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## On taxation, political accountability and foreign aid: empirics to a celebrated literature

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**On taxation, political accountability and foreign aid: empirics to a  
celebrated literature**

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**AGDI Working Paper**

Research Department

**On taxation, political accountability and foreign aid: empirics to a celebrated literature**

**Simplice A. Asongu<sup>1</sup>**

May 2014

**Abstract**

The Eubank (2012, JDS) findings on taxation, political accountability and foreign aid has had an important influence in academic and policy-making debates. Eubank has warned that his findings should not be generalized across Africa until they are backed by robust empirical evidence. This paper puts some empirical structure to the celebrated literature. The empirical evidence which is based on data from 53 African countries for the period 1996-2010 broadly confirms the Somaliland-based Eubank (2012) hypothesis that in the absence of foreign aid, the dependence of government on local tax revenues provides the leverage for better political governance.

*JEL Classification:* B20; F35; F50; O10; O55

*Keywords:* Foreign Aid; Political Economy; Development; Africa

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## **1. Introduction**

One of the root causes of Africa's poverty has been attributed to the poor quality of institutions: political instability, hostile regulatory environment for investment, high corruption, lack of property rights, weak courts and contract enforcements (Easterly, 2005). Consistent with this narrative, for poverty to be eradicated in the continent, developed nations need to promote credible political governance and institutions (Alesina & Dollar, 2000; Alesina & Weder, 2002; Knack, 2001; Dixit, 2004; Djankov et al., 2005; Jellal & Bouzahzah, 2012; Asongu, 2012ab, 2013a; Asongu & Jellal, 2013). For over half a century, the foreign aid literature has centered around three main themes. First, there is a concern of if development assistance is allocated more to undeveloped countries with better institutions. Second, there is the issue of how institutional quality is affected by foreign aid. Third, there is another concern of the instrumentality of foreign aid in the quality of government. In other words, the manner in which development assistance donors can utilize aid to improve institutions.

The nexus between taxation and political governance which has been substantially debated in the foreign aid literature falls within the second strand of the literature. Accordingly, concerns have been consistently raised as to whether foreign aid improves institutions in Africa. Given that foreign aid in certain African countries far exceeds government expenditure and that the former mitigates government dependency on tax revenues, the role of foreign aid in the quality of institutions (especially political governance) has been an important concern in academic and policy making circles (Eubank, 2012). While the positive nexus between tax dependency and political accountability has been established (Jensen & Wantchekon, 2004), the effect of foreign aid on institutional quality has been an object of heated debate (Brautigam & Knack, 2004) especially in recent African aid literature (Jellal & Asongu, 2013). This paper focuses on the second strand in light of the celebrated

Eubank (2012) hypothesis<sup>2</sup>. It also complements an extensive literature on the theoretical and empirical underpinnings of the hypothesis (Morton, 1994; Moore, 2008; Mahon, 2004; Timmons, 2005; Bernstein & Lu, 2008; Prichard, 2009).

The theoretical underpinnings of the debate are deeply rooted in the history of economic thought. The underlying hypothesis resulted from negotiations between autocratic governments who needed tax revenues as means of surviving inter-state conflicts and citizens who were willing to consent to taxation only and only if tax paid was in exchange for greater government accountability and more public service delivery (Moore, 2008; Eubank, 2012). Accordingly, the dependence of government on local financial resources provides taxpayers with significant leverage on the government for the request of more representative and accountable political institutions. Eubank's findings have significant policy implications for Africa because Somaliland which is not ineligible for development assistance has a high rate of political accountability and very little or no inter-state conflict. The case of this country has recently consolidated the argument that understanding the nexus between accountability and taxation is an important policy debate in contemporary African development.

The present study has a threefold contribution to existing literature. First, we assess if the findings of the underpinning paper are relevant to the entire African continent. The Eubank (2012) finding on taxation, political accountability and foreign aid has had an important influence in academic and policy-making debates. This paper puts some empirical structure to the celebrated literature by assessing the hypothesis of a positive nexus between tax revenues and political governance in the absence of foreign aid<sup>3</sup>. In essence, it assesses

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<sup>2</sup> The Eubank (2012) paper has received the 2013 Best Paper Award from the Journal of Development Studies.

<sup>3</sup> “For years, studies of state formation in early and medieval Europe have argued that the modern, representative state emerged as the result of negotiations between autocratic governments in need of tax revenues and citizens who were only willing to consent to taxation in exchange for greater government accountability. This article presents evidence that similar dynamics shaped the formation of Somaliland’s democratic government. In particular, it shows that government dependency on local tax revenues – which resulted from its ineligibility for foreign assistance – provided those outside the government with the leverage needed to force the development of inclusive, representative and accountable political institutions” (Eubank,

whether the Somaliland-based findings are reflected across Africa. This is specifically because a caveat to the paper has clearly outlined that the findings should not be extended to the entire African continent without empirical evidence. Second, the intuition that the dependence of the government on tax income produces an income channel of accountability has not been substantially covered in recent development literature. While a lot has been covered on the appeals of good governance in social and economic development, current knowledge on the driving forces behind government quality has remained limited. In this quest, an important number of researchers have focused on the relationship between taxation and political accountability in an attempt to understand drivers of representative and accountable governments (Moore, 2008; Mahon, 2004; Morton, 1994; Bernstein & Lu, 2008; Prichard, 2009). Thirdly, assessing the problem statement is a unique opportunity of extending the recent debate on the effect of foreign aid on institutional quality that is particularly relevant in the African continent<sup>4</sup>.

