

Taxation, foreign aid and political governance: figures to the facts of a celebrated literature

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Abstract

This paper puts figures to the facts of Eubank (2012), a recently celebrated paper in the Journal of Development Studies. We investigate the underpinning Somaliland-based hypothesis that foreign aid dilutes the positive role of taxation on political governance. The assessment is based on 53 African countries for the period 1996-2010. For more policy options, the dataset is disaggregated into fundamental characteristics of African development based on income-levels, legal origins, natural resources and landlockeness. While the Eubank hypothesis is invalid in Africa and low-income countries of the continent, we cannot conclude on its validity for other fundamental characteristics of development. Policy implications, caveats and future directions are discussed.

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1. Introduction

The Eubank (2012) hypothesis has increased the confidence of the Somaliland government and reignited the heated debate on aid and political governance. Recently, Somaliland's minister of energy and minerals (Hussein Abdi Dualeh) openly professed during an African mining conference that Somaliland was better without foreign aid and did not even need it: *"That is a blessing in disguise. Aid never developed anything...Aid is not a panacea, we'd rather not have it....How many African countries do you know that developed because of a lot of aid? It's a curse. The ones that get the most aid are the ones with the problems....We've been left to our own devices. We are our own people and our own guys. We pull*

ourselves up by our own bootstraps. We owe absolutely nothing to anybody. We would not change hands with Greece today. We have zero debt" (Stoddard, 2014). Before Eubank, the 'Bottom Billion' and 'Dead Aid' by Collier (2007) and Moyo (2009) respectively had also received tremendous feedbacks from policy making and academic circles.

Collier has postulated that because most aid-recipient countries are fragile, weak in governance, inter alia, aid handled through the Official Development Assistance (ODA) program has not had the desired effects. According to this narrative, aid-disbursement mechanisms have not been effective because of four main traps: landlocked with bad neighbors, conflicts, management & dependence on natural resources, and weak governance in small countries. The thesis further sustains that the Bottom billion in poverty are benefiting less on development strategies based on adapting ODAs to a certain benchmark of donor Gross National Income (GNI). The narrative is also broadly in accordance with the position that foreign aid promotes a 'regional public bad' and there appears to be no 'regional public good' effect offsetting the 'public bad' emanating from arms race scenarios in neighboring states (Collier & Hoeffler, 2007).

Moyo's 'Dead Aid' is another accomplished literature that has reignited polemics on the appealing effects of development assistance. Her book which emphasizes that aid has augmented dependency, corruption and poverty in Africa has also received many reactions from policy makers and scholars. Whereas, her thesis has been partially supported by a plethora of recent literature using updated data (Banuri, 2013; Marglin, 2013; Wamboye et al., 2013; Asongu, 2012a; Asongu & Jellal, 2013; Ghosh, 2013; Krause, 2013; Asongu, 2014a; Titumir & Kamal, 2013; Monni & Spaventa, 2013), there is also some moderate consensus on the unsoundness of some of her positions. Accordingly, the classic questions she addresses (for example, the relationship between aid and accountability) and some of her criticisms of the way she uses aid to support her arguments (e.g the rate at which the coincidence between low growth rate and high flows are juxtaposed for evidence that the former is most likely the origin of the latter). These have been used by her opponents and/or defenders of foreign aid. Whereas this narrative does not concern humanitarian and emergency relief assistance, there have been spates of responses among which two merit some emphasis. First, Sachs (2009) has argued that foreign aid is necessary at the tender stage of development and has presented two emotional anti-theses. (1) In his opinion, Moyo does not have the moral values to advocate her position because she was awarded scholarships to study at the top world universities (Oxford and Harvard) and latter in life thinks it is wrong to give a \$10 aid to an African child for an anti-malaria bed net. (2) The book substantially fails to consider stark realities of life like, the universal need of help at one point in life, in one way or another. Second, Bill Gate (an American business magnate now philanthropist) has taken the anti-thesis a stride further by qualifying 'Dead Aid' as a 'promotion of evil'. According to him, Moyo's position is morally repugnant to adopt because she appears neither to know what aid is doing nor much about development assistance.

