Foreign Aid, Legal Origin, Economic Growth and Africa's Least Developed Countries

Wamboye, Evelyn and Adekola, Abel

Pennsylvania State University, University of Wisconsin – Stout

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Evelyn Wamboye
Pennsylvania State University
DuBois, PA 15801 USA
Email: efw10@psu.eduTel: (814) 375 4856.

Abel Adekola
University of Wisconsin – Stout
Menomonie, Wisconsin 54751
Email: adekolaa@uwstout.edu Tel: (715) 232 1111.

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ABSTRACT

The issue of foreign aid dependency in African countries remains controversial among policy makers.So far, there is no consensus on aid effectiveness and the resulting policy prescriptions have been conflicting. The Euro zone which provides the bulk of foreign aid to developing countries, is currently implementing fiscal consolidation and some austerity programs. It is against this background that this study raises the question: What effects will such fiscal consolidation have on foreign aid flows? Therefore, the value of this study is the investigationofwhat really matters:The quantity or quality of foreign aid to support economic growth?We assess these issues within the framework of a country's legal origin. The quantity effects are proxied by the quadratic term on the aid variable. Source-based proxies are used to measure the quality of aid effects. Our findings suggest that both quality and quantity of aid matters and that these effects differ based on a country's legal origin.

Key words: Foreign aid; Economic growth; Legal origin; Least Developed Countries; Africa.

JEL codes: F35, F43, O11, O19

I. Introduction

Overseas development assistance (ODA) or foreign aid, remain the largest source of external financing of the development of least developed countries (LDCs). At the recent 2011 United Nations (UN) conference on LDCs, a renewed call was made for increased foreign aid flows to LDCs [targeted at approximately 0.15% to 0.20% of gross national income for development assistance committee (DAC) members]. Yet, little conclusive empirical evidence exists in support of growth enhancing effects from foreign aid. For example, some studies have found neutral effects (Boone, 1996; Easterly, Levine and Roodman, 2004 and Easterly, 2007a, 2007b, 2005) while others have found growth depressing effects (Bobba and Powell, 2007). Other scholars have argued that aid can be growth enhancing under good macroeconomic policies (Burnside and Dollar, 2000; Collier and Dollar, 2002) and favorable structural characteristics (Dalgaard, Hansen and Tarp, 2004; Hansen and Tarp, 2001).Nevertheless, proponents have recommended increasing foreign aid flows, especially to countries in sub-Saharan Africa (UNDP, 2005; IMF and World Bank, 2005; European Commission, 2005; Sachs, 2005), citing that the current quantity is not sufficient to provide the needed "big push" in order for these countries to leapfrog out of the poverty trap.

The issue of foreign aid dependency in African countries remains controversial among scholars, policy makers and international organizations. Asian economies that were at the same income level with some of the African economies in the 1950s have now emerged as the "newly industrialized" countries, with their economic growth largely driven by market fundamentals rather than foreign aid. The inability of African countries to wean themselves from foreign aid and duplicate the Asian miracle has puzzled many policy makers. Particularly, Africa has lagged other developing regions in attracting foreign direct investment (FDI) and competitively participating in international trade, the two major drivers of long term economic growth. Critiques have been quick to blame both the donors (for crippling interference in Africa's development policies and in some cases, for not providing the right quantity and quality of aid) and the 'corrupt' government agenciesin some of the recipient countries (Calderisi, 2006; Moyo, 2009; Shah, 2012); with some scholars concluding that foreign aid is simply ineffective in the tropics (Dalgaard et al., 2004; Roodman, 2004).

Nonetheless, African economies have made significant efforts to attract other forms of capital, but their efforts have been disappointing at best. For example, the pursuit of comprehensive macroeconomic policies under the IMF structural adjustment programs that were introduced in the 1980s, combined with an accelerated pace of liberalization, deregulation and privatization did not yield the anticipated surge in foreign direct investment activities, neither have these efforts diversified the export base in these countries (World Bank, 1997; IMF, 1999,UNCTAD, 2005). Additionally, sub-Saharan African (SSA) countries have been particularly diligent in establishing export processing zones, signing investment treaties and generally providing a favorable investment climate more than any other developing countries outside of Asia, without attracting the expected FDI (Hallward-Driemeier, 2003). And although the stock of FDI in the region has increased significantly since the 1980s, albeit at low levels compared to other developing regions, a large proportion of it is concentrated in oil and mineral rich countries (Basu and Srinivasan, 2002). Mounting external debt (especially in the heavily indebted poor countries), weak economic institutions, poor governance and the heavy dependency on the primary sector are some of the persistent factors that have continued to cripple the region and keep it in the cycle of foreign aid dependency.

The most vulnerable of the developing countries and the most highly advocated (by the international community) for increased aid flow, are the LDCs. It is not surprising that 69% of these LDCs are in Africa and 83% of those Africa's LDCs are also classified as heavily indebted poor countries (HIPCs). These countries have low savings rate, undiversified tax-base, and limited access to international capital markets and despite liberalizing their capital accounts, their domestic financial markets are weak and in some cases, missing. A combination of weak or underdeveloped financial markets and capital account liberalization can have dire consequences in terms of increasing a country's vulnerability to financial volatility, deterring long term FDI (Hermes and Lensink, 2003; UNCTAD, 1996b) and even attracting short term capital that has unfavorablegrowth effects (Lensink and Morrissey, 2002). Furthermore, poor financial institutions can also affect a country's absorptive capacity of foreign aid, with real effects on economic growth (Berg, Hussain, Aiyar, Roache, Mirzoev and Mahone, 2006; Gupta, Powell and Yang, 2005).

Accordingly, the goal of this paper is to assess the economic impact of the foreign aid on the recently observed positive economic growth in LDCs while controlling for policy, institutional,

and key economic factors. In contrast to previous studies, we provide an analysis of the impact of aid in terms of its quantity and quality withinthe framework of Africa's least developed countries' legal origins. La Porta, Lopez-de-Silanes, and Shleifer (2008) and La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998)argue that a country's legal origin can be a good predictor of the nature and efficiency of its institutions and policy formulation environment. The French civil law, relative to the English common law tradition, for example, is associated with less efficient contract enforcement, heavy hand of government ownership and regulation and, possible higher corruption. French civil law embraces "socially-conditioned private contracting," in contrast to the English common law, which supports "unconditioned private contracting"(Pistor, 2006; Damaška,1986). Unlike other developing countries, African countries maintain strong colonial ties (UNCTAD, 2005). In many cases these countries have made little or no changes to their constitution since independence and such status quo is reflective of the quality and efficiency of their institutions and policy formulation environment. Thus, by evaluating aid effectiveness within the context of a country's legal origin, we are able to control for the impact of institutions (Dalgaard et al., 2004) and policies (Burnside and Dollar, 2000) without introducing proxies that have their own shortcomings (Dalgaard et al., 2004; Lensink and White, 2000). Furthermore, all the countries in our sample are within the tropical climate. This allows us to put to test the generalization in Dalgaard et al (2004) that foreign aid is ineffective in the tropics.

In the empirical analysis, we employ generalized method of moments(GMM) and fixed effects (FE) techniques to estimate growth regression model over the period of 1984-2010. The role of the quantity of aid is assessed by introducing a quadratic term on the total aid variable. The quality of aid on the other hand, is measured using various source-based proxies. We use four specifications of bilateral aid, which captures the geostrategic aspect of foreign aid, and Multilateral aid from United Nations agencies (UNDP, UNICEF, UNFPA, UNTA, UNHCR and WFP[1])] that measures the non-geostrategic component. Two models are estimated. Inthe first

[1]UNDP (United Nations Development Programs).UNHCR (United Nations High Commissioner for Refugees). United Nations Children's Education Fund (UNICEF)'s goal is to nurture and care for children by working with stakeholders to overcome the obstacles that poverty, violence, disease and discrimination place in a child's path. The agency's focus include promoting girls' education, advocating for children immunization against common childhood diseases, preventing HIV/Aids among young people, providing safe environment for children and promoting equality among those who are discriminated against, girls and women in particular. United Nations Population Fund (UNFPA)'s mission is to provide a world where every pregnancy is wanted, every birth is safe and every young person's potential is fulfilled. World Food Program (WFP) uses food aid to support economic and social development; meet refugee and other emergency food needs, and the associated logistics support; and promote world food security in accordance with the recommendations of United Nations and food and agriculture organization (FAO). United

model we enter the aid variables as standalone and in the second model, these variables are interacted with a dummy variable for the country's legal origins. 61% of the countries in the sample have French and 31% have British legal origins. Consequently only dummy variables for French and British legal origins are used.

The rest of the paper is organized as follows. The next section provides a review of related literature, section III describes the methodology and the data, while Section IV presents the results of the empirical analysis followed by concluding remarks in Section V.

II. Related Literature Review

There are three strands of literature that explain the foreign aid – growth relationship in poor countries: the takeoff hypothesis, the conditionality requirement and the "timing and type of aid" argument. The takeoff hypothesisstrand advocates for increased flow of foreign aid to poor countries (Sachs, 2005). The underlying argument hinges on the fact that poor countries face a big financing gap. As a result, their physical capital accumulation has failed to keep up with the depreciation and the high population growth rates[2]. The financing gap is caused by among other factors; their low domestic savings, limited and undiversified tax base and poor access to traditional international capital markets. As a result, they lack sufficient capital stock required to lift them above the subsistence level onto a more accelerate and rapid development path. In other words, there exists a threshold level[3] of capital stock, beyond which capital begins to have meaningful growth enhancing effects. Therefore, a reasonable and sustained flow of foreign aid can help these countries meet and surpass that minimum capital stock, necessary for the takeoff into self sustained growth[4] (UNDP, 2005; IMF and World Bank, 2005).