The rest of the paper is organized as follows. Section 2 highlights the theoretical underpinnings. Data and Methodology are discussed and outlined respectively in Section 3. The empirical analysis is covered in Section 4. Section 5 concludes.

## **2. Theoretical and empirical highlights**

In accordance with Eubank (2012), the theoretical underpinnings largely draw from the dependency on local revenues by the government. In exchange of tax income, it makes political concessions in terms of accountability. Indeed, taxation genuinely comes with compromise in political representation (e.g. ‘no taxation without representation’) and gives

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2012, p.1).

<sup>4</sup> For more insights into the heated debate on the effect of foreign aid on corruption please refer to Okada & Samreth (2012), Asongu (2012a, 2013a, 2014a), Asongu & Jellal (2013). In essence, Asongu (2012a) has questioned the relevance of the Okada & Samreth (2012) findings in Africa. He has also responded to criticisms arising to further validate his findings from conditional (Asongu, 2013a, 2014a) and indirect channels (Asongu & Jellal, 2013).

the electorate some leverage over demanding greater voice and accountability in institutions. This thesis is most relevant in countries that are deficient of natural resources. Hence, providing the government with incentives to encourage investments by means of credible political, representative and accountable institutions. In essence, under financial stress the exchange of political concessions for voluntary taxation appears to be the most efficient means of collecting tax revenues. The hypothesis of Somaliland as presented by the underlying study is a new theoretical illustration of the nexus between tax income and political accountability in contemporary sub-Saharan Africa (SSA). The theoretical basis is that foreign aid could disrupt the growth of representative institutions due to low revenue bargaining: taxation in exchange for better political governance.

While the inherent nexus between revenue bargaining and political accountability has been covered in the empirical literature (Moore, 2008; Mahon, 2004; Morton, 1994; Bernstein & Lu, 2008; Prichard, 2009), the absence of a study that has focused on the entire African continent offers a unique opportunity of assessing the Eubank hypothesis. Accordingly, the number of studies that have focused on the problem statement have concluded that aid should be limited in Africa and the continent left to follow its own development course (Morton, 1994). Evidence of revenue bargaining in exchange for accountability has been found in Latin America (Mahon, 2004). Consistent with Timmons (2005), greater dependence of the state on taxing the richer faction of the population (the general population) leads to more enforcement of property rights (provision of basic services). This empirical evidence is broadly supported by Mahon (2005) who has established that the more a government depends on tax revenues, the better are democratic institutions. A thesis supported in China by Bernstein & Lu (2008); in contemporary developing countries by Moore (2008) and in Ghana (Prichard, 2009).

### **3. Data and Methodology**

#### **3.1 Data**

##### *3.1.1 Dependent, independent and control variables*

We examine a panel of 53 African countries with data from the World Bank Development indicators for the period 1996-2010. The periodicity is selected because data on political governance and accountability from the World Bank is only available from 1996.

Consistent with the underpinnings of Eubank's hypotheses, the dependent variable is political governance. According to Kaufmann et al. (2010) the concept of political governance can be appreciated in terms of voice & accountability and political stability as has been recently employed in African institutional literature (Andrés et al., 2013). To the variables above, we add a composite indicator of political governance for more subtlety and robustness. The procedure for deriving this composite indicator is discussed in Section 3.2.1 below.

The main Aid independent variable is Official Development Assistance (ODA) in line with recent literature (Asongu, 2012a, 2013a; Okada & Samreth, 2012; Asongu & Jellal, 2013). For robustness purposes we use three main ODA variables: Total Net Official Development Assistance (NODA), NODA from Multilateral Donors (MD), and NODA from the Development Assistance Committee (DAC) countries. While the first and third are used in alternative specifications in the empirical section, the second is used for further robustness purposes to check the consistency of the results across specifications. Tax income is measured in terms of Total tax revenues as a percentage of GDP (Jellal & Asongu, 2013). We control for press freedom, inflation and public investment in accordance with the Aid literature. In essence, the theoretical and empirical underpinnings of the fiscal behavior and investment mechanisms have been considerably covered in the literature (Rostow, 1960; Chenery & Strout, 1966; Mosley et al., 1992; Reichel, 1995; Boone, 1996; Addison et al., 2005; Gomane et al., 2003; Mosley et al., 2004; Larrain & Tavares, 2004; Easterly, 2005; Bird, 2007;



Baliamoune-Lutz & Ndikumana, 2008; Benedek et al., 2012; Morrissey, 2012; Jellal & Asongu, 2013). We also account for the unobserved heterogeneity by taking into account income-levels, legal origins, religious dominations, openness to sea, resource-dependency and conflict-affected features. The criteria used in the selection of these latter set of control variables is discussed in Section 3.1.2 below.

### *3.1.2 Controlling for the unobserved heterogeneity*

It is also worthwhile to discuss the criteria for the selection of the dummy variables used in controlling for the unobserved heterogeneity because rightly categorizing them is necessary for relevance of the empirics and quality of ensuing policy implications. It has already been firmly established that macroeconomic characteristics and other government quality indicators have the drawback of being time-dynamic. Therefore, non-dummy thresholds may be inconsistent given the 15 year time-span. This interesting thesis is even more correct when short-run (or business cycle) disturbances loom considerably. Hence, the categorizations are consistent with recent African institutional literature which has classified the unobserved heterogeneity in terms of income-levels, political stability, religious domination, legal origins, natural resources and openness to sea (Weeks, 2012; Asongu, 2014b).

