Foreign Aid and Inclusive Development: Updated Evidence from Africa, 2005-2012

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AGDI Working Paper

Research Department

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December 2015

Forthcoming: Social Science Quarterly

Abstract
Motivated by the April 2015 World Bank Publication on MDGs which reveals that poverty has been declining in all regions of the world with the exception of African countries, this study investigates the effects of a plethora of foreign aid dynamics on inequality adjusted human development. Contemporary and non-contemporary OLS, Fixed-effects and a system GMM technique with forward orthogonal deviations are employed. The empirical evidence is based on an updated sample of 53 African countries for the period 2005-2012. The following findings are established. First, the impacts of aid dynamics with high degrees of substitution are positive. These include aid for: social infrastructure, economic infrastructure, the productive sector and multi-sectors. Second, the effect of humanitarian assistance is consistently negative across specifications and models. Third, the effects of programme assistance and action on debt are ambiguous because they become positive with the GMM technique. Justifications for these changes and clarifications with respect to existing literature are provided. Policy implications are discussed in the light of the post-2015 development agenda. We also provide some recommendations for a rethinking of theories and models on which development assistance is based.

JEL Classification: B20; F35; F50; O10; O55
Keywords: Foreign Aid; Political Economy; Development; Africa
1. Introduction

Our interest in focusing on Africa is twofold. First, consistent with Asongu (2015a), while South East Asian and Latin American countries have been experiencing decreasing levels of inequality, that of Africa has been increasing. Second, in light of a recent World Bank report on attainment of the Millennium Development Goals (MDGs), while extreme poverty has decreased in all regions of the World, it has been increasing in Africa. According to the report, about 45 percent of nations in Sub-Saharan Africa (SSA) are still off-track from achieving the Millennium Development extreme poverty target (Caulderwood, 2015; Asongu & Kodila-Tedika, 2015).

Figure 1: Comparative regional poverty levels

The above picture contrasts with narratives of recent-growth resurgence in Africa from the mid 1990s (Fosu, 2015a, p.44; Alan & Carlyn, 2015, p. 598), inter alia: poverty in the sub-region decreasing in tandem with other regions of the world (Fosu, 2015a), or Africa being on time for the MDG poverty target (Pinkivskiy & Sala-i-Martin, 2014). This stream of the literature has been motivated by a strand on ‘Africa rising’ (Leautier, 2012) and/or an ‘African growth miracle’ (Young, 2012) which may be more inclined towards extolling the rewards of capital accumulation and a neoliberal ideology by fundamentally neglecting issues like ecology, job sustainability and inequality (Obeng-Odoom, 2014). It follows that

\footnote{According to Pinkivskiy and Sala-i-Martin (2014), with the exception of the Democratic Republic of Congo, African countries attained the MDGs poverty target by 2014 or one year in advance.}

\footnote{The neoliberal agenda here refers to policies supporting extensive economic liberalization such as free trade, deregulation, fiscal austerity and cut-down in government spending.}
Africa is still far from attaining the MDGs because its growth has been marred by rising inequality (Blas, 2014). The concern regarding exclusive growth in Africa has also been the motivation behind an interesting documentation of studies by Fosu (2015bc) which are devoted to elucidating: (i) myths surrounding Africa’s recent growth and (ii) the role of institutions in this underlying resurgence.

The post-2015 challenges of sustainable development have clearly articulated the need for more inclusive policies (United Nations: UN, 2013, pp. 7-13). According to the narrative, development assistance is a critical factor to addressing this issue. In this respect, pitfalls of the past can be avoided, inter alia: ‘Output may be growing, and yet the mass of the people may be becoming poorer’ (Lewis, 1955). ‘Lewis led all developing countries to water, proverbially speaking, some African countries have so far chosen not to drink’ (Amavilah, 2014). The celebrated ‘capital in the 21st century’ from Piketty (2014) has taken African nations to water again and this study partially assesses the challenging policy syndrome of how development assistance can help them to drink in the contemporary era (Asongu, 2015a)³.