The Eubank (2012) Somaliland-based hypothesis has also been celebrated with the award of the best paper from the Journal of Development Studies in 2013. According to him, the dependence of the state on local tax revenues provides taxpayers with a substantial leverage to demand from government more accountable political institutions and better representation. This thesis has crucial policy relevance in Africa because Somaliland is ineligible for development assistance but has relatively less inter-state conflict and more political accountability. It is interesting to note that the hypothesis is based on literature without any empirical assessment. Hence, putting some figures to the facts as this paper aims would take the debate to a further height and enhance policy guidance on the validity of the hypothesis in the African continent. Indeed, the theoretical foundations of the debate are profoundly engrained in the history of economic thought. According to the narrative, the hypothesis originated from negotiations between autocratic governments who were in need of tax revenues (to survive inter-state wars) and citizens who were only willing to consent to taxation in exchange for greater public service delivery and more government accountability (Moore, 2008; Eubank, 2012).

The principal contribution of this study to the literature is to investigate the Eubank Somaliland-based hypothesis in the context of Africa. In essence, we assess the validity of the postulation that in the absence of foreign aid, there is a more appealing or positive relationship between tax revenues and

political governance¹. The remainder of the paper is organized in the following manner. Section 2 discusses the nexuses among aid, institutions and development that are relevant to the context of the paper. In Section 3, we discuss the data and outline the methodology. Section 4 covers the empirical analysis. We conclude with Section 5.

2. Aid, institutions and development

The interesting literature on aid and development in Africa has substantially documented poor quality of institutions to be one of the main causes of poverty. Notably, high corruption, political instability, the absence of property rights, regulatory environments unfriendly to investment, unappealing conditions for contract enforcement, and weak courts (Easterly, 2005). According to the narrative, in order for poverty to be mitigated, more advanced countries have to promote credible institutions and political governance (Alesina & Dollar, 2000; Knack, 2001; Alesina & Weder, 2002; Dixit, 2004; Djankov et al., 2005; Jellal & Bouzahzah, 2012; Asongu, 2012b, 2013a; Asongu & Jellal, 2013). The extensive literature on the nexus between aid and institutions has centered around three main themes for over half a century. First, many have assessed the interesting concern of whether more aid is granted to countries with better institutions. Second, the concern of how foreign aid affects the quality of institutions in recipient countries. Third, the challenging preoccupation of how aid can be used as an instrument for the improvement of institutions in recipient countries.

The positioning of the paper on the Eubank hypothesis is consistent with the second strand above. As we have already highlighted, much scholarly attention has been devoted to investigating how aid affects the quality of institutions essentially because government expenditure originating from local taxes is far below foreign aid and the latter: decreases government dependence on local tax revenues and, weakens the quality of institutions (Asongu, 2013a). The latter effect converges with the Eubank hypothesis on political governance. Whereas there is already a solid consensus on the appealing relationship between tax dependency and political governance (Jensen & Wantchekon, 2004), the incidence of development assistance on the quality of institutions has been subject to intense debate (Brautigam & Knack, 2004; Asongu & Jellal, 2013). Hence, by extending the underlying hypothesis, this paper also complements an extensive literature that has already documented theoretical and empirical foundations of the hypothesis (Morton, 1994; Mahon, 2004; Moore, 2008; Timmons, 2005; Bernstein & Lu, 2008; Prichard, 2009).

In light of the above, whereas the relation between political governance and revenue bargaining has been covered in the literature, to the best of our knowledge the absence of a study that has been dedicated to the whole African continent is a sound justification to examine the Eubank hypothesis. Many of the studies have partially or fully concluded that development assistance should be limited in the continent, so that the Africa should be left to chart its own course of development (Morton, 1994; Collier, 2007; Moyo, 2009). The State's dependence on local tax revenues generally leads to better provision of public services and enforcement of property rights (Timmons, 2005). This hypothesis on the revenue bargaining in political governance has been confirmed in Latin America (Mahon, 2004) and in latter studies on domestic institutions (Mahon, 2005). A narrative also verified and broadly validated in Ghana (Prichard, 2009), China (Bernstein & Lu, 2008) and contemporary developing nations (Moore, 2008).