First, in the categorization of conflict-affected countries some issues could arise because of the difficulty in assigning countries within this strand in an exclusive and non-arbitrary manner. Assignment of countries should be made in terms of significance in and rate of instability in the period with respect to the overall data length because it is unrealistic for any country to be completely free from conflict. We discuss this strand in two levels: civil conflicts and political strife. With contemporary stylized facts in mind, it would be difficult to object to the inclusion of the following countries in the first strand: Angola (1975-2002),

Burundi (1993-2005), Congo Democratic Republic, Liberia (1999-2003), Central African Republic (the wave of aborted coup d'états between 1996-2003 and the 2004-2007 Bush War), Chad (2005-2010), Côte d'Ivoire (1999 coup d'état, 2002-2007 civil war, rekindled in 2011), Somalia, Sudan and Sierra Leone (1991-2002). With regard to the second-strand, despite the absence of characteristics of formal civil war, Nigeria and Zimbabwe could be included due to their severity in internal strife.

Second, in the categorization of petroleum-exporting countries, several issues also arise. (1) Some countries that export oil could also be politically unstable. In this classification, a country may be situated in many classes at the same time because we impose no constraints of priority. Hence, a country may fit into more than one strand as long as it has the requisite features that are relevant to the category. (2) The qualification in this category of some countries could be time-dynamic owing to: (a) substantial decline in oil exports and; (b) recent discovery of petroleum. (3) Some countries have macroeconomic features that are the same with petroleum exporting countries (e.g Botswana). To the last-two issues above, we take a minimalistic view by: (a) including only countries whose exports have been petroleum-dominated for more than 10 years in the sampled periodicity and; (b) restricting this resource-category exclusively to petroleum-exporting countries. In light of the above criteria, the following countries are selected: Angola, Algeria, Cameroon, Congo Republic, Chad, Equatorial Guinea, Libya, Nigeria, Gabon and Sudan.

Third, the intuition of colonial legacy is deeply rooted in the law literature: the substantially documented relationship between legal origins and institutional quality (La Porta et al., 1998; La Porta et al., 1999) which has been confirmed in recent African literature (Asongu, 2014c). Classification of this strand is consistent with La Porta et al. (2008, p. 289).

Fourth, controlling for the unobserved wealth-effects is relevant for two reasons: (1) Economic prosperity could substantially affected changes in political governance and; (2)

wealth-effects have recently been documented to be instrumental in the quality of government in Africa (Asongu, 2012b; Asongu, 2014d). The Financial Development and Structure Database (FDSD) of the World Bank is used for the classification of countries in this category.

Fifth, there could be an institutional cost of being landlocked. Countries that are closed to the sea could have a higher propensity to lower political governance (Arvis et al., 2007). Sixth, recent African literature has also established the role of religious domination in institutional quality (Asongu, 2012b, p. 191). This classification is in accordance with the Central Intelligence Agency's (2011) World Fact book.

Information on variable definitions (and corresponding sources), summary statistics and correlation analysis are detailed in Appendix 3, Appendix 1 and Appendix 2 respectively. The summary statistics shows that reasonable estimated nexuses could emerge because there is quite a degree of variation in the variables. The correlation analysis: (1) mitigates issues in overidentification and multicollinearity in the same specification and; (2) validates the degree of substitution in foreign aid and political governance indicators used for robustness purposes. The categorization of countries is summarized in Appendix 4.

## **3.2 Methodology**

### *3.2.1 Principal component analysis*

Due to the high degree of correlation between the political governance indicators (voice & accountability and political stability), some information could be redundant. Hence, we employ Principal Component Analysis (PCA) to reduce the dimensions of components in the political governance measures. This is a widely employed method used to reduce a large set of correlated indicators into a smaller set of uncorrelated measures called principal components (PCs) that represent a great proportion of the information in the dataset. To

reduce the political governance indicators into a single variable, the criterion adopted to retain the common factor is from Kaiser (1974) and Jolliffe (2002). Consistent with Asongu (2013b), it has been advised that only PCs with an eigenvalue greater than one should be selected. Hence, the first PC in Table 1 is appropriate because it has an eigenvalue of 1.659 and represents more than 82% of information. Therefore the first PC is our political governance indicator.

**Table 1: Principal Component Analysis (PCA) for Political Governance index (Polgov)**

Principal Components	Component Matrix (Loadings)		Proportion(s)	Cumulative Proportion(s)	Eigen Value(s)
	VA	PS			
First P.C	0.707	0.707	0.829	0.829	1.659
Second P.C	-0.707	0.707	0.170	1.000	0.340

P.C: Principal Component. VA: Voice & Accountability. PS: Political Stability.

### 3.2.2 Estimation technique

In accordance with Demirgüç-Kunt & Levine (2008), dynamic panel estimations have many advantages and one principal shortcoming when compared with other cross-country analysis (Asongu, 2013b). From the appealing side of it, two points are worth noting. First, both time-series and cross-sectional differences in the dataset are accounted for. Second, since the unobserved country-specific effect is part of the error term, in cross-country regressions estimation coefficients could be biased due to correlations between the independent variables and the error term. Moreover, in dynamic equations when the lagged dependent variables are employed, the regressors are most probably correlated with the country-specific effects. First-differencing can be used to control for the unobserved country-specific effect. Then, instrumental variables are used to account for endogeneity. Hence, the control for endogeneity is the second appealing feature of dynamic panel estimations. This is essentially because misleading inferences and unhealthy policy recommendations could be due to biased estimates.

On the other hand, the main shortcoming in this approach is that the use of data-averages (shorter time spans) means that estimated coefficients should be treated as short-term impacts and not long-run effects. However, this disadvantage is not a major concern in the present study because we are not employing data averages since one of the conditions of using the GMM estimation strategy is fully satisfied:  $N > T$  ( $53 > 15$ ).