The above intuition is inconsistent with a recent strand in the literature which has raised doubts about the effectiveness of foreign aid (Ghosh, 2013; Krause, 2013; Monni & Spaventa, 2013; Banuri, 2013; Titumir & Kamal, 2013; Wamboye et al., 2013; Marglin, 2013). According to this narrative, aid to developing countries is substantially motivated by a neo-colonial agenda (Amin, 2014). A stance that is shared by (i) Kindiki (2011) who has recommended Africa to strategically limit its reliance on international aid systems and (ii) Ndlovu-Gatsheni (2013) on the continent’s entrapment in neo-colonial webs of influence. Amin (2014) has further emphasised that models of development in developing countries should reflect what is needed by poor nations, as opposed to what donors think is good for them. The need for developed countries to guide developing nations towards industrialisation in the view of Piketty is indirectly shared by Obeng-Odoom (2013) who has also recommended that policies towards development assistance should be guided by genuine needs in recipient countries. This strand is broadly consistent with aid literature on the need to

³ Consistent with Asongu (2015a), foreign aid can be instrumental in preparing developing countries for industrialisation in the narrative of Piketty (2014) and not in view of Kuznets’ (1955, 1971); conjectures which sustain an inverted U-shape nexus between inequality and industrialisation. Accordingly, by focusing more on inclusive human development as opposed to growth, concerns of “immiserizing growth” (Bhagwati, 1958) can be tackled. Immiserizing occurs when economic growth is associated with disequalizing income distribution externalities.

In the light of the above, a recent stream of African development work has presented cases for the appealing effect of foreign aid on African institutions (Asongu & Jellal, 2013; Kangoye, 2013; Efobi et al., 2014). Some conclusions in this stream include, among others that: (i) the positive effect of aid depends on a conducive policy environment, measurement of aid and specification of the aid-growth nexus (Gyimah-Brempong & Racine, 2014), (ii) aid in primary education positively affects growth (Asiedu, 2014) and (iii) in Sierra Leone, only aid reflected in grants have effects that are pro-poor, with the impact more apparent in the long-run (Kargbo & Sen, 2014).

The above strand is also a consequence of a number of qualitative and quantitative studies that have focused on reinventing foreign aid (Easterly, 2008). These include, among others: the experiment on ending poverty by Sachs; the World Bank and International Monetary Fund (IMF) Poverty Reduction Strategy (PRS); the cost effectiveness of interventions (Banerjee & He, 2008); the imperative for more rigorous evaluation (Pritchett, 2008); Randomised Control Trials (RCTs, Duflo & Kremer, 2008); amputation, intensification and policy change based reforms (Pritchett & Woolcook, 2008); more articulation on ‘searching for solutions’ than on ‘planning for solutions’ (Easterly, 2006); APC or Advanced Purchase Commitment (Kremer, 2008); novel initiatives at the global level (Radelet & Levine, 2008); ‘aid vouchers’ to provide incentives for better/competitive service delivery by agencies of aid (Easterly, 2002, 2008) and a broad range of measures for more inclusive policies on foreign land acquisition (Osabuohien, 2015).

With knowledge that in the transition from Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs), the policy debate has substantially shifted to inclusive development, the present study responds to the policy challenge of promoting inclusive development in Africa by assessing the role of foreign aid on inclusive human development. In so doing, the ‘questionable economics of development assistance in Africa’ (Asongu, 2014a) has also been clarified with updated data. The underlying study leaves room for improvement in at least three areas. First, it overlooks the heterogeneity of aid dynamics. Accordingly, three types of aid variables have been employed: total aid, aid from the Development Assistance Committee (DAC) and aid from Multilateral Donors (MD). We

⁴ There is also a heated debate on the effect of foreign aid on institutions in Africa. The interested reader can start from Okada & Samreth (2012) before exploring the plethora of studies that are focused on the underlying paper, inter alia: Asongu (2012, 2013), Asongu & Jellal (2013) and Efobi et al. (2014).
complement this dimension on variables by using seven different types of aid indicators, namely: aid to social infrastructure, aid to economic infrastructure, aid to the productive sector, aid to the multi-sector, programme assistance, action on debt and humanitarian assistance. The intuition for this complementarity is that the effect of aid on inclusive human development should depend on the type of aid because there are various motives behind it. These same variables have been recently used by Efobi et al. (2014) in clarifying murky empirical conclusions on the effect of foreign aid on corruption.