Nations Transitions authority (UNTA) ensures the implementation of the agreements of the comprehensive political settlement of countries in post conflict. It establishes a unique legitimate body and source of authority in which, throughout the transition period, independence and unit of a country are enshrined. The mandate given to UNTA includes aspects relating to human rights, the organization and conduct of free and fair general elections, military arrangements, civil administration, the maintenance of law and order, the repatriation and settlement of the refugees and displaced persons and the rehabilitation of essential structures in the country during the transition period.

[2]See Galor and Weil, 1996, 2000 for discussions on the linkage between population growth and capital accumulation

[3]See an example in Sachs (2005, page 250) regarding an impassable road due to a missing bridge for further explanation on the threshold effects.

[4]For more discussions on the takeoff hypothesis, please see Easterly, William, 2006. "Reliving the 1950s: The Big Push, Poverty Traps and Takeoffs in Economic Development".*Journal of Economic Growth*. Vol. 11(4), pp289-318

Empirical studies have attempted to incorporate this concavity of physical capital – growth relationship by including both the linear and non-linear specifications of foreign aid in the growth equation. The non-linear term is either entered as a standalone (Dalgaard and Hansen, 2001; Lensik and White, 2001; Dalgaard et al., 2004; Clemens, Radelet, Bhavnani, 2004; Rajan and Subramanian, 2008; Moreira, 2005) or as an interaction with a policy variable (Burnside and Dollar, 2000). The sign on the non-linear term has varied across studies. However, in line with the takeoff hypothesis, it is expected for the linear term to have a negative sign, while the quadratic term to have a positive sign.

Anecdotal evidence providessome hint as to why the quadratic term has not fared consistently in empirical analysis. For example, there are some poor countries in Africa that have received relatively large amount of aid for prolonged periods of time with no improvement in their economic growth and poverty reduction. Easterly (2006), points out that a large proportion of these aid flows have been used in some cases, to finance growth-retarding government consumption rather than growth-enhancing public investment. Other examples point to the mismatch between donor objectives[5]and development needs of African countries (Calderisi, 2006; Shah, 2012)

The second strand of literature (conditionality strand) holds that certain conditions in the aid recipient country must be in place before foreign aid effects on growth can be realized. The championing study in this line of argument is that of Burnside and Dollar (2000). This study examines the relationship between foreign aid and economic growth within certain macroeconomic policies environment. They use a sample of fifty six developing countries, with the data averaged over 4-year periods, starting with 1970-73 to 1990-1993. They concluded that aid tends to be more effective in developing countries with good fiscal, monetary and trade policies (as evidenced by the positive and significant coefficient on the interaction term between aid and their calculated policy index). Nonetheless, when they interact the non-linear specification of aid with the policy index, the resulting coefficient is insignificant (with a negative sign) – putting more emphasize on the policy rather than the surge in aid as predicted in the takeoff hypothesis.

[5]Examples include donors using aid disbursements to financing poorly conceived 'white-elephant' projects; aid serving as a carrot for donor countries to gain access to poor countries goods markets while denying market access for poor countries products; and, in some cases, rich countries using aid to dump their highly subsidized agricultural products at the expense of the poor countries agricultural sector.

Despite the numerous criticisms of the Burnside and Dollar [see Lensink and White, 2000; Easterly 2003; Easterly, Levine and Roodman 2004] approach and their emphasis on the policy condition, other studies have also arrived at a similar conclusion (Collier and Dollar, 2002). Nevertheless, critics have provided competing evidence, suggesting, for example, that geographical factors, which account for "deep structural" characteristics, rather than policies, are keys in determining the effectiveness of foreign aid on growth (Dalgaard et al., 2004; Roodman, 2004). Geographical factors, for example, may affect productivity, especially in the agricultural sector (Bloom and Sachs, 1998; Sachs, 2001, 2003 and Masters and McMillan, 2001) and may also have influence on slow moving structural characteristics such as institutions (Easterly and Levine, 2003 and Acemoglu, Simon and James, 2002). Dalgaard et al. (2004) captures the conditional effects of aid on economic growth by interacting aid with the proportion of land in the tropics. Based on their empirical analysis, they provide a convincing conclusion that their findings (that aid is ineffective in the tropics) are superior to those based on policy interaction (Burnside and Dollar, 2000) and concavity effects (Dalgaard and Hansen, 2001). Roodman (2004) asserted that foreign aid works well outside of the tropic and not in the tropical countries. However, Radelet, Clemens and Bhavnani, (2005) dismisses the validity of geographical factors as merely a separation of countries where aid has worked from those countries where it has failed, rather than an explanation of a causation of aid ineffectiveness.

The third strand of literature incorporates some of the elements from the aforementioned two strands with an additional twist. They account for the quality of aid and the timing of aid effects on growth (Clemens,Radelet, Bhavnani and Bazzi, 2011; Minoiu and Reddy, 2009; Rajan and Subramanian, 2008; Headey, 2007; Bobba and Powell, 2007; Clemens et al., 2004). In reference to the quality of aid, these studies distinguish between multilateral aid[6] and bilateral aid and, further, separate development aid (non-geostrategic) from non-development aid (geostrategic[7]). They conclude that aid flows based on geostrategic factors have neutral effects on growth, while the non-geostrategic aid has growth enhancing effects (Rajan and Subramanian, 2008; Bobba and Powell, 2007).

Timing of the aid impact also matters in determining the aid-growth relationship (Clemens et. al, 2011). For example, Clemens et al. (2004) find that aid allocated to sectors such as

[6]It is generally assumed that multilateral aid tends to be development in nature.

[7]Aid disbursed to political allies regardless of a country's policy and institutional environment. For example, Israel and Egypt have benefited from aid flows from United States due to regional strategic reasons.

agriculture, industry and public infrastructure investment tend to have immediate/short run impact on growth, relative to aid supporting democracy, environment, health and education, which usually has postponed/late impact on growth. Overall, development aid (aid allocated towards investment spending),will tend to have immediate/direct impact on the economy and support long run economic growth, while non-development aid (aid responding to disasters or social issues) will tend to have indirect impact on economic growth. Therefore, effects stemming from development aid are more likely to be captured in the short run data relative to those coming from non-development aid (Clemens et al, 2011).

An area that has received little attention in the aid-growth literature is how aid effects are transmitted to growth.Gomanee, Girma and Morrissey (2002) attempted to address the transmission question. Using a sample of 25 sub-Saharan African countries over the period of 1970-1997, they find that aid effects are transmitted to growth via investment spending. They dismiss government consumption spending (established in White, 1998; and more recently, in White and Dijkstra, 2003) as a possible transmission mechanism. They also find that while aid has some effects on imports, imports do not matter in growth.Boone (1996) also provided evidence supporting the positive relationship between aid and investment.

Generally, empirical studies have yielded divergent evidence on aid-growth linkage[8].These divergent results, according to Clemens et.al (2011), are due to; (i) lack of controlling of the timing of aid effects on growth and, (ii) using invalid and/or weak instrumental variables. Particularly, results in the leading studies [Boone, 1996; Burnside and Dollar, 2000; Rajan and Subramanian, 2008] in the aid-growth literature rests their strength of accounting for aid endogeneity primarily on population growth. To resolve this divergence, Clemens et al (2011) incorporates three changes in the three leading studies. First, they allow aid to affect growth with a time lag. Second, they first-difference the data to remove the effects of time invariant omitted variables. Third, they disaggregateaid data into "early impact" and late impact" components. By incorporate these changes they arrive at a harmonized conclusion that aid has modest growth-enhancing effects.

[8]For example, there is substantial evidence of neutral effects of aid on growth (Easterly, 2007a, 2007b, 2005; Easterly, Levine and Roodman, 2004; Boone, 1996). Others have found depressing effects (Bobba and Powell, 2007). Yet, some have found positive relationship between aid and growth (Clemens, et al, 2004; Lensink and Morrissey, 2000).

III. Methodology and Data

The empirical model investigates the impact of foreign aid on economic growth while controlling for various growth determinants. The primary objectives are to assess; 1) whether quantity or quality of foreign aid matters to the economic growth of recipient countries[9], and, 2) whether these effects differ based on a country's legal origin. Two models are estimated. In the first model we enter the aid variables as standalone and in the second model, these variables are interacted with a dummy variable of the country's legal origin.Specifically, two dummy variables are used; a dummy variable for French legal origin (*dFrenc*h) takes a value of one for former French colonies and zero otherwise. The British dummy variable (*dBritish*) equally takes a value of one for former British colonies and zero otherwise. The baseline model is as outlined in equation (1):

$$\Delta y_{it} = \beta_0+\beta_1 y_{it-\tau} + \beta_2 ODA_{it-\tau} + \beta_3 ODA^2{}_{it-\tau} + \beta_4 Open_{it-\tau} + \beta_5 Inv_{it-\tau} + \beta 6 Fiscit-\tau+\beta 7 Inflit-\tau+\beta 8 Polity2it-\tau+\beta 9 Resit-\tau+\beta 10 Totgrit-\tau+\beta 11 Popgit+\beta 12 FDit-\tau+\varepsilon it \quad (1)$$

Δy_{it} is the average annual growth rate of output per capita in country *i* between the years*t* and *t*-τ, where τ takes the value of 3. In line with the growth literature, we average the growth rate across 3-year non-overlapping periods. All independent variables are initial values at the beginning of each 3-year period with the exception of the terms of trade growth (*Totgr*), which is averaged over the 3-year period.

