poverty gap	13.4	11	48.5	0.1	10.3	92
ODA/GDP	9.7	7	71.8	0.2	9.5	350
Commitment/ GDP	11.2	6.5	126.8	0	14.7	349
EDA/GDP	6.8	4.8	62.3	-0.3	7.6	349
Corruption index	3.3	3	6	0.1	1.5	279
Primary enrollment	18.4	14	94.2	1	16	340
Inflation rate	42.1	10.3	8603.3	-4.5	482	318
Liquid liabilities	29.7	22.5	595.2	1.2	38.7	328
Log GDP per capita	6	5.8	8.8	4.2	0.9	350
share of industry	24.7	20.7	64.2	1.9	12.1	350
share of agriculture	32.2	32.3	94	2	16.1	350

Table2b: cross sectional summary statistics for sub-Saharan Africa countries

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Obs

Gini index	50.3	50.3	65.7	37	7.7	31
Headcount index	51.9	58.1	84	4.8	21.8	29
Poverty gap	23.2	25.8	41.3	0.9	12.3	29
Squared poverty gap	13.4	14.5	26.7	0.3	8.2	29
ODA/GDP	9.6	9	30.4	0.3	6.6	31
Commitment/GDP	10.9	10.2	27.7	0.4	7	31
EDA/GDP	6.9	6.4	21.6	0.2	5	31
Corruption index	3.2	2.9	5.7	0.8	1.2	31
Primary enrollment	18.6	17	55.8	3.2	11.3	31
Inflation rate	39.5	10.4	781.3	3.3	138.2	31
Liquid liabilities	29.9	23.4	111	9.3	20.7	31
Log initialGDPper capita	6	5.9	8.2	4.7	0.8	25
Log GDP per capita	6	5.8	8.4	4.7	0.9	31
Share of industry	24.5	20.1	53.8	11.5	11	31
Share of agriculture	31.9	31.5	56	3.5	15.1	31
Ethnic fractionalization	0.7	0.7	0.9	0.3	0.2	31

Table3a: panel data summary statistics for the entire sample

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Obs
Gini index	42.7	43	78.6	20	11.1	700
headcount index	22.6	12.8	94.1	0	24.9	439
Poverty gap	8.6	3.5	63.3	0	11.8	439
Squared poverty gap	4.5	1.3	48.5	0	7.4	439
ODA/GDP	5.2	2.2	71.8	-0.5	7.3	1020
Commitment/ GDP	6.1	2	126.8	-0.5	10.4	1009
EDA/GDP	3.6	1.3	62.3	-0.9	5.6	1052
Corruption index	3.5	3.6	6	0.1	1.5	951
Primary enrollment	41.6	36.9	111.9	1	28.3	995
Inflation rate	59	9.7	8603.3	-4.5	400	1025
Liquid liabilities	40	32.5	595.2	0	32.8	1016
Log GDP per capita	7	7	10.4	4.2	1.2	1146
share of industry	30.2	29.5	66.9	1.9	11.1	1097
share of agriculture	22.4	20.2	94	0.1	14.8	1100

Table3b: panel data summary statistics for sub-Saharan Africa countries

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Obs

Gini index	50	48.6	78.6	28.9	10.6	116
headcount index	52.5	54.3	92.6	4.7	22.1	92
Poverty gap	23.3	21.1	63.3	0.7	14.1	92
Squared poverty gap	13.4	11	48.5	0.1	10.3	92
ODA/GDP	9.7	7	71.8	0.2	9.5	350
Commitment/ GDP	11.2	6.5	126.8	0	14.7	349
EDA/GDP	6.8	4.8	62.3	-0.3	7.6	349
Corruption index	3.3	3	6	0.1	1.5	279
Primary enrollment	18.4	14	94.2	1	16	340
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From the tables above it appears that on average sub-Saharan Africa exhibits the higher levels of inequality and poverty than the rest of developing countries. For example, the levels of the headcount index, poverty gap, and squared poverty gap in sub-Saharan Africa are twice the size of these indicators among developing countries. Furthermore, on average there is more foreign aid flowing into sub-Saharan Africa than in the rest of the developing countries. For illustration, the ratio of foreign aid to GDP in sub-Saharan Africa is double the average level among developing countries. Moreover, it comes from the tables that sub-Saharan Africa experienced greater corruption than did other developing countries. Besides these observations, one can remark that sub-Saharan Africa is more rural, and it has less schooling and higher inflation.