The above scope is consistent with a growing strand of the political economy literature suggesting a rethinking of aid-based development models. The Amin (2013) stance on the possibility of neocolonial interest at the center of grand aid is in accordance with the position of Ndlovu-Gatsheni (2013) on Africa's

¹ “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, 2012, p.1).

entrapment in a web of large scale colonial matrices of power and Kindiki (2011) on the urgent imperative for Africa to strategically overcome its dependence on international wheels of power. According to Amin, development should not be reduced to acceptance or refusal of the Washington consensus or what donors think is good for the African continent. He is joined by Obeng-Odoom (2013) on the position that there is genuine need for a holistic process in which real African needs are clearly articulated.

Before we dive into the empirical analysis, it is worthwhile to devote some space to discussing the highlighted Eubank (2012) hypothesis to elaborate detail. According to the author, the theoretical foundations substantially originate from government's dependence on local tax revenues. Hence, the government is obliged to make political concessions in terms of governance and accountability in exchange for tax income. The adage of 'no taxation without representation' clearly justifies this compromise between taxation and political leadership because it procures the electorate the leverage of asking for greater political representation and voice & accountability. Since the thesis is more relevant in States that lack natural resources, the study would improve scholarly understanding of how governments can improve the climate of investment by means of credible accountable and representative institutions. The narrative further elucidates that under financial stress, the trade-off between taxation and political concessions is the most optimal means of collecting tax income. Thus, the hypothesis of Somaliland is a new theoretical illustration of the relation between political accountability and tax income in contemporary sub-Saharan Africa (SSA). In summary, verifying the hypothesis improves how much we know already about foreign aid as an instrument that disrupts the solidification of representative institutions due to poor revenue bargaining (or taxation in exchange for improvements in political governance). But, essentially the most appealing justification for investigating the hypothesis is a request for further research by Eubank himself. In essence, he has warned that the findings should not be construed as relevant to Africa unless they are backed by empirical validity.

3. Data and Methodology

3.1 Data

3.1.1 Dependent, independent and control variables

We investigate a panel of 53 African countries with data from Development Indicators of the World Bank for the period 1996-2010. The choice of this periodicity is because political governance indicators are only available from the year 1996. The data consists of three year averages in non-overlapping intervals (NOI) to mitigate any short-run disturbances². The dependent variable is political governance (voice & accountability and political stability). The constituent variables are consistent with the Kaufmann et al. (2010) definition of political governance as recently used by Andrés et al. (2013). To these constituent indicators we had a composite indicator of political governance that is obtained through principal component analysis (PCA) in Section 3.2.1 below.

Official Development Assistance (ODA) is the first main independent variable of interest (Okada & Samreth, 2012; Asongu & Jellal, 2013). We use three main ODA indicators for robustness purposes, notably: Total Net Official Development Assistance (NODA), NODA from Multilateral Donors (MD) and NODA from the Development Assistance Committee (DAC) countries. Whereas the first is used in the empirical section, the second and third are employed for robustness checks to assess the consistency of results. It is important to note that the form of aid investigated here is financial development assistance. Accordingly, making this distinction is important for policy orientation (Martinussen, 1997; Degnbol-Martinussen & Engberg-Pedersen, 2003). The second main independent variable of interest is the proxy for taxation: Total tax revenues as a percentage of GDP (Jellal & Asongu, 2013).

Consistent with the aid-development literature, we control for press freedom, public investment and inflation. Accordingly, the theoretical and empirical foundations of the investment and fiscal behavior channels have been substantially documented in the aid literature (Rostow, 1960; Chenery & Strout, 1966; Mosley et al., 1992; Reichel, 1995; Boone, 1996; Gomane et al., 2003; Mosley et al., 2004; Larrain &

² We have five-three year NOI: 1996-1998; 1999-2001; 2002-2004; 2005-2007 & 2008-2010.