Second, we employ a more robust methodology. The Two-Stage Least Squares method employed by the underlying study (Asongu, 2014a) fails to control for cross-sectional dependence and country-specific effects. We employ Ordinary Least Squares (OLS), Fixed-Effects (FE) and the System Generalised Method of Moments (GMM) regressions. The GMM estimation is modelled with forward orthogonal deviations as opposed to differencing so as to control for cross-sectional dependence. Third, the effect of foreign aid on development may be non-contemporaneous. We address this concern by modelling aid as both contemporary and non-contemporary.

The rest of the study is organised as follows. Section 2 briefly engages theoretical underpinnings. Section 3 discusses the data and methodology. The empirical analysis and results are covered in Section 4. We conclude with Section 5.

2. Theoretical underpinnings and reinventing foreign aid for inclusive development

The theoretical underpinnings linking foreign aid channels to inclusive development in developing countries build on two main theoretical views that have been documented to elicit Africa’s poverty tragedy on the one hand and the ineffectiveness of foreign aid on the other. First, Kuada (2015) has argued that a substantial paradigm shift is needed to understand recent poverty trends in Africa. The author has suggested that a ‘soft economics’ approach focusing on human capability development should be given more emphasis in relation to the ‘strong economics’ paradigm based on structural adjustment policies. This suggestion for a paradigm shift is consistent with a recent theory by Asongu and Jellal (2016) on foreign aid policy which postulates that domestic and private investments (for economic growth and inclusive development) can be better achieved if foreign aid is channelled through mechanisms that reduce the burden of the taxation system on the private sector of recipient nations. The narrative of Kuada (2015) for understanding trends in high unemployment, poverty and exclusive growth in Africa is broadly consistent with a recent stream of African
development literature which has responded to the MDG-related poverty trends by suggesting mechanisms by which foreign aid could be tailored to achieve more employment, inclusive growth and poverty alleviation (Jones & Tarp, 2015; Simpasa et al., 2015; Jones et al., 2015; Asongu & Tchamyou, 2015; Page & Shimeles, 2015; Page & Söderbom, 2015).

We briefly discuss why reinventing foreign aid for inclusive development is consistent with the celebrated literature of Thomas Piketty and Simon Kuznets. Asongu (2015a) has surveyed over 200 studies to make a case for the need to overhaul development assistance for more inclusive economic growth and development. The main focus of the survey is centred on the argument that development assistance should not be used to guide poor countries towards industrialisation in the perspective of Kuznets, but in the manner outlined by Piketty. According to the authors, abandoning Kuznets’ view that inclusive development is achieved with progress in industrialisation on the one hand and placing inclusive development at the heart of foreign aid policies could lead to outcomes that are consistent with the post-2015 sustainable development agenda.

3. Data and Methodology
3.1 Data
We examine a panel of 53 African countries with data from the Organisation of Economic Co-operation and Development (OECD), the United Nations Development Program (UNDP) and the World Bank for the period 2005 to 2012. The periodicity and aid indicators are consistent with those employed by Efobi et al. (2014) in clarifying the debate on ‘the effect of foreign aid on corruption’. The underlying debate is from: Okada and Samreth (2012), Asongu (2013), Asongu and Jellal (2013). The dependent variable which is the inequality adjusted human development index (IHDI) is in accordance with that employed by Asongu (2014a) we also seek to clarify. The persistence of the dependent variable is also consistent with the choice of an estimation technique that involves the introduction of a lagged dependent in the specification. To this end, after the choice of the Generalised Method of Moments (GMM), a pilot assessment with preliminary findings shows that stretching the periodicity further compromises the validity of estimations; notably it results in instrument proliferation.

The aid and dependent variables are summarised in Table 1. The summary statistics show that the variables are quite comparable. From the variations, we can expect reasonable estimated relationships to emerge. The aid variables are defined in logarithms to enable
comparisons in means and standard deviations. The development assistance data are disbursements of multilateral aid from DAC countries. The employment of control variables proliferates instruments or limits ‘over-identification restrictions’ which substantially bias the system GMM results. Accordingly, for the purpose of limiting instrument proliferation, some GMM specifications have limited or no control variables (see Osabuohien & Efobi, 2013, p. 303).