The dynamic panel regression model is presented as follows:

$$PG_{i,t} = \sigma_0 + \sigma_1 PG_{i,t-1} + \sigma_2 A_{i,t} + \sigma_3 T_{i,t} + \sigma_4 AT_{i,t} + \sigma_5 F_{i,t} + \sigma_6 I_{i,t} + \sigma_7 P_{i,t} + \sum_{j=1}^6 \partial_j X_{i,t} + \eta_i + \xi_t + \varepsilon_{i,t} \quad (1)$$

Where ‘t’ represents the period and ‘i’ stands for a country. *PG* is Political governance; *A*, Foreign aid; *T*, Tax revenues; *AT*, interaction between Foreign aid (*A*) and Tax revenues (*T*); *F*, Press freedom; *I*, Inflation; *P*, Public investment; *X* is the set of dummy control variables (Lower-middle-income, English common-law, Islam-dominated, Landlocked, Petroleum-exporting and Conflict-affected countries );  $\eta_i$  is a country-specific effect;  $\xi_t$  is a time-specific constant and;  $\varepsilon_{i,t}$  an error term.

Borrowing from Asongu (2013b), the estimates will be unbiased only if the independent variables exhibit strict exogeneity. In the real world, this is unfortunately not the case for three main reasons: (1) while the independent variables have an incidence on political governance, the reverse effect cannot be ruled-out since political governance also determines independent variables (the amount of aid decision by Donors, public investment...etc) ; (2) the error term ( $\varepsilon_{i,t}$ ) could be correlated with the exogenous variables and; (3) time- and country-specific effects could also be correlated with other variables in the model, which is often the case when lagged dependent variables are included in the equations. This implies, the concern of endogeneity still emerges due to endogenous regressors. A strategy of dealing with this concern of the correlation between individual specific-effects and

endogenous variables consists of eliminating the individual-effects by first differencing.

Therefore Eq (1) becomes:

$$PG_{i,t} - PG_{i,t-1} = \sigma_1(PG_{i,t-1} - PG_{i,t-2}) + \sigma_2(A_{i,t} - A_{i,t-1}) + \sigma_3(T_{i,t} - T_{i,t-1}) + \sigma_4(AT_{i,t} - AT_{i,t-1}) \\ + \sigma_5(F_{i,t} - F_{i,t-1}) + \sigma_6(I_{i,t} - I_{i,t-1}) + \sigma_7(P_{i,t} - P_{i,t-1}) + \sum_{j=1}^6 \partial_j (X_{i,t} - X_{i,t-1}) + (\xi_t - \xi_{t-1}) + (\varepsilon_{i,t} - \varepsilon_{i,t-1}) \quad (2)$$

Estimation Eq. (2) above by Ordinary Least Squares (OLS) still presents biased estimates because there remains a correlation between the lagged dependent variable and the error term. This issue arising can be handled by jointly estimating the regression in differences with those in levels, hence exploiting all the orthogonality conditions between the error term and the lagged endogenous variables. We use both the difference GMM estimator (Arellano & Bond, 1991) and system GMM estimator (Arellano & Bover, 1995; Blundell & Bond, 1998) but give preference to the latter estimation strategy in case of conflict of interest (2001, pp. 3-4; Asongu, 2013c, p. 49)<sup>5</sup>.

The *two-step* option is chosen instead of the *one-step* (homoscedascity consistent) in the specification of the GMM because it corrects for heteroscedasticity. In validating the models, we use two tests: the autocorrelation test for the absence of autocorrelation in the residuals and the Sargan overidentifying restrictions (OIR) for the validity of the instruments.

In summary, the main arguments for using dynamic system GMM estimations are that, it: (1) does not eliminate cross-country differences; (2) controls for the endogeneity and; (3) mitigates biases of the difference estimator in small samples.

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<sup>5</sup> “We also demonstrate that more plausible results can be achieved using a system GMM estimator suggested by Arellano & Bover (1995) and Blundell & Bond (1998). The system estimator exploits an assumption about the initial conditions to obtain moment conditions that remain informative even for persistent series, and it has been shown to perform well in simulations. The necessary restrictions on the initial conditions are potentially consistent with standard growth frameworks, and appear to be both valid and highly informative in our empirical application. Hence we recommend this system GMM estimator for consideration in subsequent empirical growth research”. Bond et al. (2001, pp. 3-4).

## 4. Empirical analysis, discussion and policy implications

### 4.1 Presentation of results

This section assesses three main issues: the effect of foreign aid on political governance; the incidence of tax revenues on the dependent variables and; the combined effect of ‘taxation and aid’ on political governance. Tables 2-3 below present the empirical findings. While Table 2 is based on Aid from the DAC countries with the *Difference* GMM estimation strategy, Table 3 focuses on Total aid with the *System* GMM estimation strategy for robustness. We further use the Aid from Multilateral Donors to confirm findings in Tables 2-3 for further robustness purposes but do not provide them due to space constraints. For both tables, the AR(2) and Sargan OIR tests broadly validate the models in terms of absence of autocorrelation in the residuals and quality of the instruments respectively<sup>6</sup>.