Tavares, 2004; Addison et al., 2005; Easterly, 2005; Bird, 2007; Balamoune-Lutz & Ndikumana, 2008; Morrissey, 2012; Benedek et al., 2012; Jellal & Asongu, 2013). While we expect press-freedom and public investment to increase political governance, inflation (especially in consumer prices) should have the opposite effect. The expected signs of the control variables are broadly consistent with the causes of the 2011 Arab Spring (Storck, 2011; Jung, 2011; Thiel, 2012; Khandelwal & Roitman, 2012). We also control for the unobserved heterogeneity in terms of time-effects.

3.1.2 Categorization of countries for consistency and robustness checks

In order to improve the subtlety of the analysis, the richness of our dataset allows us to subdivide the panel into various characteristics that are fundamental to foreign aid: income-levels, legal origins, natural resources and openness to sea. These characteristics have been recently documented as instrumental to foreign aid (Asongu, 2014a). This categorization is in line with recent African institutional literature (Weeks, 2012; Asongu, 2014b).

First, the intuition for legal origins has foundations in the law literature (La Porta et al., 1998; La Porta et al., 1999) that has been recently confirmed in the African literature (Asongu, 2014c). Classification of this category is in line with La Porta et al. (2008, p. 289). Second, countries that are not opened to the sea have lower political governance because there is an institutional price of being landlocked (Arvis et al., 2007). Third, there are two justifications for controlling for wealth-effects: (1) it is very likely that economic prosperity has an incidence on political governance, especially when the fruits of the prosperity are not evenly distributed and; (2) income-levels are instrumental in the quality of governance in Africa (Asongu, 2012b; Asongu, 2014d). Classification of countries in this category is with the help of the Financial Development and Structure Database (FDSD) of the World Bank.

Fourth, we use petroleum-exporting countries as the main criterion for the natural resource category. In the classification of this category, several concerns arise. (1) The qualification of countries in this category may be time-dynamic due to: (a) recent discovery of petroleum or; (b) considerable decline in oil exports. (2) There are some countries with similar macroeconomic characteristics as petroleum-exporting countries (e.g Botswana). To tackle these concerns, we take a minimalistic approach by: (a) including only States for which exports have been petroleum-dominated in the sampled countries for more than a decade and; (b) limiting the resource-category strictly and exclusively to countries that export petroleum.

In the classification of countries above, a country could fall within many categories at the same time because no constraints of categorical priority are imposed. Therefore a country may be in more than one category as long it has the necessary features that are relevant for being identified with the category.

The definition of variables, summary statistics (with presentation of countries), correlation analysis and categorization of countries are detailed in the appendices: Appendix 1, Appendix 2, Appendix 3 and Appendix 4 respectively. From the summary statistics, we can infer that plausible estimated relationships could be obtained because of the reasonable degree of variation in the indicators. The correlation analysis has two purposes: mitigate concerns of multicollinearity and overparametization in the same specification and, confirm the degree of substitution between political governance and foreign aid variables.

3.2 Methodology

3.2.1 Principal component analysis

There could be some redundancy in information because of the high degree of correlation in voice & accountability and political stability constituting political governance. Therefore the study employs Principal Component Analysis (PCA) to mitigate the dimensions of the political governance variables. The PCA has been widely employed to reduce a large set of highly correlated variables into a smaller set of uncorrelated variables called principal components (PCs) that denote a substantial proportion in the variability of the initial dataset. The criterion used to reduce the dimensions of the variables is to retain only PCs with eigenvalues that are greater than one or the mean (Kaiser, 1974; Jolliffe, 2002; Asongu,

2013b). In this light, the first PC in Table 1 below has an eigenvalue of 1.659 and represents about 82% of information from the constituent indicators. This first PC is the political governance indicator (*Polgov*).