Table 1: Definition of variables, sources and summary statistics

<table>
<thead>
<tr>
<th>Definitions/ Sources</th>
<th>Mean</th>
<th>S.D</th>
<th>Min</th>
<th>Max</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive development</td>
<td>0.486</td>
<td>0.130</td>
<td>0.129</td>
<td>0.809</td>
<td>351</td>
</tr>
<tr>
<td>Aid to Social Infrastructure</td>
<td>2.012</td>
<td>0.622</td>
<td>0.113</td>
<td>3.077</td>
<td>424</td>
</tr>
<tr>
<td>Aid to Economic Infrastructure</td>
<td>0.812</td>
<td>1.201</td>
<td>-2.000</td>
<td>3.067</td>
<td>415</td>
</tr>
<tr>
<td>Aid to Productive Sector</td>
<td>1.017</td>
<td>0.830</td>
<td>-1.699</td>
<td>2.741</td>
<td>424</td>
</tr>
<tr>
<td>Aid to Multi Sector</td>
<td>1.023</td>
<td>0.682</td>
<td>-1.699</td>
<td>2.541</td>
<td>424</td>
</tr>
<tr>
<td>Programme Assistance</td>
<td>1.116</td>
<td>0.924</td>
<td>-2.000</td>
<td>3.103</td>
<td>350</td>
</tr>
<tr>
<td>Action on debt</td>
<td>0.535</td>
<td>1.310</td>
<td>-2.000</td>
<td>4.045</td>
<td>321</td>
</tr>
<tr>
<td>Humanitarian Assistance</td>
<td>0.894</td>
<td>1.004</td>
<td>-2.000</td>
<td>3.038</td>
<td>400</td>
</tr>
</tbody>
</table>


The correlation matrix in Table 2 enables us to mitigate multicollinearity and overparameterization issues apparent in the first-four variables; notably in aid for: social infrastructure, economic infrastructure, the production sector and the multi-sector.
Table 2: Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>SocioInfra</th>
<th>EcoInfra</th>
<th>ProdSec</th>
<th>MultiSec</th>
<th>Prog. Assis</th>
<th>Debt Action</th>
<th>Humani</th>
<th>IHDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>SocioInfra</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EcoInfra</td>
<td>0.756</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ProdSec</td>
<td>0.760</td>
<td>0.675</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MultiSec</td>
<td>0.784</td>
<td>0.693</td>
<td>0.304</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prog. Assis</td>
<td>0.284</td>
<td>0.203</td>
<td>0.067</td>
<td>-0.022</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt Action</td>
<td>0.111</td>
<td>0.155</td>
<td>0.349</td>
<td>0.351</td>
<td>-0.006</td>
<td>-0.553</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humani</td>
<td>0.419</td>
<td>0.150</td>
<td>0.359</td>
<td>-0.359</td>
<td>0.006</td>
<td>-0.184</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IHDI</td>
<td>-0.184</td>
<td>0.029</td>
<td>-0.139</td>
<td>-0.007</td>
<td>-0.553</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


3.2 Methodology

Consistent with the motivation, we employ three estimation techniques: panel OLS, panel Fixed-effects (FE) and Dynamic System GMM. While the first-two independently entail both contemporary and non-contemporary specifications, the third is simultaneously contemporary and non-contemporary. OLS and FE are Heteroscedasticity and Autocorrelation Consistent (HAC) in standard errors. The choice of a FE or random-effect (RE) specification is contingent on the outcome of the Hausman test for endogeneity.

The GMM estimation consists of employing the Arellano and Bover (1995) technique. Instead of using differencing in the instrumentation process, we prefer forward orthogonal deviations. Such a specification is more efficient in the presence of cross-sectional dependence to avoid bias in estimated coefficients (Baltagi, 2008). As shown by Love and Zicchino (2006), the employment of forward orthogonal deviations controls for specific-effects arising from cross-sectional dependence. In this light, one period lags in the regressors are appropriate since they are not correlated with the transformed error term. Moreover, the adoption of one lag is also in accordance with the baseline OLS and FE non-contemporary specifications.