The major right-hand side variable of interest is Foreign aid (*ODA*). The *ODA* variable takes various forms to measure the quantity and quality aspects of foreign aid. The quantity aspect is proxied by thequadratic term on the net official development assistance received (as a percentage of GDP) variable (ODA^2). Due to lack of more appropriate measures of quality of foreign aid, we use source-based proxies.

[9]Shah (2012)argues that donor countries have not lived up to their promises on both quantity and quality of aid.

The first proxy isbilateral aid. In addition to total bilateral aid, we include aid from France and United Kingdom, given that countries in our sample are associated with either French (61%) or British (31%) legal origins. Bilateral aid fromthe European Union (EU) is also included on the basis that collectively, EU member countries are the biggest foreign aid donors to African countries. We assume that a large proportion of bilateral aid is geostrategic in nature. UK and France in particular tend to direct most of its bilateral aid to its former colonies, with non-democratic colonies receiving almost two times more aid than democratic non-colonies (Minoiuand Reddy, 2009). We expect such geostrategic aid, which is dispersed regardless of the country's policy environment and political institutions, to have undesirable impact on economic growth relative to non-geostrategic aid.

The second proxy is aid from multilateral agencies: UNDP, UNICEF, UNFPA, UNTA, UNHCR, UNTA and WFP. We assume that the effects of multilateral aid from UN agencies depend on the goals and objectives of that agency. For example, the goal of United Nations Development Programs (UNDP) is to help countries achieve their development objectives. UNDP works with individual countries in areas including; poverty reduction, democratic governance, crisis prevention and recovery, environment and energy and HIV/Aids. Therefore, we expect aid from UNDP to have favorable impact on growth relative to aid from United Nations High Commission for Refugee (UNHCR), which respond to growth-retarding crisis.

The growth impact of aid from World Food Program (WFP), United Nations Children's Fund (UNICEF), United Nations Transition Authority (UNTA) and United Nations Population Fund (UNFPA) are undetermined prior to conducting empirical analysis. WFP, UNICEF and UNFPA provide aid that support social programs. Most social programs such as those related to health and education are imperfectly correlated with income and may often have unnoticeable short run impact on growth. Nevertheless, countries that have laid a good foundation of human capital (for example, the East Asian countries, China and Vietnam) have managed to shift to high growth performance relative to those that adopted the growth-centric approach while neglecting social development (Ranis, Stewart, Ramirez, 2000; White, 1999b).

The growth literature (Barro, 1991; Levine and Renelt, 1992; Sala-i-Martin, Doppelhofer, Miller, 2004) guides us in selecting the core set of growth determinants; however the estimated model variables are constrained by the available data. The initial level of output per capita ($y_{it-\tau}$) is included to test for the presence of β-convergence. The argument that good policies are a

precondition for aid effectiveness has been widely debated since Burnside and Dollar (2000). While the disagreements are obvious, there is hardly any contention on the importance of good macroeconomic policies for economic growth. Therefore, we include three policy variables: trade, fiscal and monetary policies. Because of the inconclusive results in literature on the interaction between aid and policy[10] measures, we do not include that interaction term in this study.

Starting in the early 1980s, developing countries experienced a wave of macroeconomic policy shifts away from import protection, managed exchange rates, and targeted subsidies towards trade, investment and financial market liberalization. The objectives of the policy shift were believed, among other factors, to positively affect a country's economic growth by increasing the competitiveness and efficiency of the export sector and overall improving the production efficiency in the domestic market. Consequently, we expect trade openness (*Open*), measured as the percentage of merchandise trade[11] (imports + exports) in GDP, to positively enhance economic growth.

Monetary policy (*Infl*) is proxied by the CPI inflation rate (Fischer, 1993), specified as the logarithm of (1+ inflation rate). Fiscal policy on the other hand is proxied by the government consumption spending (Easterly and Rebelo, 1993; Barro, 1991). As a fiscal policy instrument, government consumption expenditure (*Fisc*) can be used during economic downturns to stimulate aggregate demand and output through the Keynesian effect. However, if the spending is politically motivated or is a result of corruption, it could have negative consequences on the medium and long run economic growth.

Good governance, political stability and well developed financial markets all provide conducive environment for economic growth (Rodrik, Subramanian and Trebbi, 2004; Acemoglu, Johnson and Robinson, 2005). Particularly, proponents of the free market system argue that in countries where the role of the government is limited, for example, to providing public goods such as infrastructure and public security, maintaining the rule of law, and enforcing contracts, not only reduces social discontent but also ensures a healthy private sector

[10]Several studies have tested the interaction between aid and the Burnside and Dollar (2000) policy index and they found the interaction to be insignificant (see Easterly et.al, 2003; Dalgaard and Hansen, 2001; Hansen and Tarp, 2001 and Lensink and White, 2001).

[11]Because the share of merchandise trade in GDP is a policy outcome, a better proxy would include a policy instrument such as data on tariff or other non-tariff barriers. However, we do not have comprehensive data on these policy instruments and therefore we use policy outcome variables as proxies.

competition, which promotes productivity and growth. Furthermore, a country with good governance is also more likely to promote growth enhancing policies.

Polity2 index from the Polity IV Project (2011) is used as a proxy for governance. The index is measured on a scale of -10 to +10; with -10 indicating strongly autocratic (political suppression) and +10 a strongly democratic (political freedom) political system. Barro (1994) assessed the effects of democracy on growth using a sample of 100 countries from 1960 to 1990 and found that after controlling for all other core determinants of growth democracy had a weak negative effect on growth.

The proportion of money supply (M2) in GDP is used as a proxy for the depth of the financial market development (*FD*). King and Levine (1993) evaluated the effects of money supply[12](expressed as a share of GDP) and three other alternative measures of financial market development and concluded that higher levels of financial market development accelerate economic growth. Additionally, they showed that the effects based on the money supply measure were stronger in poor countries. Similarly, Beck, Levine and Loayza (2000) established a positive relationship between financial development and economic growth.

The need to control for the rate of population growth in aid-growth regressions was highlighted in Easterly (2006). Increased population growth can penalize economic growth in a number of ways. It can divert resources away from production goods to reproduction related consumption (Becker and Barro, 1988). It can also penalize the steady state level of output per worker in the neoclassical growth model. Specifically, if the population is growing faster than the level of economic growth, then a portion of the economy's investment is allocated towards providing capital for new workers, rather than increasing capital per worker (Barro, 1994). These effects can have undesirable implications on aid effectiveness. On the other hand, declining population growth rates can be an indication of the development of social institutions such as healthcare and education (which expands with economic growth) (Schultz, 1989; Behrman, 1990 and Barro and Lee, 1994).

Population growth is also often used as a proxy for the rate of growth of labor input in the production process. In studies on African economies, population growth, especially in urban areas, has been found to be a strong determinant of infrastructure development and other key

[12] They caution that money supply (M2 or M3) as a share of GDP does not capture the quality of the financial market development. However, the bias that may arise from the quality effects is not central to this study.

institutions such as the financial sector (Allen, Carletti, Cull, Qian, Senbet, and Valenzuela, 2012). For these reasons, the sign of the population growth rate (*Popg*) coefficient is unpredicted prior to our empirical investigation. Furthermore, we include a measure of investment (*Inv*), which captures the effects of domestic investment activities on growth. Terms of trade growth (*Tot*gr) controls for external shocks, while measures of oil and ores resources (*Res*) take into account the resources endowment in some of the LDCs.

We also address a number of methodological issues. The averaged dependent variable controls for the effects of short-run cyclical fluctuations and minimizes the impact of outliers. Endogeneity bias may arise due to the potential endogeneity of growth determinants, such as foreign aid, openness, government consumption spending, and investment. On the other hand, there is a possibility that low growth may cause increased foreign aid flows and vis-a-vis, or, that both foreign aid and growth maybe jointly determined by a third variable. In such instances, the model will suffer from reverse causality and simultaneity bias. By using initial level of foreign aid, we are able to control for the reverse causality bias. Other biases that may affect the consistency of the estimates include the heterogeneity (omitted variable) bias and the measurement error (in independent variables).

We report results based on two estimation techniques. The system GMM (SGMM) approach of Arellano and Bover (1995) and Blundell and Bond (1998) is used to control for the endogeneity bias, measurement bias, unobserved country fixed effects, and other potentially omitted variables. Relative to the difference GMM, SGMM is robust to weak instrument bias. It uses suitable lagged levels and lagged first differences of the regressors as their instruments. To minimize the number of GMM-style instruments used, we restrict the maximum lags of dependent and predetermined variables for use as instruments to one. In accordance with GMM estimation techniques, Sargan test of over-identifying restrictions and the Arellano-Bond test that the average autocovariance of residuals of order two is zero are reported. Furthermore, in instances where two step estimator is used, we report results based on robust standard errors

Fixed effects (FE) estimation captures country-specific factors influencing economic growth not otherwise captured by the independent variables. One assumption of the FE model is that the time-variant characteristics are unique to each country and that they are not correlated with another country's characteristics. This assumption holds if the countries' error terms are not correlated. However, if the error terms are correlated, the assumption does not hold and the FE

model cannot be used. Consequently, we conduct the Hausman specification test to determine whether to use random or fixed effects. The test rejects the null hypothesis that the difference in random and fixed effects coefficients are not systematic, thereby affirming fixed effects as the model of choice. To control for potential heteroscedasticity, we report results based on robust standard errors. In both SGMM and FE models, time dummies are included to remove universal time-related shocks from the errors (Roodman, 2006).