Based on the findings of Table 2, the following could be established. First, foreign aid mitigates voice & accountability though the effect is not significant for political stability and political governance. The significant effect should be treated with caution because there is still some evidence of autocorrelation in the residuals (significant AR(2) test). Second, the effect of taxation on political stability and governance is significantly consistent across the first (political stability) and third (political governance) specifications. Third, the combined effect of ‘taxation and aid’ is negative, implying that more aid mitigates the positive effect of taxation on political governance. Fourth, the significant control variables have the expected signs. (1) Press freedom increases political governance. In interpreting the sign of the press-

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<sup>6</sup> As highlighted in the methodology section, two tests are performed in order to assess the validity of the models; notably the Arellano and Bond test for autocorrelation that investigates the null hypothesis of no autocorrelation and the Sargan-test which examines the over-identification restrictions. In essence, the latter test investigates if instruments are uncorrelated with the error term in the equation of interest. The null hypothesis of this test is the position that the instruments as a group are strictly exogenous. With respect to the former test, the AR(2) in first difference is instead reported because it is more relevant than the AR(1) that assesses autocorrelation in levels. Accordingly, for most of the estimated models, neither the null hypothesis of the Sargan for the validity of the instruments nor that of the AR(2) for the absence of autocorrelation are overwhelmingly rejected.

freedom estimates, it should be noted that, Freedom House from which the data is taken presents freedom of the press in decreasing magnitudes, such that countries which enjoy the highest press-freedom level have the least values (Andrés & Asongu, 2013, p. 674 ). (2)

While inflation is intuitively detrimental to the quality of institutions, public investment that is not tainted by corrupt practices could improve them.

**Table 2: Taxation, political accountability an aid (Difference GMM with DAC Aid)**

	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	<b>0.519***</b> (0.000)	<b>0.540***</b> (0.000)	0.027 (0.899)	<b>0.572***</b> (0.000)	<b>0.567***</b> (0.000)	0.411 (0.182)	0.252 (0.558)	0.303 (0.550)	0.152 (0.572)
Constant	-0.004 (0.670)	-0.003 (0.732)	0.013 (0.595)	-0.007 (0.131)	-0.007 (0.137)	-0.001 (0.811)	0.004 (0.834)	0.003 (0.832)	0.011 (0.599)
Aid (NODADAC)	-0.0003 (0.888)	---	---	<b>-0.002**</b> (0.012)	---	---	0.0003 (0.860)	---	---
Tax revenues	<b>0.003**</b> (0.016)	<b>0.004***</b> (0.006)	<b>0.004*</b> (0.095)	0.000 (0.876)	0.0007 (0.409)	0.001 (0.284)	<b>0.002*</b> (0.072)	<b>0.003*</b> (0.093)	<b>0.004**</b> (0.027)
Aid* 'Tax revenues'	---	-0.0001 (0.183)	<b>-0.0002***</b> (0.002)	---	-0.00004 (0.398)	-0.0001 (0.190)	---	-0.00005 (0.484)	<b>-0.0003***</b> (0.001)
Press Freedom	---	---	0.004 (0.743)	---	---	<b>-0.009*</b> (0.050)	-0.006 (0.682)	-0.004 (0.795)	-0.004 (0.722)
Inflation	---	---	<b>-0.006**</b> (0.025)	---	---	0.0010 (0.623)	---	---	-0.002 (0.279)
Public Investment	---	---	<b>0.038*</b> (0.060)	---	---	-0.004 (0.626)	---	---	0.011 (0.480)
Income Level (LMI)	---	---	n.s.a	---	---	n.s.a	---	---	n.s.a
English	---	---	n.s.a	---	---	n.s.a	---	---	n.s.a
Islam	---	---	n.s.a	---	---	n.s.a	---	---	n.s.a
Landlocked	---	---	n.s.a	---	---	n.s.a	---	---	n.s.a
Oil	---	---	n.s.a	---	---	n.s.a	---	---	n.s.a
Conflicts	---	---	n.s.a	---	---	n.s.a	---	---	n.s.a
AR(2)	<b>0.244</b> (0.807)	<b>0.339</b> (0.734)	<b>-0.336</b> (0.736)	-1.953* (0.050)	-1.898* (0.057)	<b>-1.001</b> (0.316)	<b>0.085</b> (0.931)	<b>0.162</b> (0.871)	<b>-0.191</b> (0.847)
Sargan OIR	<b>36.954</b> (0.517)	<b>35.642</b> (0.579)	<b>24.751</b> (0.691)	<b>35.723</b> (0.575)	<b>36.353</b> (0.545)	<b>24.285</b> (0.714)	<b>29.265</b> (0.451)	<b>29.918</b> (0.418)	<b>23.310</b> (0.762)
Wald (Joint)	<b>50.37***</b> (0.000)	<b>57.78***</b> (0.000)	<b>100.13***</b> (0.000)	<b>24.32***</b> (0.000)	<b>25.24***</b> (0.000)	<b>22.39***</b> (0.000)	<b>10.030**</b> (0.039)	<b>11.061**</b> (0.025)	<b>25.065***</b> (0.000)
Observations	41	41	29	41	41	29	35	35	29
Countries	217	217	112	217	217	112	155	155	112

\*\*\*, \*\*, and \* indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial: lagged dependent variable. Aid: Net Official Development Assistance (NODA). NODADAC: NODA from the Development Assistance Committee (DAC). LMI: Lower Middle Income Countries. English: English Common Law countries. Islam: Moslem Dominated countries. Oil: Petroleum Exporting Countries. Conflicts: Conflict Affected countries. The significance of bold values is twofold. 1) The significance of estimated coefficients and the Wald statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(2) tests and; b) the validity of the instruments in the Sargan OIR test. n.s.a: not specifically applicable due to OIR test (or instrument) constraints.