The modelling is in line with Roodman (2009ab) and specifications are two-step or heteroscedasticity-consistent, because one-step specifications assume the presence of homoscedasticity. The validity of models is further verified by ensuring that the results satisfy diagnostics of post-estimation. In accordance with Asongu and De Moor (2016), the study uses four information criteria to assess the validity of estimated models. First, in order to investigate the absence of autocorrelation in the residuals, the null hypothesis corresponding to the second-order Arellano and Bond (1991) autocorrelation test in difference (AR(2))
should not be rejected. Second, for the instruments to be valid, the null hypothesis corresponding to the Hansen and Sargan over-identification restrictions (OIR) test should also not be rejected. In essence, the Sargan (Hansen) OIR test which is based on homoscedasticity (heteroscedasticity) is not robust but not weakened by instruments. Moreover, the modelling exercise is tailored to restrict over-identification or limit instrument proliferation by ensuring that for each specification, the number of cross-sections is higher than the corresponding number of instruments. Third, the Difference in the Hansen Test (DHT) for exogeneity of instruments is employed to further examine the validity of the Hansen OIR test. Fourth, the Fisher test used to examine the joint validity of estimated parameters should be significant. For brevity, we do not present the equations which can be provided upon request.

4. Empirical Results

Table 3 presents contemporary and non-contemporary results. Panel A shows OLS while Panel B reveals FE estimations. The specifications are tailored to control for the multicollinearity issues identified in Table 2. Only FE estimations are relevant to Panel B because the null hypotheses of the Hausman test for endogeneity are rejected, confirming the presence of endogeneity.

The following findings are established in Panel A. First, aid for program and humanitarian assistance affects the IHDI negatively. Second, there is no apparent impact from action on debts. Third, the effects of the aid dynamics with a high degree of substitution are consistently positive across specifications. Fourth, from a broad perspective, magnitudes of effects from non-contemporary specifications are slightly higher.

These results are noticeable with the FE estimations in Panel B. First, the previously insignificant effects from action on debt are now negatively significant. Second, the previously negative effects of program and humanitarian assistance are no longer apparent. Third, but for aid to multi-sector development, the other three highly correlated aid dynamics have significant positive effects as in Panel A.
### Table 3: Contemporary and non-contemporary OLS and fixed-effects

**Panel A: Baseline Contemporary and Non-contemporary effects (HAC SE OLS)**

<table>
<thead>
<tr>
<th>Contemporary effects</th>
<th>Non-Contemporary effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant 0.410*** (0.000)</td>
<td>Constant 0.399*** (0.000)</td>
</tr>
<tr>
<td>Prog. Assistance -0.034*** (0.003)</td>
<td>Prog. Assistance -0.033*** (0.000)</td>
</tr>
<tr>
<td>Action on Debt -0.0004 (0.954)</td>
<td>Action on Debt -0.001 (0.842)</td>
</tr>
<tr>
<td>Hum. Assistance -0.052*** (0.000)</td>
<td>Hum. Assistance -0.054*** (0.000)</td>
</tr>
<tr>
<td>Social Infrastructure 0.062*** (0.003)</td>
<td>Social Infrastructure 0.006*** (0.000)</td>
</tr>
<tr>
<td>Econ. Infrastructure 0.037*** (0.000)</td>
<td>Econ. Infrastructure -0.043*** (0.000)</td>
</tr>
<tr>
<td>Productive Sector 0.031** (0.036)</td>
<td>Productive Sector 0.031*** (0.039)</td>
</tr>
<tr>
<td>Multi Sector 0.050*** (0.003)</td>
<td>Multi Sector(-1) 0.054*** (0.004)</td>
</tr>
<tr>
<td>Adjusted R² 0.308</td>
<td>Adjusted R² 0.316</td>
</tr>
<tr>
<td>Fisher 27.22*** 36.47*** 22.926*** 25.017***</td>
<td>Fisher 25.31*** 37.06*** 19.57*** 22.08***</td>
</tr>
<tr>
<td>Countries 42 42 42 42</td>
<td>Countries 41 41 41 41</td>
</tr>
<tr>
<td>Observations 236 236 236 236</td>
<td>Observations 211 211 211 211</td>
</tr>
</tbody>
</table>