3.1.Data

The regressionanalysis is conducted using a sample of 26 SSA LDCs (including 25 HIPCs) over the period 1984-2010 (the sampling period is limited by the availability of data). GDP per capita is expressed in purchasing power parity (PPP) terms and constant 2005 international dollars. Government consumption spending and investment spending are both measured as a percentage of PPP converted GDP per capita at 2005 constant prices. Openness is expressed as trade volume (exports plus imports) as a percentage of PPP converted GDP per capita at 2005 constant prices. All four aforementioned variables were collected from the Penn World Table version 7.1 (Heston, Summers, and Aton, 2012).

Data on net official development assistance received as a percentage of GDP(in constant 2009 US$), net bilateral aid flows from DAC donors [Total bilateral aid and bilateral aid from France, United Kingdom (UK) and European Union (EU)] as a percentage of GDP (in current US$), net official flows from United Nations (UN) agencies (UNDP, UNFPA, UNHCR, UNICEF, UNTA and WFP) as a percentage of GDP (in current US$), financial development [measured by money and quasi money (M2) as a percentage of GDP], fuel exports and ores/metals exports (both measured as a percentage of merchandise exports), population growth, and the annual (CPI) inflation rate were obtained from the World Bank's World Development Indicators (2013). Terms of trade indices data were downloaded from the United Nations Conference on Trade Development (2013). The governance index that represents institutional factors was collected from the Polity IV Project (Marshall and Jaggers, 2011).

The countries in the samplewith the corresponding legal origin are listed in Table 1A. Table 1B contains the descriptive statistics for the selected variables of the growth regressions. The correlation matrix is shown in Table 1C. The average share of initial net official development

assistance (ODA) received in GDP in our sample of 26 Africa's LDCs between 1984 and 2010 was 30% with a standard deviation of 23%. Guinea Bissau had the highest initial ODA during this period (78% of GDP); while Sudan had the lowest share (12% of GDP). A large proportion of ODA flowing into these countries is bilateral in nature, as evidenced by the comparatively large share of this type of aid in GDP (20%) over the sampling period. Bilateral aid from EU member countries, France and United Kingdom, average 2%, 1.9% and 0.8% of GDP, respectively. Aid from UN agencies averagedless than one percent of GDP during the sampling period. The agency that provided the highest ODA (among those included in this study) was World Food Programs (WFP) (0.7% of GDP), with United Nations Population Fund (UNFPA) contributing the lowest (0.07% of GDP). The importance of other key growth determinants such as trade, domestic investment and level of financial development were either close to or above the share of ODA in GDP. For example the share of trade in GDP was approximately 54%, investment and financial development shares averaged around 16% and 21%, respectively.

IV. RESULTS

Results based on the baseline specification defined in equation (1) are reported in Tables2A and 3A for SGMM and FE estimation techniques, respectively. Using a modified version of equation (1), we evaluate foreign aid effectiveness on economic growth within the framework of a country's legal origin by interacting the aid variables with the dummy variables for the French (*dFrench*) and British (*dBrisith*) legal origins. Under the assumption that the legal origin of a country can be a good predictor of the nature and efficiency of institutions and policies (La Porta et al, 2008), the interaction terms allow us to observe the importance of policies and institutions (as suggested in Burnside and Dollar, 2002 and Dalgaard et al., 2004) on aid effectiveness without introducing complex proxies. The results based on this modified equation are summarized in Tables 2B (SGMM) and 3B (FE). Our discussions below start with the SGMM model results followed by FE in section 4.3.

4.1. Does quantity of foreign aid matter to economic growth?

The takeoff hypothesis literature advocates for increased flow of foreign aid to poor countries (Sachs, 2005). A reasonable and sustained flow of foreign aid is necessary to help poor countries meet and surpass the threshold capital stock, which is needed for the takeoff into the self

sustained growth (UNDP, 2005; IMF and World Bank, 2005). To test this hypothesis, we include both linear and quadratic specifications of the total aid (ODA) variablein the regression model (Table 2A, column 1). As expected, the linear specification has a negative sign, while that on the quadratic specification is positive. However, only the quadratic specification is significant, albeit at 10% level.

To assess whether the quantity effects of aid differ based on a country's legal origin, we interact both the linear and quadratic specifications of aid with dummy variables for French and British legal origins. Results are summarized in Tables 2B, column 1. Both the linear and quadratic specifications have the expected signs.Specifically, a one percentage point increase in the initial share of aid in GDP reduces growth for the subsequent three years by approximately 0.12% and 0.07% in the former French and British colonies respectively. When the share of aid in GDP is doubled, the marginal effects on growth are robust only in the former British colonies (with a magnitude of approximately 0.001%).

Anecdotal evidence from micro-level project impact evaluationsand findings in empirical studies - that large amounts of aid flows to a country can yield growth enhancing effects – are in line with the observed positive effects from the quadratic specification. For example, a World Bank (2003) study found that countries with aid levels above 20% of their income (most of them in Africa), increased their per capita GDP on average by 1.3% per year over the period of 1995-2000. Other success stories from countries such as Uganda and Mozambique show that increased shares of aid in GDP (above 20%) coincided with positive growth rates in the 1990s (Mavrotas, 2007). Nevertheless, our findingssuggest that the argument of whether or not to increase the current flow of foreign aid to Africa's LDCs cannot be generalized. While doubling foreign aid flows may have noticeable benefitsin countries with British legal origin, such effects may not be felt in former French colonies.

4.2. **Does the quality of foreign aid matter to economic growth?**

The next argument is whether or not the quality of aid matters to economic growth. Previous studies that attempted to address the quality of aid impact on growth concluded that aid flows based on geostrategic factors have neutral effects on growth, while non-geostrategic aid has growth enhancing effects (Rajan and Subramanian, 2008; Bobba and Powell, 2007). In this

study, we employ two categories of proxies for quality of aid; bilateral aid and multilateral aid. Generally we expect bilateral aid to be geostrategically driven and hence, have negative effects on growth. On the other hand, we assume that the impact of multilateral aidon growthdepends on the goals of the agencies providing the aid. In Table 2A, columns 2-4 we report the results of total bilateral aid, bilateral aid from France, UK and EU, respectively. In all specifications, we observenon-robust negative effects, with the exception of bilateral aid from France, which is robust at 10% level. When total bilateral aid and EU aid variables are interacted with the dummies for French and British legal origins (Table 2B, columns 2-3), both the French-aid interaction terms have negative signs. Nevertheless, the growth retarding effects are statistically significant only in the case of total bilateral aid. In the case of British-aid interactions, robust effects are present only with theEU aid. In other words, increasing initial total bilateral aid by 1% hurts economic growth of former French colonies by 0.02% for the next three years, with neutral effects in former British colonies. But, when initial bilateral aid from EU member countries is increased by the same 1%, it is the former British colonies that benefit, with a 0.7% boost in growth of their real GDP per capita for the subsequent three years.

In Table 2A column 5, the results for the multilateral aid from six UN agencies namely UNDP, UNFPA, UNHCR, UNICEF, UNTA and WFP are reported.Aid flows from UNDP and WFP enhance economic growth of the countries in our sample. Notwithstanding, aid flows from the rest of the agencies have negative effects and significant only in the case of UNHCR and UNTA. When the aid variables are interacted with the dummies for French and British legal origins (Table 2B, column 5), we observe the following; 1) in the former French colonies, theonly aid with robust, albeit growth retarding effects, is from UNTA agency. 2) Aid from four of the six UN agencies included in this study has statistically significant effects in the LDCs with British legal origin. Specifically, an increase in the share of aid from UNDP and UNICEF boosts economic growth of former British colonies, while that from UNHCR and UNTA retards their growth. Clemens et al. (2004) found that aid allocated to sectors such as agriculture, industry and public infrastructure investment tend to have immediate impact on growth, relative to aid supporting democracy, environment, health and education, which usually has postponed/late impact on growth.Overall, the economic effects of multilateral aid are largely robust in the former British colonies relative to the French colonies.

The estimated coefficients of the control variables in Table 2, where significant, are consistent with the findings in the empirical growth literature (Levine and Renelt, 1992; Barro, 1998; Sala-i-Martin et al., 2004). In all specification, we observe the presence of beta convergence within the sample as signified by the negative sign of the coefficient of the initial per capita GDP. Initial investment, financial development, governance (proxied by the *Polity2* variable), fiscal policy (government consumption spending), shares of fuels and ores in merchandise exports, terms of trade growth, and, population growth are found to stimulate growth over the 3-year period where significant.

The robust positive effect of initial institutional quality on growth is in line with existing work on the role of institutions in developing countries (Green, 2011; Sachs and Warner, 1997). Notwithstanding, the positive sign on the inflation measure and government consumption spending contradicts the negative link found in cross-country growth regressions (e.g., Barro, 1996; Sala-i-Martin et al., 2004; Gomanee et al., 2005), although some studies have found favorable effects in the case of government consumption spending (Yasin, 2003).

4.3. **FE Estimation Results**

We also provide results based on FE estimations (Tables 3A and 3B). In most specifications, the findings are consistent with those established under SGMM estimations in Table 2. In Table 3A (column 1), the total aid variables have the expected signs. However, only the quadratic term is significant. When we introduce the interaction terms (Table 3B), the quadratic specification maintain its positive sign, with robust effects observed in both former French and British colonies. The linear specification on the other hand, is now robust with positive effects but, only in the former French colonies.