2) Methodology

To examine the impact of foreign aid on poverty and income inequality, I will use two regression methods: a cross sectional analysis and a panel data approach.

2.1) Cross-sectional analysis

The following specification is utilized to unveil the effect of foreign aid on inequality and poverty in aid recipient countries.

$$y_i = \alpha + \beta N_i + \theta * Aid_i + \eta SSA * Aid_i + \phi SSA + \xi_i$$

Though the econometric methodology does follow Chong et al. (2009), the specification in this paper does not consider any measure of institutional quality because the aid literature recognizes that the quality of institutions does not necessarily reduce inequality and poverty (Easterly,2007; Chong et al.2009). Moreover, we did run specifications taking into account corruption but the outcome was unable to affect the results found in this paper. Like in Chong et al. (2009) y_i represents average[3] of the inequality measure, namely the Gini index, when the estimation is about inequality. Analogously, it represents one of the various poverty proxies (headcount index, poverty gap, and squared poverty gap), when considering poverty. N_i is a matrix of averages of control variables such as primary school enrollment rate , liquid liability, inflation rate, the share of agriculture and industry in output, and the initial level of per capita income. Furthermore, SSA is a dummy variable; it takes the value 1 if the country is a sub-Saharan Africa country and zero otherwise. If η is significantly different from zero, foreign aid may differently impact inequality and poverty in sub-Saharan Africa. These control variables are chosen because they can presumably help to assess the phenomenon of inequality and poverty, and their omission may introduce a bias in the

[3] The time frame of the averages is the period 1972-2008 for inequality and 1980-2008 for the estimation of poverty.

coefficient estimates. From this specification, it is assumed that the effect of foreign aid on inequality and poverty is symmetric, and also this effect does not vary from one country to another. This assumption is arguable since countries differ from each other.

However, there are some concerns about the explanatory variables which may hamper the quality of the results. First, the relatively high number of missing data may alter the significance of the regressors' coefficients. Second, there is a problem of reverse causation; a higher level of poverty and inequality can command a higher level of foreign aid. Moreover, poverty may affect per capita income; for example, the greater the poverty level, the lower the per capita income (Ravallion and Datt, 2002). To help remedy these problems, a dynamic panel data approach will be used.

2.2) Dynamic panel data analysis

$$y_{it} = \alpha + \beta N_{it} + \gamma y_{i,t-1} + \theta * Aid_{it} + \eta SSA * Aid_{it} + \omega_i + \xi_{it}$$

Though cross sectional analysis captures between country variation, it fails to capture variations over time within a country. Consequently, an OLS panel data regression with fixed effects is considered to help tackle endogeneity and persistence issues. Along with the other control variables, we control for the lagged values of the dependent variable. The country fixed effect, ω_i, may capture the within country time invariant specifics, while the time fixed effects may capture global shocks. The fixed effects may potentially reduce the coefficients on foreign aid and the interactive term between foreign aid and sub-Saharan Africa in comparison to the cross section outcome. Though the persistence issue will be resolved, there may be a problem of serial correlation in the error term. The predetermined nature of economic variables commands a careful use of models with fixed effects (Maddala and Lahiri, 2009).Moreover, the small number

of periods may suppose the use of the OLS method inappropriate, since the conventional wisdom commands the use of a GMM method in case of a small time span.

CHAPTER 4

RESULTS

Table 4a presents the cross sectional regression results of the effect of foreign aid on inequality.