**Panel B: Contemporary and Non-contemporary effects (HAC SE Panel Fixed-Effects)**

<table>
<thead>
<tr>
<th>Contemporary effects</th>
<th>Non-Contemporary effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant 0.393*** (0.000)</td>
<td>Constant 0.408*** (0.000)</td>
</tr>
<tr>
<td>Prog. Assistance 0.001 (0.251)</td>
<td>Prog. Assistance -0.006*** (0.000)</td>
</tr>
<tr>
<td>Action on Debt -0.007*** (0.000)</td>
<td>Action on Debt -0.006*** (0.000)</td>
</tr>
<tr>
<td>Hum. Assistance 0.001 (0.551)</td>
<td>Hum. Assistance -0.0099 (0.704)</td>
</tr>
<tr>
<td>Social Infrastructure 0.020*** (0.000)</td>
<td>Social Infrastructure 0.019*** (0.000)</td>
</tr>
<tr>
<td>Econ. Infrastructure 0.000*** (0.000)</td>
<td>Econ. Infrastructure 0.005*** (0.000)</td>
</tr>
<tr>
<td>Productive Sector 0.007* (0.068)</td>
<td>Productive Sector(-1) 0.009*** (0.021)</td>
</tr>
<tr>
<td>Multi Sector 0.004 (0.148)</td>
<td>Multi Sector(-1) 0.006 (0.104)</td>
</tr>
<tr>
<td>Hausman 39.984*** 66.307*** 37.034*** 44.23*** Hausman 29.692*** 60.04*** 26.31*** 33.33***</td>
<td></td>
</tr>
<tr>
<td>Within R² 0.341 0.326 0.331 0.312 Within R² 0.264 0.288 0.281 0.246</td>
<td></td>
</tr>
<tr>
<td>LSDV R² 0.983 0.983 0.983 0.983 LSDV R² 0.986 0.987 0.986 0.986</td>
<td></td>
</tr>
<tr>
<td>Fisher (LSDV) 257.11*** 251.38*** 253.45*** 246.14*** Fisher 278.68*** 288.02*** 285.23*** 271.86***</td>
<td></td>
</tr>
<tr>
<td>Countries 42 42 42 42 Countries 41 41 41 41</td>
<td></td>
</tr>
<tr>
<td>Observations 236 236 236 236 Observations 211 211 211 211</td>
<td></td>
</tr>
</tbody>
</table>


Table 4 below presents the dynamic system GMM findings and comparative full specifications for further robustness purposes. The latter in Panel B is based on the relaxation of concerns about multicollinearity and overparameterization. Hence, all aid variables enter into the specifications. The findings which are based on contemporary and non-contemporary OLS and FE regressions confirm the results of Table 3.
**Table 4: Dynamic GMM and comparative full specifications**

<table>
<thead>
<tr>
<th>Panel A: Dynamic Panel System GMM</th>
<th>Panel B: Panel OLS and Fixed-Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dynamic System GMM</strong></td>
<td><strong>Baseline HAC SE OLS</strong></td>
</tr>
<tr>
<td><strong>Contemporary and Non-contemporary</strong></td>
<td><strong>Cont</strong></td>
</tr>
<tr>
<td>IHDI(-1)</td>
<td>0.986*** (0.000)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.004 (0.000)</td>
</tr>
<tr>
<td>Prog. Assistance</td>
<td>0.0008* (0.058)</td>
</tr>
<tr>
<td>Action on Debt</td>
<td>0.0007* (0.073)</td>
</tr>
<tr>
<td>Hum. Assistance</td>
<td>-0.001 (0.210)</td>
</tr>
<tr>
<td>Social Infrastructure</td>
<td>0.022 (0.195)</td>
</tr>
<tr>
<td>Econ. Infrastructure</td>
<td>--- 0.008 (0.301)</td>
</tr>
<tr>
<td>Productive Sector</td>
<td>--- --- 0.002*** (0.008)</td>
</tr>
<tr>
<td>Multi Sector</td>
<td>--- --- --- --- -0.0003 (0.757)</td>
</tr>
<tr>
<td>AR(1)</td>
<td>0.117 (0.114)</td>
</tr>
<tr>
<td>AR(2)</td>
<td>0.784 (0.516)</td>
</tr>
<tr>
<td>Sargan OIR</td>
<td>0.232 (0.344)</td>
</tr>
<tr>
<td>Hansen OIR</td>
<td>0.441 (0.195)</td>
</tr>
</tbody>
</table>