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: system GMM

There are many appealing sides and one principal setback for using dynamic panel estimation in comparison to other cross-country analyses (Demirgüç-Kunt & Levine, 2008; Asongu, 2013b). The main arguments for using dynamic system GMM are that it: (1) mitigates the biases of the difference estimator in small samples; (2) does not eliminate cross-country differences and; (3) controls for endogeneity in all regressors. However, the principal downside of this approach is the employment of data-averages such that estimated coefficients are interpreted as short-run effects and not long-run impacts. Hence, based on this empirical underpinning, the Eubank hypothesis is being investigated in the short-run.

The two equations below in levels (1) and first difference (2) summarize the estimation procedure.

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

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

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; η_i is a country-specific effect; ξ_t is a time-specific constant and; $\varepsilon_{i,t}$ an error term. It should be noted that the conditions for employing a GMM estimation strategy are satisfied because we have used three-year NOI: N>T (53>5).

The procedure consists of jointly estimating the equations in levels with those in first difference, hence, exploiting all the orthogonality conditions between error term and the lagged endogenous variable. Accordingly, lag levels of the regressors are used as instruments in the difference equation and lagged differences of the regressors as instruments in the level equation. We give preference to system GMM (Arellano & Bover, 1995; Blundell & Bond, 1998) as opposed to difference GMM (Arellano & Bond, 1991) in accordance recent literature (Bond et al., 2001, pp. 3-4; Asongu, 2013c, p. 49)³. In specifying the

³ “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).

equations, the *two-step* procedure is preferred to the *one-step* because it controls for heteroscedasticity. In order to validate the models; two tests are used as information criteria: the autocorrelation test with a null hypothesis on the absence autocorrelation in the residuals and; the Sargan overidentifying restrictions (OIR) test with a null hypothesis for the validity of instruments. In a bid to avoid the proliferation of instruments in the Sargan OIR test, we ensure that instruments are less than the number of cross-sections in almost all the regressions. We fail to control for time-effects in certain specifications only to void issues of exact multicollinearity and significant autocorrelation tests.

3.2.3 Information criteria for validity of underlying hypothesis

Before presenting the results, it is important to discuss the information criteria for the validity of underlying hypothesis. Accordingly, the Eubank hypothesis is valid with a substitution effect, which we discuss in two strands: the standard or orthodox and a modified or heterodox.

First, on the standard criteria, in accordance with Osabuohien & Efobi (2013, p. 299), a negative interaction effect implies a substitution impact. On the other hand, a positive interaction effect means that aid and taxation are complementary in improving political governance. The inference of a substitution effect from a negative interaction impact is contingent on an initial corresponding positive effect of tax effort on political governance. In a nutshell, if taxation improves political governance, a corresponding negative interaction effect of ‘taxation and aid’ reflects a substitution impact. Hence, the Eubank hypothesis on foreign aid diluting the positive appeal of taxation on political governance is validated.

Second, under scenarios where only one of the underlying effects is significant, the information criteria for the substitution impact become heterodox. For instance if the taxation effect is significant and the interaction impact insignificant, a substitution effect might be inferred since aid dilutes the ex-ante positive significance of taxation on political governance. However, this interpretation may be subject to disputes in academic circles because the interaction effect is not significant, ex-post. Hence, we limit the interpretation of the substitution effect to the standard criteria.

It is also worthwhile to highlight contemporary taxation and aid. The effects of taxation and foreign aid on the dependent variables are not contemporaneous. This is essentially because the specifications consists of regressing the dependent variables in period ‘t’ on independent variables of lagged periods. Accordingly, in the system GMM specification, in order to exploit all the orthogonality conditions between the lagged endogenous variable and the error term, lagged levels of the regressors are employed as instruments in the *difference* equation and lagged differences of the regressors employed as instruments in the *level* equation.

4. Empirical analysis, discussion and policy implications

4.1 Presentation of results

Table 2 below presents baseline regressions from which the following could be established. **First:** foreign aid positively impacts political governance; taxation is appealing for political governance; and the interaction between taxation and aid improves political governance. Evidence of a complementary effect or absence of a substitution effect further implies the Eubank hypothesis is invalid in the baseline regressions. **Second,** the models are valid because the null hypotheses of the autocorrelation and Sargan OIR are overwhelmingly rejected. The findings are not biased by issues of instrument proliferation in the overidentifying restrictions because; the number of instruments is substantially lower than the number of cross-sections (countries). **Third,** the significant control variables have the right signs: inflation decreases political governance while press freedom has the opposite effect. When interpreting the signs of the press-freedom estimated coefficients, it is important to note that Freedom House from which the data is sourced reports press freedom values in decreasing magnitude. Hence, countries enjoying the highest levels in press freedom have the lowest reported values (Andrés & Asongu, 2013, p. 674).