Table 4 a: Cross-section regression results for inequality

	Dependent variable : Gini coefficient		
	ODA/GDP	Commitment/GDP	EDA/GDP
CONSTANT	54.636***[4]	53.813***	57.149***
	(4.876)[5]	(4.780)	(4.905)
AID	0.809**	0.710**	1.183**
	(2.084)	(2.003)	(2.289)
AID*SSA	-0.653	-0.557	-0.833
	(-1.605)	(-1.490)	(-1.537)
INFLATION	0.011**	0.011**	0.012**
	(2.111)	(2.126)	(2.222)
LIQUID LIABILITIES	-0.066**	-0.064**	-0.062**
	(-2.355)	(-2.251)	(-2.119)
ENROLLMENT	-0.156***	-0.154***	-0.205***
	(-2.681)	(-2.646)	(-3.727)
LOG INITIAL GDP PER CAPITA	1.473	1.494	1.503
	(1.209)	(1.222)	(1.186)
AGRICULTURE VALUE ADDED	-0.347***	-0.341***	-0.390***
	(-2.752)	(-2.695)	(-3.035)
INDUSTRY VALUE ADDED	-0.118	-0.109	-0.133
	(-1.250)	(-1.155)	(-1.347)
SSA	4.845*	4.861*	3.699
	(1.790)	(1.696)	(1.320)
NUMBER OF OBSERVATIONS	70.	70.	72.
R-SQUARED	0.418	0.415	0.444

[4] *** Significance at 1% level; ** significance at 5%level, and * significance at 10%level.

[5] Numbers in parentheses allude to t-statistic

Table 4b presents the cross sectional regression results of the effect of foreign aid on poverty. Three measures of poverty are considered: headcount index, poverty gap, and squared poverty gap.

Table 4b: Cross-section regression results for poverty

	Dependent variable: Poverty gap[6]		
	ODA/GDP	Commitment/GDP	EDA/GDP
AID	-0.178	0.057	-0.402
	(-0.377)	(0.130)	(-0.727)
AID*SSA	0.491	0.605	0.830
	(1.030)	(1.374)	(1.465)
SSA	3.730	0.639	3.551
	(1.055)	(0.176)	(1.042)
NUMBER OF OBSERVATIONS	68.	68.	73.
R-SQUARED	0.682	0.707	0.699
	Dependent variable: Headcount index		
	ODA/GDP	Commitment/GDP	EDA/GDP
AID	-0.757	-0.273	-1.038
	(-0.885)	(-0.337)	(-1.031)
AID*SSA	1.056	1.162	1.361
	(1.221)	(1.432)	(1.319)
SSA	5.785	0.693	5.927
	(0.903)	(0.104)	(0.956)
NUMBER OF OBSERVATIONS	68.	68.	73.
R-SQUARED	0.745	0.757	0.763
	Dependent variable: Squared poverty gap		
	ODA/GDP	Commitment/GDP	EDA/GDP
AID	-0.037	0.089	-0.203
	(-0.115)	(0.298)	(-0.544)
AID*SSA	0.278	0.370	0.557
	(0.862)	(1.242)	(1.457)
SSA	2.543	0.565	2.279

[6] For poverty for all specifications only the key variables are reported. The control variables are the same as those in table 4a.

	(1.063)	(0.230)	(0.992)
NUMBER OF OBSERVATIONS	68.	68.	73
R-SQUARED	0.626	0.656	0.644

The cross sectional results suggest that there is an insignificant association between foreign aid and inequality in sub-Saharan Africa. Moreover, the results insinuate that sub-Saharan Africa specifics may be important for inequality. Variables such as enrollment, liquid liabilities lessen inequality. In addition, foreign aid has no significant association with poverty in sub-Saharan Africa. However, education, and initial income level appear crucial for poverty.

Table 5a presents the panel data regression output revealing the incidence of foreign aid on inequality, while table 5b shows the effect of foreign aid on the various measures of poverty.