**DHT for instruments**

(a) Instruments in levels

<table>
<thead>
<tr>
<th></th>
<th>H excluding group</th>
<th>Diff(null, H=exogenous)</th>
<th>Diff(null, H=exogenous)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(0.650) (0.688) (0.587) (0.707) (0.470)</td>
<td>(0.303) (0.341) (0.180) (0.214) (0.641)</td>
<td>--- --- --- --- ---</td>
</tr>
</tbody>
</table>

(b) IV (years, eq (diff))

<table>
<thead>
<tr>
<th></th>
<th>H excluding group</th>
<th>Diff(null, H=exogenous)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(0.311) (0.619) (0.368) (0.794) (0.500)</td>
<td>(0.565) (0.317) (0.249) (0.114) (0.708)</td>
</tr>
</tbody>
</table>

| Hausman | --- --- --- --- --- 78.01*** 68.23*** |
| Adjusted $R^2$ | --- --- --- --- --- --- 0.374 0.408 --- --- |
| Within $R^2$ | --- --- --- --- --- 0.370 0.337 |
| LSDV $R^2$ | --- --- --- --- --- 0.984 0.987 |
| Fisher (LSDV) | --- --- --- --- --- 248.42*** 284.69*** |
| Fisher (IV) | 1835*** 1611*** 2033*** 2312*** 11324*** 21083*** 21718*** |
| Instruments | 25 25 25 25 37 --- --- --- |
| Countries | 38 38 38 38 38 42 41 42 41 |
| Observations | 187 187 187 187 187 236 211 236 211 |


As for Panel A, while the first-four specifications control for multicollinearity, the fifth specification relaxes the assumption. First, in relation to previous findings/modelling, while the negative sign of the humanitarian assistance variable remains unchanged, the effects of programme assistance and action on debt are now positive. The reason for this difference could be traceable to the drop in cross-sections from 42(41) to 38. This drop is accompanied by a decrease in degrees of freedom. Another possible explanation could be the result of controlling for time-effects. Second, the effects of the aid dynamics with some high
degree of substitution are positive, with the exception of the impact of economic infrastructure.

The post-estimation tests confirm the validity of the instruments and absence of autocorrelation. Accordingly, the null hypotheses of the difference-in-Hansen test for instrument exogeneity and Arellano and Bond (1991) autocorrelation test are not rejected.

After cross-examining the OLS, FE and GMM results, only the effects of program assistance and action on debt are ambiguous. The majority of the aid variables are unambiguous in terms of consistency in signs of estimated coefficients. Hence, in the concluding implications that follow, we urge the reader to consider the expositional/cautious character of the discussions related to the ambiguous-side of results.

5. Concluding implications

The use of foreign aid as a policy instrument to promote development in recipient countries has been the object of much debate (Gibson et al., 2014; Arvin & Barillas, 2002; Arvin et al., 2002; Balde, 2011). We resist the need for engaging in the debate over whether foreign aid is generally good or bad. Such engagement would be irrelevant for two main reasons. First, development assistance is like a policy, whose outcome depends on its implementation. Second, while Donors may have some strategic interests, recipients also have their fair share of blame any fault in allocated funds.

The following findings have been established. First, the impact of aid dynamics with high degrees of substitution are positive. These include, aid for: social infrastructure, economic infrastructure, the productive sector and the multi-sector. Second, the effect of humanitarian assistance is consistently negative across specifications and models. Third, the effects of programme assistance and action on debts are ambiguous because they become positive with the GMM technique.

Given the substantial reliance of the African continent on development assistance, the findings have implications for promoting inclusive human development with specific aid programmes. Hence, multilateral development agencies like the African Development Bank (AfDB) with a strategic focus on infrastructural development should be continuously supported by developed countries in their efforts toward infrastructural improvement for

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inclusive human development. Hence, given the established positive relationship between inclusive human development and foreign aid allocated for infrastructural development, we can only encourage the current strategy of the AfDB.