Table 2: Baseline regressions (Africa)

	African Countries								
	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.813*** (0.000)	0.797*** (0.000)	0.997*** (0.000)	0.889*** (0.000)	0.841*** (0.000)	0.593*** (0.000)	0.860*** (0.000)	0.904*** (0.000)	0.856*** (0.000)
Constant	-0.294** (0.034)	-0.248 (0.151)	-0.214 (0.289)	-0.133 (0.411)	-0.124 (0.536)	0.544*** (0.006)	-0.205** (0.011)	-0.135* (0.093)	0.324 (0.513)
Aid (NODA)	0.004 (0.143)	---	---	0.003** (0.029)	---	---	0.006*** (0.000)	---	---
Tax revenues	0.007** (0.042)	0.006 (0.151)	-0.0008 (0.864)	-0.0005 (0.747)	-0.001 (0.476)	0.001 (0.589)	0.005*** (0.005)	0.004* (0.061)	0.002 (0.559)
Aid* 'Tax revenues'	---	0.000 (0.355)	0.0002 (0.539)	---	0.000 (0.449)	-0.000 (0.896)	---	0.0001* (0.078)	0.000 (0.818)
Press Freedom	---	---	0.001 (0.815)	---	---	-0.014*** (0.000)	---	---	-0.007 (0.369)
Inflation	---	---	-0.0004 (0.365)	---	---	-0.0002 (0.205)	---	---	-0.0008* (0.074)
Public Investment	---	---	0.015 (0.674)	---	---	-0.005 (0.372)	---	---	0.006 (0.791)
Times Effects	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	(0.448)	(0.492)	(0.436)	(0.428)	(0.433)	(0.542)	(0.278)	(0.319)	(0.909)
Sargan OIR	(0.115)	(0.104)	(0.231)	(0.564)	(0.172)	(0.624)	(0.792)	(0.692)	(0.346)
Wald (Joint)	106.36***	93.65***	423.29***	491.5***	266.1***	1614***	129.0***	99.19***	1406***
Instruments	12	12	18	15	15	18	15	15	18
Countries	41	41	30	41	41	30	41	41	30
Observations	151	151	100	151	151	100	151	151	100

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial (-1): lagged dependent variable. Aid: Net Official Development Assistance. 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. P-values in brackets.

In Table 3 below, Eubank's hypothesis is **rejected** in Low income countries (Panel A). **No decision is taken for their Middle** income counterparts (Panel B) because of **ambiguity in the information criteria**. Specifications of the models are sound (instruments less than cross-sections) and the estimated models also robust (null hypotheses of the information criteria overwhelmingly rejected). The significant control variables have the expected signs.

Table 3: Income levels (System GMM with Total Aid)

	Panel A: Low Income Countries								
	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.856*** (0.000)	0.858*** (0.000)	0.987*** (0.000)	0.833*** (0.000)	0.940*** (0.004)	0.559*** (0.000)	0.941*** (0.000)	1.016*** (0.000)	0.749*** (0.000)
Constant	-0.339*** (0.000)	-0.195* (0.089)	-0.194 (0.421)	-0.159 (0.435)	-0.019 (0.958)	0.505** (0.021)	-0.260** (0.017)	-0.147 (0.177)	0.655 (0.180)
Aid (NODA)	0.008** (0.010)	---	---	0.004*** (0.000)	---	---	0.009*** (0.000)	---	---
Tax revenues	0.007** (0.031)	0.002 (0.615)	-0.000 (0.996)	-0.001 (0.760)	-0.003 (0.727)	-0.0005 (0.908)	0.002 (0.716)	-0.0006 (0.918)	-0.004 (0.405)
Aid* 'Tax revenues'	---	0.0002* (0.074)	0.0003 (0.281)	---	0.000 (0.679)	0.000 (0.752)	---	0.0001*** (0.006)	0.0003 (0.434)
Press Freedom	---	---	0.0008 (0.852)	---	---	-0.014** (0.0102)	---	---	-0.011* (0.079)
Inflation	---	---	-0.0005 (0.197)	---	---	-0.0002 (0.601)	---	---	-0.001** (0.032)
Public Investment	---	---	0.002 (0.926)	---	---	-0.004 (0.589)	---	---	-0.005 (0.808)