Table5a: OLS Panel regression results for inequality

	Dependent variable : Gini coefficient		
	ODA/GDP	Commitment/GDP	EDA/GDP
CONSTANT	33.607	48.606**	42.657**
	(1.492)	(2.147)	(2.008)
AID	0.220	-0.082	-0.526
	(0.783)	(-0.485)	(-1.694)
AID*SSA	0.225	-0.363	0.246
	(0.584)	(-1.497)	(0.689)
INFLATION	0.001	0.001	0.001
	(0.214)	(0.093)	(0.004)
LIQUID LIABILITIES	-0.031	-0.023	-0.016
	(-0.791)	(-0.601)	(-0.421)
ENROLLMENT	-0.087**	-0.084**	-0.059
	(-1.949)	(-1.905)	(-1.345)
LOGGDP PER CAPITA	2.825	0.816	1.236
	(0.918)	(0.265)	(0.427)
LAG OF GINI	0.021	0.042	0.052
	(0.313)	(0.629)	(0.782)
AGRICULTURE VALUE ADDED	0.341**	0.282*	0.336**
	(2.307)	(1.852)	(2.471)
INDUSTRY VALUE	-0.280***	-0.247**	-0.270***

ADDED			
	(-2.784)	(-2.483)	(-2.898)
COUNTRY FIXED EFFECT	Yes	Yes	Yes
TIME FIXED EFFECT	Yes	Yes	Yes
R-SQUARED	0.839	0.840	0.863
NUMBER OF OBSERVATIONS	265.	264.	285.
NUMBER OF CROSS-SECTIONS	66.	66.	75.

Table5b: OLS Panel regression results for poverty

Dependent variable: Squared poverty gap

	ODA/GDP	Commitment/GDP	EDA/GDP
AID	-0.261**	-0.048	-0.009
	(-1.573)	(-0.606)	(-0.046)
AID*SSA	0.249*	-0.294	0.151
	(1.189)	(-2.331)	(0.734)
COUNTRY FIXED EFFECT	Yes	Yes	Yes
TIME FIXED EFFECT	Yes	Yes	Yes
NUMBER OF OBSERVATIONS	152	152.	162
NUMBER OF CROSS-SECTION	52.	52.	59
R-SQUARED	0.944	0.952	0.945

Dependent variable: Headcount index

	ODA/GDP	Commitment/GDP	EDA/GDp
AID	-1.251**	-0.231	0.264
	(-2.502)	(-0.879)	(0.427)
AID*SSA	1.340**	-0.043	-0.030
	(2.131)	(-0.106)	(-0.047)
COUNTRY FIXED EFFECT	Yes	Yes	Yes
TIME FIXED EFFECT	Yes	Yes	Yes
NUMBER OF OBSERVATIONS	152.	152.	162.
NUMBER OF CROSS-SECTION	52	52	59

R-SQUARED	0.971	0.970	0.971

	Dependent variable:	Poverty gap	
	ODA/GDP	Commitment/GDP	EDA/GDP
AID	-0.521	-0.109	-0.017
	(-2.040)	(-0.853)	(-0.055)
AID*SSA	0.521	-0.279	0.186
	(1.630)	(-1.399)	(0.574)
COUNTRY FIXED EFFECT	Yes	Yes	Yes
TIME FIXED EFFECT	Yes	Yes	Yes
NUMBER OF OBSERVATIONS	152.	152.	162
NUMBER OF CROSS-SECTION	52.	52.	59.
R-SQUARED	0.957	0.959	0.957

The OLS panel regression indicates that foreign aid does not have any significant association with inequality in sub-Saharan Africa. Agriculture and industrialization do seem decisive; the lower the agriculture sector the less inequality is, but the higher the industrial sector the less inequality can be. Furthermore, it can be inferred that the official development assistance does have a negative and statistically significant association with poverty in sub-Saharan Africa. This finding fails to hold while using alternative definitions of foreign aid.

CHAPTER 5

DISCUSSION OF THE RESULTS

The results have to be taken with caution, because the absence of a statistically significant coefficient does not mean that aid is harmful or irrelevant for inequality and poverty reduction in sub-Saharan Africa. This can be explained by several reasons. First, it may mean that inequality and poverty in sub-Saharan Africa is so high that the amount of foreign aid disbursed seems insignificant. Moreover, the ability of aid to effectively lower inequality and poverty can be diluted because donors may be motivated by other considerations like strategic interest, retribution of allies or even colonial past which are not necessarily in conformity with poverty alleviation (Alesina and Collier, 2000).