Owing to substantial constraints in the instruments required for Sargan OIR, specifications in Table 2 do not entirely control for some of the documented unobserved heterogeneity, as shown by the non-specifically applicable (nsa) signs. Hence to tackle this concern with employ the system GMM estimation strategy in Table 3 because it: (1) corrects the biases in the difference estimator; (2) adds lag differences of the regressors as instruments in the level equation, hence exploiting all the orthogonality conditions needed for endogeneity- robust estimations and; (3) uses Total aid instead of aid from DAC countries for more robustness purposes. Table 3 below incorporates the points highlighted above.

**Table 3: Taxation, political accountability an aid (System GMM with Total Aid)**

	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	<b>0.694***</b> (0.000)	<b>0.666***</b> (0.000)	0.252 (0.326)	<b>0.866***</b> (0.000)	<b>0.866***</b> (0.000)	<b>0.572***</b> (0.002)	<b>0.582***</b> (0.001)	<b>0.584***</b> (0.003)	<b>0.556***</b> (0.004)
Constant	<b>-0.179**</b> (0.016)	<b>-0.248***</b> (0.001)	0.306 (0.171)	-0.058 (0.350)	-0.062 (0.280)	<b>0.623**</b> (0.020)	<b>1.199**</b> (0.039)	<b>1.141*</b> (0.057)	<b>1.100**</b> (0.024)
Aid (NODA)	-0.001 (0.157)	---	---	-0.00009 (0.899)	---	---	-0.001 (0.320)	---	---
Tax revenues	<b>0.004***</b> (0.002)	<b>0.006***</b> (0.000)	<b>0.013***</b> (0.003)	-0.0003 (0.624)	-0.0002 (0.828)	0.0007 (0.551)	<b>0.002***</b> (0.001)	<b>0.004***</b> (0.005)	<b>0.007**</b> (0.020)
Aid* 'Tax revenues'	---	<b>-0.0001*</b> (0.011)	<b>-0.0007***</b> (0.007)	---	-0.0000 (0.974)	<b>-0.0001*</b> (0.061)	---	-0.0001 (0.110)	<b>-0.0004***</b> (0.004)
Press Freedom	---	---	<b>-0.016**</b> (0.036)	---	---	<b>-0.013**</b> (0.029)	<b>-0.019**</b> (0.037)	<b>-0.019*</b> (0.050)	<b>-0.018*</b> (0.054)
Inflation	---	---	-0.002 (0.604)	---	---	0.002 (0.233)	---	---	0.0007 (0.882)
Public Investment	---	---	0.034 (0.160)	---	---	-0.003 (0.491)	---	---	0.009 (0.520)
Income Level (LMI)	---	---	0.038 (0.827)	---	---	0.002 (0.951)	---	---	-0.045 (0.657)
English	---	---	0.025 (0.854)	---	---	0.042 (0.393)	---	---	0.089 (0.481)
Islam	---	---	0.135 (0.401)	---	---	<b>-0.073*</b> (0.093)	---	---	-0.005 (0.958)
Landlocked	---	---	-0.141 (0.395)	---	---	-0.049 (0.359)	---	---	-0.103 (0.450)
Oil	---	---	-0.021 (0.931)	---	---	-0.157 (0.090)	---	---	-0.147 (0.377)
Conflicts	---	---	<b>-0.823**</b> (0.031)	---	---	-0.148 (0.191)	---	---	<b>-0.440*</b> (0.094)
AR(2)	<b>0.420</b> (0.674)	<b>0.372</b> (0.709)	<b>0.517</b> (0.604)	<b>-2.161**</b> (0.030)	<b>-2.158**</b> (0.030)	<b>-1.251</b> (0.210)	<b>0.290</b> (0.771)	<b>0.347</b> (0.728)	<b>0.383</b> (0.701)
Sargan OIR	<b>37.799</b> (0.733)	<b>36.962</b> (0.764)	<b>20.607</b> (0.965)	<b>36.578</b> (0.778)	<b>37.504</b> (0.744)	<b>19.752</b> (0.975)	<b>28.539</b> (0.732)	<b>28.998</b> (0.711)	<b>13.746</b> (0.999)
Wald (Joint)	<b>111.45***</b> (0.000)	<b>144.47***</b> (0.000)	<b>281.70***</b> (0.000)	<b>126.3***</b> (0.000)	<b>136.5***</b> (0.000)	<b>3789.1***</b> (0.000)	<b>960.6***</b> (0.000)	<b>1072***</b> (0.000)	<b>1604.42***</b> (0.000)
Observations	258	258	141	258	258	141	190	190	141
Countries	41	41	29	41	41	29	35	35	29

\*\*\*, \*\*, and \* indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial: lagged dependent variable. Aid: Net Official Development Assistance. LMI: Lower Middle Income Countries. English: English Common Law countries. Islam: Moslem Dominated countries. Oil: Petroleum Exporting Countries. Conflicts: Conflict Affected countries. The significance of bold values is twofold. 1) The significance of estimated coefficients and the Wald statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(2) tests and; b) the validity of the instruments in the Sargan OIR test.

From the findings in Table 3 above, the following conclusions could be established. First, the incidence of foreign aid is not significantly negative. This is contrary to the wealth of recent empirical literature that has firmly established a negative aid-institutions nexus in the African continent (Asongu, 2012a, 2013a, 2014a). Second, the effect of taxation on political stability and governance is significantly consistent across the first (political stability) and third (political governance) specifications. Third, the combined effect of ‘taxation and aid’ is negative, implying that more aid mitigates the positive effect of taxation on political governance. Fourth, the significant control variables have the expected signs. (1) Press freedom increases political governance. (2) Islam-dominated and conflict-affected countries intuitively have less voice & accountability and political stability respectively.