The negative effect of humanitarian assistance implies that mechanisms by which such funds are channelled may be reconsidered. This is consistent with a study partially motivating this line of inquiry: “Though the stated intents or purposes of aid are socio-economic, the actual impact from the findings negates this. It is a momentous epoque to solve the second tragedy of foreign aid; it is high time economists and policy makers start rethinking the models and theories on which foreign aid is based. In the meantime, it is up to people who care about the poor to hold aid agencies accountable for piecemeal results” (Asongu, 2014a, p. 455).

In the light of the above, we provide some recommendations for rethinking of theories and models on which development assistance is based. Drawing on Piketty’s who has substantially debunked the Kuznets’ conjectures to which many foreign aid policies have been aligned, we suggest that developed countries should orient developing nations towards industrialisation by focusing more on inequality and less on economic growth. This is broadly consistent with an evolving narrative on inequality in Africa (Elu, 2013; Mthuli et al., 2014; Brada & Bah, 2014; Asongu et al., 2015; Anyanwu, 2011, 2014).

By tailoring aid to focus on inequality instead of growth, there is some room for optimism that the transition from MDGs to SDGs would deliver inclusive outcomes from development assistance. This is essentially because the inequality elasticity of poverty is higher than the growth elasticity of poverty because the response of poverty to growth is a decreasing function of inequality. The underlying need to place more emphasis on inequality as opposed to growth has also been documented for the sampled countries by Fosu (2008, 2009, 2010abc, 2011). We lift verbatim a few conclusions to support the policy recommendation: “The study finds that the responsiveness of poverty to income is a decreasing function of inequality” (Fosu, 2010c, p. 818); “The responsiveness of poverty to income is a decreasing function of inequality, and the inequality elasticity of poverty is actually larger than the income elasticity of poverty” (Fosu, 2010a, p. 1432); and “In general, high initial levels of inequality limit the effectiveness of growth in reducing poverty while growing inequality increases poverty directly for a given level of growth” (Fosu, 2011, p. 11).

We do not resist the need to provide some discussion on the ambiguous results from action on debt. According to Boyce and Ndikumana (2011), such action is motivated by at
least three reasons: (i) past debts have not benefitted the poor; (ii) borrowing arrangements were without popular consent and (iii) historical evidence shows ‘creditor awareness’ of recipients’ insolvency. Hence, a priori, the results are expected to positively impact human development because debt cancellation/reduction reflects positive macroeconomic income/fiscal externalities that should be reinvested domestic economies to enhance human development. The ambiguity in results is broadly consistent with Asongu et al. (2015) who have confirmed the Azzimonti et al. (2014) conclusions that globalisation-driven debts increase income-inequality. Their findings, which are based on the same periodicity and sample (as in this study), show that the effect on inclusive human development depends on whether the debts are interactive with or endogenous to globalisation.

Overall, while the findings are broadly consistent with Asiedu (2014), Gyimah-Brempong and Racine (2014) and Kargbo & Sen (2014), they also raise some questions on previous foreign aid literature. For instance, humanitarian assistance which survives salient criticisms from Moyo’s Dead Aid has been established to have a negative effect on inclusive human development. Moreover the Fofack (2014) conjecture on self-reliance as means to African development is not consistent with the findings.

As a technical policy implication, like in Efobi et al. (2014), distinguishing types of foreign aid is critical to advancing empirical conclusions on the aid-development nexus. This is essentially because previous findings using the same dependent variable that have grouped aid as a single indicator have shown a negative effect (Asongu, 2014a), a tendency that is consistent across conditional distributions of the dependent variable (Asongu, 2014c).

When the findings are considered in the light of the deep policy challenges of our time, the principal social implication is that foreign aid can be instrumental in inclusive capitalism. It could be used to avoid/mitigate the setbacks of the Kuznets theory and help developing countries embrace globalisation/industrialisation in the light of Piketty. Foreign aid can be instrumental in inclusive human development if the above measures are considered, inter alia: in (i) stimulating the knowledge economy which has been established to reduce inequality (Lustig, 2011) and (ii) emphasising gender equality. These are clearly avenues of future research that should go a long way to clarifying provocative titles like ‘foreign aid follies’ (Rogoff, 2014) or sceptical conclusions from more substantive surveys from 40 years of foreign aid (Doucouliagos & Paldam, 2008, 2009).
References


Massachusetts, pp. 121-144.