With reference to the quality of aid measures, total bilateral aid and bilateral aid from UK have significant and positive effects, while aid flows from France and EU member countries have neutral effects (Table 3A, columns 2-4). Introducing the French and British dummy interactions with total and EU bilateral aid measures yields significant effects only in the case of EU aid. These effects are positive in the former British colonies, but, negative in the former French colonies (Table 3B, columns 3). In the case of multilateral aid, aid from UNDP, UNHCR and WFP also maintain their significant effects as previously established under SGMM, with

UNDP and WFP having favorable effects on economic growth while UNHCR having unfavorable effects (Table 3A, column 5). The results for the interaction terms in Table 3B (column 4), where significant, also mirror those of SGMM in terms of direction of effects. Specifically, UNDP and UNHCR aid has positive and negative effects respectively, in the former French colonies. With reference to the former British colonies, increasing the share of UNHCR and UNTA aid inGDP retards their economic growth, similar to what was observed in the SGMM estimations.

4.4. **Does including investment and government consumption spending in the regression model alter the aid impact on growth?**

Studies on the transmission mechanism of foreign aid effects on growth have pointed to investment and government consumption spending as the possible channels. As previously noted, most of these studies have emphasized on investment spending. White (2007) asserted that empirical models, which include both aid and investment on the right hand side, risk ruling out the major channel through which aid might affect growth and therefore, underestimate the aid effects. To test this assertion, we excluded investment and government consumption spending from the regression models using stepwise regression. Nevertheless, excluding these two variables did not significantly alter the effects of aid on growth relative to those previously established in models including the two variables. We summarize some of the results in table 4[13].

V. CONCLUSION

The issue of foreign aid effectiveness in developing countries has continued to puzzle many policy makers and donors alike, especially, the inability of African economies to duplicate the Asian growth miracle, and, wean themselves from foreign aid dependency. Critiques have been quick to point fingers at both the donors and governments of recipient countries for self-serving motives at the expense of the needy.Yetproponents continue to advocate for increased aid flows to poor nations. As previously noted, many empirical studies have attempted to establish the

[13]Additional results are available upon request.

nature of the relationship between foreign aid and economic growth. So far the findings are mixed and the resulting policy recommendations are conflicting.

In this study, we argue that both quantity and quality of aid matters to economic growth of Africa's LDCs. In addition, we show that these effects differ based on a country's legal origin. Due to lack of appropriate data, we use source based variables as proxy for quality of aid. The quantity of aid is proxied by introducing a quadratic specification in the estimation model. Our findings point to the following conclusions: 1) Quantity of aid matters in those Africa's LDCs with British legal origin. 2) The effects of bilateral and multilateral aid differ in former French and British colonies, with growth retarding effects mostly in those countries with French legal origin. 3) Growth enhancing effects regardless of the aid specification are more likely to be present in the former British relative to former French colonies. 4) Multilateral aid from UNDP, UNICEF and WFP tend to be growth enhancing in comparison to aid flows from UNHCR and UNTA agencies.

REFERENCE

Acemoglu, Daron., Johnson Simon., and Robinson James. A.(2002). "Reversal of Fortune: Geography and institutions in the making of the modern World income distribution". *Quarterly Journal of Economics*, 117 (4), 1231-1294

Acemoglu, Daron, Simon Johnson, and James A. Robinson. (2005). "The Rise of Europe: Atlantic Trade, Institutional Change and Economic Growth". *American Economic Review*, 95(3), pp. 546-579.

Allen, Franklin, Elena Carletti, Robert Cull, Jun Qian, Lemma Senbet, Patricio Valenzuela.(2012). "Resolving the African Financial Development Gap: Cross Country Comparisons and a Within – Country study of Kenya". NBER.WP 18013.

Arellano, Manuel., and Olympia Bover.(1995). "Another Look at the Instrumental Variables Estimation of Error-Components Models".*Journal of Econometrics*, 68 (1), 29–51

Barro, Robert J., (1998). Determinants of Economic Growth: A Cross-Country Empirical Study. MIT Press Books, The MIT Press, edition 1, volume 1

Barro, Robert J. (1994). "Democracy and Growth".*NBER* Work paper No. 4909

Barro, Robert J. (1991). "Economic Growth in a Cross Section of Countries," *Quarterly Journal of Economics*, 106 (2) 407—433.

Barro, Robert J. and Jong—Wha Lee.(1994). "Sources of Economic Growth," *Carnegie—Rochester Conference Series on Public Policy*.

Basu, Anupam and Krishna Srinivasan.(2002). "Foreign Direct Investment in Africa - Some Case Studies".IMF, WP/02/61.

Beck, T., Levine, R., and Loayza, N., (2000). "Finance and the Sources of Growth," *Journal of Financial Economics* 58, 261–300

Becker, Gary S. and Robert J. Barro.(1988). "A Reformulation of the Economic Theory of Fertility," *Quarterly Journal of Economics*, 103 (1) 1—25.

Behrman, Jere R. (1990). "Women's Schooling and Non-Market Productivity: A Survey and a Reappraisal," unpublished paper, *University of Pennsylvania*.

Berg, A., Hussain, M., Aiyar, S., Roache, S., Mirzoev, T., Mahone, A., (2006)."The Macroeconomics of Managing Increased Aid Inflows: Experiences of Low-Income Countries and Policy Implications". Paper Presented at the WIDER Development Conference on Aid: Principles, Policies and Performance, WIDER Helsinki, 16-17 June.

Bloom, David E. and Sachs, Jeffery.D. (1998). 'Geography, demography and economic growth in Africa', *Brookings Papers on Economic Activity*. Economic Studies Program, The Brookings Institution .29 (2), 207-296.

Blundell, Richard and Stephen Bond.(1998). "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models," *Journal of Econometrics*.87 (1).115–143.

Bobba, Matteo. and Powell, Andrew.(2007). "Aid and Growth: Politics Matters." *Inter-American Development Bank.* Working Paper No.601

Boone, Peter. (1996). "Politics and the effectiveness of foreign aid."*European Economic Review*. 40 (2), pp 289-329.

Burnside, Craig and David Dollar.(2000). "Aid, Policies, and Growth."*American Economic Review*.90 (4), 847-868.

Calderisi, Robert (2006). The Trouble with Africa: Why Foreign Aid Isn't Working. Palgrave, MacMillan.

Clemens, Michael A., Steven Radelet, and Rikhil R. Bhavnani and Samuel Bazzi.(2011)"Counting Chickens When They Hatch: The Short-term Effect of Aid on Growth". Forthcoming in *Economic Journal*.

Clemens, Michael. A., Radelet, Steven. &Bhavnani, Rikhil. (2004) "Counting chickens when they hatch: The short-term effect of aid on growth," *Center for Global Development*. Working Paper No. 44

Collier, Paul and David Dollar.(2002). "Aid allocation and poverty reduction."*European Economic Review.*46 (8), 1475- 1500.

Dalgaard, Carl-Johan and Henrik Hansen.(2001). "On aid, growth and good policies." Journal *of Development Studies*. 37 (6), 17-41.

Dalgaard, Carl-Johan and Henrik Hansen and Finn Tarp.(2004)."On The Empirics of Foreign Aid and Growth" *Economic Journal*, 114 (496), F191 - F216.

Damaška, Mirjan R. (1986). The Faces of Justice and State Authority: A Comparative Approach to the Legal Process. New Haven and London: Yale UniversityPress.

Easterly, William.(2007a), "Are aid agencies improving?" *Economic Policy*, 22(52), 633–678.

Easterly, William, (2007b), "Was development assistance a mistake?"*American Economic Review Papers and Proceedings*, 97(2), 328–332.

Easterly, William. (2006) "Reliving the 1950s: The Big Push, Poverty Traps, and Takeoffs in Economic Development". *Journal of Economic Growth*, 11 (4), 289-318

Easterly, William. (2005). “What did structural adjustment adjust? The association of policies and growth with repeated IMF and World Bank adjustment loans,” *Journal of Development Economics*, 76(1), 1–22.

Easterly, William (2003) “Can Foreign Aid Buy Growth?” *Journal of Economic Perspectives* 17 (3): 23–48.

Easterly, William and Levine, Ross.(2003). “Tropics, germs, and crops: the role of endowments in economic development.”*Journal of Monetary Economics*.50(1).

Easterly, William, Ross Levine, and David Roodman.(2004) “Aid, Policies, and Growth: Comment”. American Economic Review.94 (3), 774-780.

Easterly, William and Sergio Rebelo.(1993). "Fiscal Policy and Economic Growth: An Empirical Investigation," *Journal of Monetary Economics*, 32 (3)417—458.

European Commission.(2005). “EU Strategy for Africa: Towards a Euro-African pact to accelerate Africa's development”.Communication from the Commission to the Council. The European Parliament and the European Economic and Social Committee, Brussels, October 12 2005.

Fischer, Stanley. (1993). "The Role of Macroeconomic Factors in Growth."*Journal of Monetary Economics* 32(3). 485-512.

Galor, O. & Weil, D. (1996).“The gender gap, fertility and growth”.*American Economic Review*, 86, 374-387.

Galor, O. & Weil, D. (2000).“Population, technology, and growth: from Malthusian stagnation to demographic transition and beyond.”*American Economic Review*, 90, 806-828.

Gomanee, Karuna.,Girma, Sourafel and Morrisey, Oliver. (2002) “Aid and growth: Accounting for Transmission Mechanisms in sub-Saharan Africa,” Paper presented at the University of Oxford “Understanding Poverty and Growth in sub-Saharan Africa” Conference (March 18-19).

Gomanee, K., Girma, S., and Morrissey, O.,(2005). "Aid and growth in Sub-Saharan Africa: accounting for transmission mechanisms," *Journal of International Development* 17(8), 1055-1075.

Green, A., (2011). “Institutions Matter, but in Surprising Ways: New Evidence on Institutions in Africa,” *Kyklos*64(1), 87-105.