### **3.2 Further discussion of results and policy implications**

Before diving into the discussion of results it is important to briefly highlight the spirit motivating this paper. Eubank has warned that the Somaliland-based findings should not be generalized across Africa until his hypothesis is substantiated with robust empirical evidence. The discussion should neither be construed as an extension of the debate over the international recognition of Somaliland nor as a validation of the thesis of proponents against foreign aid in African countries. Essentially, the objective has been to assess Eubank’s hypothesis in order to provide some empirical structure to a celebrated literature that has received the reward for best paper in the Journal of Development Studies for the year 2013.

The results broadly show that in the absence of aid, taxation improves political institutions in Africa while in the presence of aid, such institutions are deteriorated. This implies foreign aid is instrumental only when existing political institutions are already strong in the recipient country. The validation of Eubank’s hypothesis further has four implications. (1) Political institutions in Africa are not yet strong enough to absorb the great of bulk of

foreign aid flowing into the continent. (2) The issue of whether foreign aid can be used to transform political institutions in the continent is answered. (3) There may be *time* and *level* hypotheses for the benefit of foreign aid in the transformation of institutions. Hence, institutions need to mature (*time*) and be strong (*level*) before the beneficial effects of foreign aid in transforming political institutions could be achieved. (4) The three points above may neither apply to humanitarian aid for special emergency purposes (like earthquakes, tsunamis ...etc) nor to aid destined to provide basic survival needs in periods of war. The findings are broadly consistent with the bulk of empirical literature discussed in the theoretical and empirical highlights in Section 2 (Moore, 2008; Mahon, 2004; Morton, 1994; Bernstein & Lu, 2008; Prichard, 2009).

#### **4. Conclusion**

The Eubank (2012, JDS) findings on taxation, political accountability and foreign aid has had an important influence in academic and policy-making debates. Eubank has warned that his findings should not be generalized across Africa until they are backed by robust empirical evidence. This paper has put some empirical structure to the celebrated literature. The empirical evidence which is based on data from 53 African countries for the period 1996-2010 has broadly confirmed the Somaliland-based Eubank (2012) hypothesis that in the absence of foreign aid, the dependence of government on local tax revenues provides the leverage for better political governance.

## Appendices

### Appendix 1: Summary statistics

	Mean	S.D	Min	Max	Obs.
Political Stability (or No violence)	-0.557	0.958	-3.311	1.143	636
Voice & Accountability	-0.674	0.734	-2.174	1.047	636
Political Governance (Polgov)	-0.000	1.288	-3.300	2.748	636
Tax revenues	26.556	13.528	3.456	162.20	528
Foreign Aid (NODA)	10.811	12.774	-0.251	148.30	704
Foreign Aid (NODADAC)	6.244	8.072	-0.679	97.236	704
Press Freedom	57.372	19.234	17.00	94.00	611
Inflation	57.556	955.55	-100.0	24411	673
Public Investment	7.449	4.500	0.000	39.98	655
Income Level (LMI)	0.226	0.418	0.000	1.000	795
English	0.377	0.485	0.000	1.000	795
Islam	0.377	0.485	0.000	1.000	795
Landlocked	0.283	0.450	0.000	1.000	795
Oil	0.188	0.391	0.000	1.000	795
Conflicts	0.226	0.418	0.000	1.000	795

S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obs: Observations. NODA: Net Official Development Assistance. NODADAC: NODA from the Development Assistance Committee (DAC).

### Appendix 2: Correlation matrix

Appendix 2: Correlation matrix																		
Dependent variables			Tax	Independent variables							Publ	LMI	Eng.	Dummy variables				Con
PolS	VA	PG		Aid1	Tax Aid1	Aid2	Tax Aid2	Press	Infl.	Islam				LL	Oil			
1.00	0.65	0.91	0.29	-0.14	0.04	-0.14	0.03	-0.64	-0.06	0.24	-0.03	0.05	-0.15	-0.04	-0.23	-0.64	PolS	
	1.00	0.91	0.00	-0.00	0.07	0.00	0.08	-0.91	-0.07	0.02	-0.08	0.24	-0.21	0.01	-0.37	-0.39	VA	
		1.00	0.15	-0.07	0.06	-0.07	0.06	-0.84	-0.07	0.14	-0.06	0.16	-0.20	-0.01	-0.33	-0.57	PG	
			1.00	-0.07	0.37	-0.03	0.41	-0.11	-0.10	0.45	0.15	0.04	-0.01	-0.00	0.30	-0.09	Tax	
				1.00	0.81	0.95	0.72	-0.04	-0.00	0.19	-0.26	-0.05	-0.05	0.08	-0.28	0.15	Aid1	
					1.00	0.80	0.96	-0.03	-0.08	0.39	-0.20	-0.05	-0.12	0.01	-0.16	0.02	TaxAid1	
						1.00	0.78	0.01	0.00	0.14	-0.22	-0.05	-0.09	0.05	-0.24	0.13	Aid2	
							1.00	-0.06	-0.07	0.34	-0.17	-0.06	-0.14	-0.02	-0.12	0.02	TaxAid2	
								1.00	0.09	-0.11	0.10	-0.06	0.08	0.01	0.30	0.49	Press	
									1.00	-0.07	-0.01	0.04	-0.04	0.05	-0.00	0.10	Infl.	
										1.00	0.00	-0.13	-0.02	0.08	0.01	-0.27	Publ	
											1.00	-0.04	0.13	-0.13	0.20	0.13	LMI	
												1.00	-0.20	0.11	-0.17	0.13	Eng.	
													1.00	-0.14	0.12	0.04	Islam	
														1.00	-0.19	0.06	LL	
															1.00	0.20	Oil	
																1.00	Con.	