It also might be the case, when it occurred; that excessive monitoring does create some disturbances in the implementation of inequality and poverty reduction programs (Easterly, 2007). The top down reforms imposed upon sub-Saharan African countries in order to be eligible for aid are not necessarily conducive to lower poverty and inequality, and they might undermine the ability of aid to alleviate poverty (Easterly, 2009).Sometimes, the failure of coordination between the various aid agencies operating through NGOs in sub-Saharan Africa and the local governments may be damageable to the success of aid programs (van de Walle, 2003).

Furthermore, the absence of significant results may be due to the lack of systematic evaluation and feedback of aid programs, the lack of transparency of donors and the negligence of local officials while conceiving aid projects (Easterly, 2003). In addition, one can consider that foreign aid does not have a lasting effect, since the absorptive capacity of population in sub-Saharan Africa to maintain infrastructure is quite low. Moreover, the developmental approach used by donors to tackle poverty and inequality in sub-Saharan Africa allows for the repetition of

previous errors which led to the ineffectiveness of several aid projects (Easterly, 2009). Donors do not necessarily discriminate against countries or regimes where leaders are corrupt and less answerable (Alesina and Weder, 2002). This view is also consistent with the work by Easterly and Pfutze (2008), who unveil that increasing level of foreign aid has been given to autocratic regimes. Svensson (2000) reports that foreign aid favors corruption.

Furthermore, it can be that political elites, in sub Saharan Africa, do divert foreign aid to projects unable to lower inequality and poverty (World Bank, 1998). It is common to observe in sub-Saharan Africa the looting of the aid disbursed by corrupt and less accountable political elites, due to the absence of democratic and credible institutions (Boone, 1996). Moreover, foreign aid might hardly reach the needy of sub-Saharan Africa because of the possibility of elites to divert to themselves any available resource and this even under democracy (Bjornskov, 2010). Finally, because sub-Saharan African countries are reluctant to pursue reforms leading to institutional improvement, foreign aid may barely be effective in reducing poverty and inequality (van de Walle, 2003).

CHAPTER 6

CONCLUSION

Throughout this paper, there is weak evidence that foreign aid does worsen inequality and poverty in sub Saharan Africa; however, this finding fails to be robust to alternative measures of foreign aid. This indicates that the findings of Chong et al. (2009) were not driven by differences between sub-Saharan Africa and other regions averaging out to zero. In addition, it appears that local conditions and the relative weight of agriculture and industry do account for inequality and poverty outcomes. The weakness of the findings may be due to the unavailability of data, and a possible endogenous nature of some variables like agriculture and enrollment. These variables may be dependent on foreign aid. In future work, I try to address these problems of endogeneity.

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APPENDIX

APPENDIX

LIST OF COUNTRIES IN THE ENTIRE SAMPLE

Albania, Algeria, Argentina, Armenia, Azerbaijan, The Bahamas, Bangladesh, Barbados, Belarus, Bolivia, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Côte d'Ivoire, Djibouti, Dominican Republic, Ecuador, Egypt, Arab Republic, El Salvador, Estonia, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, Hong Kong, China, Hungary, India, Indonesia, Iran, Islamic Republic, Israel, Jamaica, Jordan, Kazakhstan, Kenya, Korea, Republic, Kyrgyz Republic, Lao PDR, Latvia, Lesotho, Liberia, Lithuania, Macedonia, FYR, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Romania, Russian Federation, Rwanda, Senegal, Seychelles, Sierra Leone, Singapore, Slovak Republic, Slovenia, South Africa, Sri Lanka, Swaziland, Tajikistan, Tanzania, Thailand, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, Uruguay, Uzbekistan, Venezuela, RB, Vietnam, Yemen, Rep., Zambia, and Zimbabwe.

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