Gupta, S., Powell, R., Yang, Y. (2005). “The Macroeconomic Challenges of Scalling up Aid to Africa”. *IMF Working Paper* 05/179

Hallward-Driemeier (2003). “Do bilateral investment treaties attract FDI? Only a bit …. And they could bite”. Mimeo. Washington, DC: World Bank

Hansen, Henrik and Finn Tarp.(2001). “Aid and growth regressions.”*Journal of Development Economics,*64 (2), 547- 570.

Headey, Derek.D.,(2007), “Geopolitics and the effect of foreign aid on economic growth: 1970–2001,” *Journal of International Development*, 20(2), 161–180.

Hermes N and Lensink R (2003).Foreign direct investment, financial development and economic growth.*Journal of Development Studies* 38

Heston, A., Summers, R., and B. Aten. (2012). Penn World Table Version 7.1.Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

International Monetary Fund (IMF) (1999). “Growth in sub-Saharan Africa: Performance, impediments and policy requirements”. *World Economic Outlook*, chapter VI. Washington, DC: IMF.

International Monetary Fund (IMF) and World Bank. (2005). Global monitoring report 2005: millennium development Goals: from consensus to momentum. Washington DC: Washington, IMF and World Bank.

King, Robert G. and Ross Levine (1993)."Finance, Entrepreneurship, and Growth: Theory and Evidence," *Journal of Monetary Economics*, 32 (3), 513—542.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny. (1997). “Legal Determinants of External Finance.”*Journal of Finance*, 52(3): 1131–50.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny. (1998). “Law and Finance.”*Journal of Political Economy*, 106(6): 1113–55.

La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer (2008). “The Economic Consequences of Legal Origins”.*Journal of Economic Literature.Vol 46 (2), 285–332.*

Lensink, Robert and Oliver Morrissey. (2000). “Aid instability as a measure of uncertainty and the positive impact of aid on growth.”*Journal of Development Studies*, 36 (3), 31-49.

Lensink, Robert and Howard White. (2001). “Are there negative returns to aid?” *Journal of development Studies,* 37 (6), 42-65.

Lensink, Robert and Howard White.(2000). “Assessing aid: a manifesto for aid in the 21st Century?” *Oxford Development Studies,* Vol. 37.

Lensink R and Morrissey O (2002).The Volatility of FDI, Not the Level, Affects Growth inDeveloping Countries.CDS Research Report. University of Groningen, Groningen ISSN 1385-9218

Levine, R., and Renelt, D., (1992). "A Sensitivity Analysis of Cross-Country Growth Regressions," *American Economic Review* 82, 942–63.

Marshall, M. G. and Jaggers, K., (2011).*Polity IV Project: Political Regime Characteristics and Transitions, 1800-2010*. College Park, MD: Center for International Development and Conflict Management, University of Maryland.

Masters, William and McMillan, Margaret.(2001). 'Climate and scale in economic growth', *Journal of Economic Growth*, 6, 167-86.

Mavrotas, George. (2007) "Scalling Up of Foreign Aid and the Emerging New Agenda" in Lahiri, Sajal, Hamid Beladi and E. Kwan Choi, ed. Frontiers of Economics and Globalization.Theory and Practice of Foreign Aid.*Elsevier*, Oxford, UK.

Minoiu, Camelia and Sanjay G. Reddy.(2009). "Development Aid and Economic Growth: A Positive Long Run Relation". *IMF*.WP/09/118.

Moreira, Sandrina.B.,(2005). "Evaluating the Impact of Foreign Aid on Economic Growth: A Cross-Country Study".*Journal of Economic Development*, 30 (2),25-48.

Moyo, Dambisa. (2009). Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa. Farrar, Straus and Giroux, NY, NY.

Pistor, Katharina. (2006). "Legal Ground Rules in Coordinated and Liberal Market Economies." In Corporate Governance in Context: Corporations, States, and Markets in Europe, Japan, and the US,ed. Klaus J. Hopt, Eddy Wymeersch, Hideki Kanda,andHarald Baum, 249–280. Oxford and New York:Oxford University Press.

Radelet, Steven, Michael Clemens and RikhilBhavnani.(2005). "Aid and Growth".*Finance and Growth: A Quarterly Magazine of the IMF*. 42 (3).

Rajan, Raghuram G. and Arvind Subramanian, Aid and Growth: (2008). "What Does theCross-Country Evidence Really Show?" *The Review of Economics and Statistics*, 90 (4), 643-665.

Ranis, G., Stewart, F., Ramirez, A., (2000)."Economic Growth and Human Development".*World Development*. Vol. 28.pp 197-219.

Rodrik, Dani, Arvind Subramanian and Francesco Trebbi. (2004). "Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development." *Journal of Economic Growth* 9(2):131–165.

Roodman, David. (2006). "How to do xtbaond2: an introduction to "Difference" and "System" GMM in Stata". *Center for Global Development.*Working Paper No. 103.

Roodman, David. (2004). “The Anarchy of Numbers: Aid, Development, and Cross-country Empirics” *Center for Global Developmen*t, Washington, DC.

Sachs, Jeffrey.D. (2005). The End of Poverty: Economic Possibilities for Our Time. New York: The Penguin Press

Sachs, Jeffrey. D. (2003). “Institutions don't rule: direct effects of geography on per capita income”, *NBER* Working Paper W9490.

Sachs, Jeffrey. D. (2001).“Tropical underdevelopment”, *NBER* Working Paper W8119.

Sachs*, J. D. and* Warner*, A. M., (1997)*.“Sources of slow growth *in African economies”.Journal of African Economies*, 6(3), 335-376.

Sala-i-Martin, Xavier.,GernotDoppelhofer, and Ronald I. Miller, (2004). Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach. *AmericanEconomic Review*, 94 (4), 813–35.

Schultz, T. Paul. (1989). "Returns to Women's Education," *The World Bank, Population, Health, and Nutrition Department.*Background paper 89/001.

Shah, Anup.(2012). “Foreign aid for Development Assistance”. Global issues – online. http://www.globalissues.org/print/article/35

UNCTAD (1999b).*Trade and Development Report, 1999*.United Nations publication, sales no. E.99.II.D.1. New York and Geneva
UNCTAD (2005).Economic Development in Africa: Rethinking the Role of FDI. ISBN 92-1-112671-1

United Nations Development Report.(2005). Human Development Report 2005. New York: United Nations.

White, Howard. (1998). Aid and Macroeconomic Performance. McMillan, Baingstoke. Ed.

White, Howard. (1999b). “Global Poverty Reduction: are we Heading in the Right Direction?” *Journal of International Development.*Vol. 11. Pp 503-519.

White, Howard. (2007) “Evaluating Aid Impact: Approaches and Findings” in Lahiri, Sajal, Hamid Beladi and E. Kwan Choi, ed. Frontiers of Economics and Globalization. Theory and Practice of Foreign Aid.*Elsevier*, Oxford, UK.

White, Howard and Dijkstra, G. (2003).Program Aid and Development.Routledge, London.

World Bank (1997).Global Economic Prospects and the Developing Countries. Washington DC. World Bank

World Bank (2003).Global Development Finance, 2003. Washington DC.

World Bank.(2005). Meeting the Challenge of Africa's Development: AWorld Bank group Action Plan, Africa Region. Washington DC: The World Bank

Yasin, M., (2003). "Public Spending and Economic Growth: Empirical Investigation of Sub-Saharan Africa." *Southwestern Economic Review* 30(1), 59-68

Table 1A: Sample Africa LDCs

Benin*	Guinea-Bissau*	Rwanda*
Burkina Faso*	Lesotho**	Senegal*
Burundi*	Liberia**	Sierra Leone**
Central African Republic*	Madagascar*	Sudan**
Chad*	Malawi**	Togo*
Congo, Dem. Rep.*	Mali*	Uganda**
Ethiopia	Mauritania*	Zambia**
Gambia, The**	Mozambique	Comoros*
Guinea*	Niger*	

*Note: * French Legal Origin. ** British Legal Origin*

Table 1B: Descriptive Statistics for Selected Regression Variables

Variable	Mean	Std. Dev	Min	Max	N
Real GDP per Capita Growth (Ln)	0.65	5.43	-23.22	39.42	234
ODA (% of GDP)	29.98	22.62	3.02	172.21	224
Total Bilateral Aid (% of GDP)	20.45	67.23	0.13	692.60	225
UNDP (% of GDP)	0.38	0.38	0.01	2.44	233
UNFPA (% of GDP)	0.07	0.07	0.00	0.49	233
UNHCR (% of GDP)	0.17	0.49	0.00	5.86	233
UNICEF (% 0f GDP)	0.24	0.44	0.00	5.68	233
UNTA (% of GDP)	0.13	0.17	0.00	1.22	233
WFP (% of GDP)	0.73	3.17	0.00	41.13	233
France Aid (% of GDP)	1.93	2.26	-0.13	12.23	233
UK Aid (% of GDP)	0.82	6.01	-0.16	79.05	233
EU Aid (% of GDP)	1.97	1.82	0.03	10.94	233
Inflation	2.35	1.22	-0.18	7.42	210
Financial Development.	20.51	9.06	0.92	55.20	223
Openness	54.46	30.27	9.11	182.13	234
Polity2	-1.54	5.95	-10.00	19.00	231
TOT-growth	1.22	35.22	-239.72	245.94	234
Fiscal	14.19	9.97	2.42	58.64	234
Investment	16.47	9.76	0.72	61.71	234
Fuel	2.35	10.07	0.00	94.37	234
Ores	9.74	20.90	0.00	88.81	234
Pop-growth	2.65	1.25	-7.53	8.80	234

Note: The real GDP per capita growth and TOT growth are averaged over 3-year period. All other variables are initial values at the beginning of the period for the sample of 1984-2010.