PolS: Political Stability. VA: Voice & Accountability. PG: Political Governance. Tax: Tax revenues. Aid1: NODA (Net Official Development Assistance). TaxAid1: Interaction between Tax revenues and NODA. Aid2: NODADAC (NODA from the Development Assistance Committee (DAC)). TaxAid2: Interaction between Tax revenues and NODADAC. Press: Press Freedom. Infl: Inflation. Publ: Public Investment. LMI: Lower Middle Income. Eng: English Common Law countries. Islam: Islam Dominated countries. LL: Landlocked countries. Oil: Petroleum Exporting countries. Con: Conflict-Affected countries.

### Appendix 3: Definitions of variables

Variable(s)	Definition(s)	Source(s)
Political Stability	Political Stability/ No Violence (estimate): Measured as the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional and violent means, including domestic violence and terrorism.	World Bank (WDI)
Voice & Accountability	Voice and Accountability (estimate): Measures the extent to which a country's citizens are able to participate in selecting their government and to enjoy freedom of expression, freedom of association, and a free media.	World Bank (WDI)
Political Governance	First Principal Component of Political Stability and Voice & Accountability	PCA
Tax revenues	Total revenues (% of GDP)	World Bank (WDI)
Foreign Aid (NODA)	Net Official Development Assistance (% of GDP)	World Bank (WDI)
Foreign Aid (NODADAC)	NODA from DAC Countries (% of GDP)	World Bank (WDI)
Tax.Aid	Product of Tax revenues and Foreign Aid	World Bank (WDI)
Press Freedom	Press Freedom Quality	Freedom House
Inflation	Consumer Price Inflation (annual %)	World Bank (WDI)
Public Investment	Gross Public Investment (% of GDP)	World Bank (WDI)

WDI: World Bank Development Indicators. PCA: Principal Component Analysis. GDP: Gross Domestic Product. NODA: Net Official Development Assistance. DAC: Development Assistance Committee.

### Appendix 4: Categorization of Countries

Category	Panels	Countries	Num
Income Levels	Upper Middle Income	Algeria, Botswana, Equatorial Guinea, Gabon, Libya, Mauritius, Namibia, Sao Tome & Principe, Seychelles, South Africa.	10
	Lower Middle Income	Angola, Cameroon, Cape Verde, Côte d'Ivoire, Egypt, Lesotho, Morocco, Nigeria, Senegal, Sudan, Swaziland, Tunisia.	12
	Middle Income	Algeria, Angola, Botswana, Cameroon, Cape Verde, Côte d'Ivoire, Egypt, Equatorial Guinea, Gabon, Lesotho, Libya, Mauritius, Morocco, Namibia, Nigeria, Sao Tome & Principe, Senegal, Seychelles, South Africa, Sudan, Swaziland, Tunisia.	22
	Low Income	Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Congo Democratic Republic, Congo Republic, Djibouti, Eritrea, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sierra Leone, Somalia, Tanzania, Togo, Uganda, Zambia, Zimbabwe.	31
Legal Origins	English Common-law	Botswana, The Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mauritius, Namibia, Nigeria, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe.	20
	French Civil-law	Algeria, Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Democratic Republic, Congo Republic, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Guinea, Guinea-Bissau, Libya, Madagascar, Mali, Mauritania, Morocco, Mozambique, Niger, Rwanda, Sao Tomé & Principe, Senegal, Togo, Tunisia.	33

Religious Domination	Christianity	Angola, Benin, Botswana, Burundi, Cameroon, Cape Verde, Central African Republic, Congo Democratic Republic, Congo Republic, Côte d'Ivoire, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Sao Tomé & Príncipe, Seychelles, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe.	33
	Islam	Algeria, Burkina Faso, Chad, Comoros, Djibouti, Egypt, The Gambia, Guinea, Guinea-Bissau, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Tunisia.	20
Resources	Petroleum Exporting	Algeria, Angola, Cameroon, Chad, Congo Republic, Equatorial Guinea, Gabon, Libya, Nigeria, Sudan.	10
	Non-Petroleum Exporting	Benin, Botswana, Burkina Faso, Burundi, Cape Verde, Central African Republic, Comoros, Congo Democratic Republic, Côte d'Ivoire, Djibouti, Eritrea, Ethiopia, Egypt, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Senegal, Sierra Leone, Somalia, Rwanda, Sao Tomé & Príncipe, Seychelles, South Africa, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.	43
Stability	Conflict	Angola, Burundi, Chad, Central African Republic, Congo Democratic Republic, Côte d'Ivoire, Liberia, Nigeria, Sierra Leone, Somalia, Sudan, Zimbabwe.	12
	Non-Conflict	Algeria, Benin, Botswana, Burkina Faso, Cameroon, Cape Verde, Comoros, Congo Republic, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Senegal, Rwanda, Sao Tomé & Príncipe, Seychelles, South Africa, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia.	41
Openness to Sea	Landlocked	Botswana, Burkina Faso, Burundi, Chad, Central African Republic, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, Swaziland, Uganda, Zambia, Zimbabwe	15
	Not landlocked	Algeria, Angola, Benin, Cameroon, Cape Verde, Comoros, Congo Democratic Republic, Congo Republic, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Libya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Sao Tomé & Príncipe, Seychelles, South Africa, Tanzania, Togo, Tunisia.	38

Num: Number of cross sections (countries)

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