Table 1C: Correlation/Covariance Matrix for Selected Regression Variables

	Growth	ODA	Bilateral	UNDP	UNFPA	UNHCR	UNICEF	UNTA	WFP	France	UK	EU
Real GDP per Capita Growth (Ln)	1											
ODA (% of GDP)	0.18	1										
Bilateral Aid (% of GDP)	0.03	0.40	1									
UNDP (% of GDP)	0.01	0.57	0.56	1								
UNFPA (% of GDP)	0.01	0.35	0.15	0.30	1							
UNHCR (% of GDP)	-0.16	0.38	-0.04	0.07	0.05	1						
UNICEF (% 0f GDP)	0.03	0.56	0.07	0.25	0.12	0.77	1					
UNTA (% of GDP)	-0.05	0.47	0.31	0.60	0.33	0.53	0.65	1				
WFP (% of GDP)	0.04	0.53	0.03	0.19	0.01	0.80	0.92	0.62	1			
France Aid (% of GDP)	0.00	0.30	0.12	0.17	0.07	-0.06	-0.05	-0.01	-0.05	1		
UK Aid (% of GDP)	0.03	0.36	0.89	0.41	0.13	-0.04	0.06	0.19	0.01	0.11	1	
EU Aid (% of GDP)	0.09	0.54	0.14	0.36	0.50	0.23	0.37	0.51	0.25	0.10	0.07	1
Inflation	-0.03	0.04	0.11	0.09	-0.13	-0.04	0.05	-0.06	-0.04	-0.30	0.11	-0.03
Financial Dev.	0.13	0.27	0.09	0.14	0.14	0.09	0.23	0.30	0.31	0.06	0.11	0.20
Openness	0.07	0.07	-0.11	-0.03	0.14	-0.03	-0.06	-0.01	0.03	0.09	-0.11	0.05
Polity2	-0.08	0.27	0.31	0.42	0.05	0.08	0.11	0.27	0.11	0.11	0.27	0.10
TOT-growth	0.14	-0.01	-0.06	0.00	0.11	0.10	0.04	0.09	0.06	-0.08	-0.06	0.03
Fiscal	0.18	-0.02	-0.10	-0.04	-0.08	-0.13	-0.08	-0.15	-0.05	0.11	-0.08	0.02
Investment	0.21	0.07	0.09	-0.05	0.03	-0.11	-0.10	-0.11	-0.08	-0.03	0.12	-0.02
Fuel	0.11	-0.13	-0.06	-0.19	-0.14	-0.07	-0.09	-0.14	-0.05	-0.05	-0.03	-0.13
Ores	0.10	-0.13	-0.06	-0.27	-0.04	-0.05	-0.10	-0.15	-0.09	-0.02	-0.05	0.01
Pop-growth	0.27	0.02	-0.05	0.00	0.08	-0.11	-0.11	-0.13	-0.14	0.04	-0.05	0.01

Note: The real GDP per capita growth and TOT growth are averaged over 3-year period. All other variables are initial values at the beginning of the period for the sample of 1984-2010.

Table 2A: Foreign Aid Effects on Real GDP per capita Growth of Africa's LDCS (3-year averaged), 1984-2010. SGMM Estimation.

	(1)	(2)	(3)	(4)	(5)
Real GDP per Capita Growth (Ln)	-19.581***	-29.14***	-26.45***	-28.40***	-25.558***
	(8.628)	(2.501)	(2.901)	(2.296)	(5.039)
ODA (% of GDP)	-0.040				
	(0.077)				
ODA2 (% of GDP)	0.0008*				
	(0.0004)				
Total Bilateral Aid (% of GDP)		-0.005			
		(0.004)			
France Aid (% of GDP)			-0.436*		
			(0.236)		
UK Aid (% of GDP)			-0.004		
			(0.027)		
EU Aid (% of GDP)				-0.079	
				(0.198)	
UNDP (% of GDP)					5.199*
					(2.785)
UNFPA (% of GDP)					-4.314
					(10.87)
UNHCR (% of GDP)					-5.861***
					(1.832)
UNICEF (% 0f GDP)					-2.845
					(3.397)
UNTA (% of GDP)					-12.01**
					(4.786)
WFP (% of GDP)					1.510***
					(0.488)
Inflation	0.965	0.489	0.793	0.414	0.398
	(0.640)	(0.430)	(0.646)	(0.413)	(0.375)
Financial Dev.	0.145*	0.080	0.189*	0.077	0.121**
	(0.083)	(0.050)	(0.103)	(0.051)	(0.060)
Openness	-0.004	-0.011	0.010	0.004	-0.009
	(0.014)	(0.014)	(0.013)	(0.012)	(0.012)
Polity2	0.089	0.131*	0.149**	0.109*	0.134*
	(0.071)	(0.067)	(0.066)	(0.062)	(0.073)
TOT-growth	0.024	0.0513***	0.0408***	0.0505***	0.041**
	(0.019)	(0.014)	(0.013)	(0.014)	(0.019)
Fiscal	0.194***	0.160***	0.253***	0.159***	0.116*
	(0.071)	(0.043)	(0.085)	(0.041)	(0.062)
Investment	0.125*	0.146***	0.130***	0.127***	0.091*
	(0.064)	(0.042)	(0.050)	(0.048)	(0.054)
Fuel	0.053***	0.062***	0.074***	0.059***	0.027
	(0.020)	(0.007)	(0.014)	(0.009)	(0.028)
Ores	0.030**	0.033***	0.040***	0.030**	0.031**
	(0.012)	(0.012)	(0.015)	(0.012)	(0.014)
Pop-growth	1.442***	1.379**	1.950***	1.293***	1.645***
	(0.466)	(0.559)	(0.693)	(0.492)	(0.376)
Observations	157	154	160	160	137
Number of country	25	26	26	26	26
Sargan Test (Prob>chi2)	0.556	0.668	0.684	0.712	0.4
Arellano-Bond (Pr>z)	0.411	0.286	0.331	0.286	0.593
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes

*Note (Table 2A and 2B) : All variables (with the exception of TOT growth) are measured as initial values at the beginning of the 3-year period. Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1. Arellano-Bond test that average autocovariance in residuals of order 2 is 0 has H0: no autocorrelation. All values are based on a two-step estimator with exception of Column 5 (Table 2A) and columns 1 and 4 (Table 2B) equations. Maximum lags of dependent and predetermined variables for use as instruments are limited to 1*

Table 2B: Foreign Aid Effects on Real GDP per capita Growth of Africa's LDCS, disaggregated by legal code of origin (3-year averaged), 1984-2010. SGMM Estimation.

	(1)	'(2)	(3)	(4)
Real GDP per Capita Growth (Ln)	-28.601***	-4.931**	-6.617***	-17.034
	(5.037)	(2.615)	(2.698)	(4.279)
*dFrench**ODA (% of GDP)	-0.119***			
	(0.041)			
*dBritish**ODA (% of GDP)	-0.067**			
	(0.032)			
*dFrench**ODA2(% of GDP)	0.0008			
	(0.0006)			
*dBritish**ODA2 (% of GDP)	0.001**			
	(0.0003)			
*dFrench**Bilateral (% of GDP)		-0.017***		
		(0.002)		
*dBritish**Bilateral (% of GDP)		-0.021		
		(0.045)		
*dFrench**EU Aid (% of GDP)			-0.031	
			(0.163)	
*dBritish**EU Aid (% of GDP)			0.713**	
			(0.329)	
*dFrench**UNDP 9% of GDP)				3.920
				(2.523)
dBritish *UNDP (% of GDP)				9.588***
				(3.195)
*dFrench**UNFPA (% of GDP)				-5.026
				(12.640)
*dBritish**UNFPA (% of GDP)				-19.310
				(13.720)
*dFrench**UNHCR (% of GDP)				0.027
				(2.065)
*dBritish**UNHCR (% of GDP)				-7.834***
				(1.652)
*dFrench**UNICEF (% of GDP)				0.619
				(3.535)
dBrithish *UNICEF (% of GDP)				16.58***
				(3.885)
*dFrench**UNTA (% of GDP)				-8.765*
				(4.923)
*dBritish**UNTA (% of GDP)				-21.86***
				(6.861)
*dFrench**WFP (% of GDP)				-1.483
				(0.956)
*dBritish**WFP (% of GDP)				-0.645
				(0.562)
Inflation	0.532	1.541***	0.937**	0.224
	(0.394)	(0.385)	(0.387)	(0.331)
Financial Dev.	0.204***	0.148**	0.171***	0.150***
	(0.054)	(0.059)	(0.061)	(0.048)
Openness	-0.022*	-0.027**	-0.007	-0.006
	(0.013)	(0.014)	(0.015	(0.011)
Polity2	0.193**	0.146*	0.049	0.078
	(0.083)	(0.077)	(0.045)	(0.065)
TOT-growth	0.010	-0.025	-0.011	0.029
	(0.023)	(0.031)	(0.036)	(0.018)
Fiscal	0.227***	0.113*	0.143**	0.198***
	(0.061)	(0.058)	(0.057)	(0.048)
Investment	0.142**	0.111**	0.025	0.056
	(0.055)	(0.051)	(0.044)	(0.043)
Fuel	0.043	0.008	0.0230*	0.040*
	(0.029)	(0.016)	(0.013)	(0.024)
Ores	0.035***	0.017	0.025	0.024*
	(0.014)	(0.012)	(0.017)	(0.013)
Pop-growth	1.618***	1.085***	0.986***	1.091***
	(0.425)	(0.227)	(0.263)	(0.288)
Observations	134	130	137	160
Number of country	25	26	26	26
Sargan Test (Prob>chi2)	0.304	0.288	0.596	0.551
Arellano-Bond (Pr>z)	0.223	0.377	0.27	0.435
Time Fixed Effects	Yes	Yes	Yes	Yes

Table 3A: Foreign Aid Effects on Real GDP per capita Growth of Africa's LDCS (3-year averaged), 1984-2010. FE Estimation.

	(1)	'(2)	(3)	(4)	'(5)
Real GDP per Capita Growth (Ln)	-4.666*	-7.817***	-7.281**	-6.833**	-5.889**
	(2.366)	(2.630)	(2.721)	(2.655)	(2.857)
ODA (% of GDP)	-0.090				
	(0.074)				
ODA2 (% of GDP)	0.001***				
	(0.0004)				
Total Bilateral Aid (% of GDP)		0.011***			
		(0.003)			
France Aid (% of GDP)			0.317		
			(0.231)		
UK Aid (% of GDP)			0.086***		
			(0.026)		
EU Aid (% of GDP)				0.129	
				(0.266)	
UNDP (% of GDP)					4.867**
					(2.215)
UNFPA (% of GDP)					0.660
					(7.974)
UNHCR (% of GDP)					-4.770**
					(1.791)
UNICEF (% 0f GDP)					-2.066
					(2.957)
UNTA (% of GDP)					-0.858
					(3.528)
WFP (% of GDP)					0.835***
					(0.257)
Inflation	0.242	0.628	0.639	0.724	0.324
	(0.455)	(0.649)	(0.627)	(0.616)	(0.595)
Financial Dev.	0.008	0.120	0.088	0.096	0.044
	(0.053)	(0.080)	(0.089)	(0.078)	(0.053)
Openness	-0.008	0.014	0.006	0.012	0.006
	(0.039)	(0.026)	(0.024)	(0.025)	(0.025)
Polity2	0.039	0.015	0.018	0.037	-0.019
	(0.064)	(0.084)	(0.078)	(0.083)	(0.080)
TOT-growth	0.011	0.005	0.005	0.007	0.006
	(0.015)	(0.021)	(0.020)	(0.020)	(0.019)
Fiscal	0.173	0.085	0.100	0.082	0.070
	(0.107)	(0.086)	(0.071)	(0.087)	(0.082)
Investment	0.136**	0.177***	0.151**	0.167**	0.139**
	(0.060)	(0.063)	(0.069)	(0.072)	(0.067)
Fuel	0.0349*	0.039	0.037	0.038	0.004
	(0.020)	(0.023)	(0.024)	(0.023)	(0.015)
Ores	0.028	0.030	0.030	0.028	0.025
	(0.032)	(0.031)	(0.030)	(0.031)	(0.025)
Pop-growth	0.883	1.198	1.123	1.106	1.061
	(0.674)	(0.955)	(0.922)	(0.931)	(0.776)
Constant	26.040	40.58**	38.03**	34.96**	30.00*
	(15.930)	(15.330)	(15.500)	(15.300)	(17.510)
R-squared	0.42	0.369	0.351	0.339	0.438
Observations	196	191	199	199	199
Number of country	25	26	26	26	26
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes

*Note (Table 3A and 3B) : All variables (with the exception of TOT growth) are measured as initial values at the beginning of the 3-year period. Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1.*

Table 3B: Foreign Aid Effects on Real GDP per capita Growth of Africa's LDCS, disaggregated by legal code of origin (3-year averaged), 1984-2010. FE Estimation.

	(1)	'(2)	(3)	(4)
Real GDP per Capita Growth (Ln)	-13.42***	-6.982***	-5.439*	-8.035*
	(3.853)	(2.295)	(2.775)	(4.205)
*dFrench**ODA (% of GDP)	0.0778*			
	(0.041)			
*dBritish**ODA (% of GDP)	-0.047			
	(0.030)			
*dFrench**ODA2(% of GDP)	0.0004*			
	(0.0002)			
*dBritish**ODA2 (% of GDP)	0.001***			
	(0.0003)			
*dFrench**Bilateral (% of GDP)		0.001		
		(0.005)		
*dBritish**Bilateral (% of GDP)		0.196		
		(0.142)		
*dFrench**EU Aid (% of GDP)			1.785*	
			(1.016)	
*dBritish**EU Aid (% of GDP)			-0.773*	
			(0.411)	
*dFrench**UNDP 9% of GDP)				5.366***
				(1.908)
dBritish *UNDP (% of GDP)				5.233
				(4.466)
*dFrench**UNFPA (% of GDP)				-1.078
				(11.250)
*dBritish**UNFPA (% of GDP)				-37.730
				(26.260)
*dFrench**UNHCR (% of GDP)				-2.293**
				(0.887)
*dBritish**UNHCR (% of GDP)				-7.626**
				(3.610)
*dFrench**UNICEF (% of GDP)				-5.875
				(4.271)
dBrithish *UNICEF (% of GDP)				13.130
				(7.753)
*dFrench**UNTA (% of GDP)				-4.548
				(3.479)
*dBritish**UNTA (% of GDP)				-15.51*
				(9.034)
*dFrench**WFP (% of GDP)				-0.041
				(1.042)
*dBritish**WFP (% of GDP)				-0.604
				(0.807)
Inflation	0.212	1.243	0.526	0.414
	(0.449)	(0.775)	(0.417)	(0.551)
Financial Dev.	0.058	0.317	0.276	0.091
	(0.063)	(0.197)	(0.169)	(0.063)
Openness	0.037	0.044	0.019	-0.003
	(0.031)	(0.027)	(0.030)	(0.026)
Polity2	-0.009	0.045	0.088	0.039
	(0.117)	(0.111)	(0.073)	(0.073)
TOT-growth	-0.015	0.023	0.0450***	0.018
	(0.039)	(0.015)	(0.011)	(0.014)
Fiscal	0.082	0.128	0.228*	0.113
	(0.098)	(0.126)	(0.129)	(0.114)
Investment	0.075	0.142*	0.062	0.123
	(0.069)	(0.072)	(0.091)	(0.075)
Fuel	0.038*	0.029*	0.029	0.030
	(0.021)	(0.017)	(0.018)	(0.020)
Ores	0.067**	0.044	0.031	0.0348*
	(0.028)	(0.031)	(0.024)	(0.020)
Pop-growth	1.138	1.385	1.340*	1.097*
	(0.680)	(0.823)	(0.707)	(0.597)
Constant	74.33***	22.900	17.580	43.430
	(24.310)	(15.300)	(17.750)	(26.350)
R-squared	156	151	160	178
Observations	0.565	0.443	0.478	0.581
Number of country	25	26	26	26
Time Fixed Effects	Yes	Yes	Yes	Yes

Table 4: Foreign Aid Effects on Real GDP per capita Growth of Africa's LDCS (3-year averaged) (Excluding investment and government consumption spending), 1984-2010. SGMM Estimation.

	(1)	(2)	(3)	(4)	(5)
Real GDP per Capita Growth (Ln)	-19.051***	-22.91***	-22.32***	-22.43***	-21.843***
	(2.218)	(1.983)	(1.994)	(2.006)	(4.638)
ODA (% of GDP)	-0.058				
	(0.039)				
ODA2 (% of GDP)	0.0008***				
	(0.0003)				
Total Bilateral Aid (% of GDP)		-0.004			
		(0.004)			
France Aid (% of GDP)			-0.426**		
			(0.187)		
UK Aid (% of GDP)			0.013		
			(0.020)		
EU Aid (% of GDP)				-0.045	
				(0.173)	
UNDP (% of GDP)					5.344**
					(2.702)
UNFPA (% of GDP)					-2.153
					(10.640)
UNHCR (% of GDP)					-7.611***
					(1.620)
UNICEF (% 0f GDP)					-2.056
					(3.379)
UNTA (% of GDP)					-13.04***
					(4.735)
WFP (% of GDP)					1.642***
					(0.486)
Inflation	0.430	0.562	0.432	0.449	0.260
	(0.461)	(0.424)	(0.438)	(0.416)	(0.372)
Financial Dev.	0.049	0.059	0.063	0.053	0.107**
	(0.044)	(0.049)	(0.047)	(0.051)	(0.054)
Openness	0.008	0.007	0.012	0.0149*	-0.001
	(0.009)	(0.011)	(0.008)	(0.009)	(0.011)
Polity2	0.045	0.050	0.042	0.032	0.098
	(0.052)	(0.059)	(0.058)	(0.056)	(0.072)
TOT-growth	0.025	0.0377**	0.0299*	0.0385**	0.0339*
	(0.020)	(0.016)	(0.016)	(0.017)	(0.019)
Fuel	0.0238***	0.0364***	0.0320***	0.0317***	0.015
	(0.007)	(0.009)	(0.008)	(0.009)	(0.027)
Ores	0.018	0.0235**	0.0212**	0.0217*	0.0318**
	(0.012)	(0.012)	(0.011)	(0.012)	(0.014)
Pop-growth	0.961**	1.059	1.064*	1.018*	1.352***
	(0.416)	(0.647)	(0.583)	(0.577)	(0.354)
Observations	157	154	160	160	137
Number of country	25	26	26	26	26
Sargan Test (Prob>chi2)	0.417	0.593	0.345	0.623	0.444
Arellano-Bond (Pr>z)	0.326	0.330	0.353	0.323	0.367
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes

*Note : All variables (with the exception of TOT growth) are measured as initial values at the beginning of the 3-year period. Robust standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1. Arellano-Bond test that average autocovariance in residuals of order 2 is 0 has H0: no autocorrelation. All values are based on a two-step estimator with exception of Column 5 equations. Maximum lags of dependent and predetermined variables for use as instruments are limited to 1*