Times Effects	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	(0.132)	(0.147)	(0.781)	(0.515)	(0.620)	(0.932)	(0.178)	(0.188)	(0.831)
Sargan OIR	(0.620)	(0.527)	(0.420)	(0.793)	(0.258)	(0.384)	(0.836)	(0.715)	(0.215)
Wald (Joint)	58.93***	47.79***	3149.8***	133.3***	36.30***	375.3***	127.4***	119.11***	249.59***
Instruments	12	12	18	15	15	18	15	15	18
Countries	24	24	20	24	24	20	24	24	20
Observations	87	87	64	87	87	64	87	87	64

Panel B: Middle Income Countries

	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.767*** (0.000)	0.804*** (0.000)	0.806 (0.204)	1.039*** (0.000)	1.070*** (0.000)	0.323* (0.088)	0.804*** (0.000)	0.921*** (0.000)	0.410*** (0.004)
Constant	-0.096 (0.352)	-0.097 (0.122)	0.116 (0.747)	-0.103 (0.255)	-0.090 (0.250)	1.168*** (0.000)	-0.064 (0.489)	-0.025 (0.926)	1.972*** (0.000)
Aid (NODA)	-0.001 (0.759)	---	---	-0.0003 (0.896)	---	---	0.004 (0.629)	---	---
Tax revenues	0.005** (0.011)	0.004* (0.055)	-0.008 (0.529)	0.001** (0.035)	0.001 (0.189)	-0.0002 (0.910)	0.004** (0.042)	0.003 (0.191)	-0.002 (0.803)
Aid* 'Tax revenues'	---	-0.000 (0.984)	0.0005 (0.702)	---	0.000 (0.993)	0.000 (0.622)	---	0.000 (0.808)	-0.000 (0.957)
Press Freedom	---	---	-0.002 (0.874)	---	---	-0.028*** (0.000)	---	---	-0.033*** (0.002)
Inflation	---	---	-0.001 (0.623)	---	---	-0.0001 (0.348)	---	---	-0.003*** (0.000)
Public Investment	---	---	0.036 (0.166)	---	---	0.003 (0.518)	---	---	0.036** (0.023)
Times Effects	Yes	Yes	No	Yes	Yes	No	No	Yes	No
AR(2)	(0.750)	(0.752)	(0.397)	(0.599)	(0.592)	(0.602)	(0.925)	(0.822)	(0.341)
Sargan OIR	(0.440)	(0.432)	(0.860)	(0.439)	(0.425)	(0.967)	(0.482)	(0.536)	(0.788)
Wald (Joint)	175.84***	176.70***	1165.0***	162.11***	235.8***	9931***	169.02***	243.70***	2312***
Instruments	15	15	15	15	15	15	12	15	15
Countries	17	17	10	17	17	10	17	17	10
Observations	64	64	36	64	64	36	64	64	36

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial (-1): lagged dependent variable. Aid: Net Official Development Assistance. 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. P-values in brackets.

Table 4: Legal origins (System GMM with Total Aid)

	Panel A: English Common Law								
	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.755*** (0.000)	0.759*** (0.000)	0.837 (0.144)	0.847*** (0.000)	0.831*** (0.000)	0.328 (0.091)	0.949*** (0.000)	0.880*** (0.000)	0.257 (0.130)
Constant	-0.276 (0.114)	-0.269* (0.089)	0.107 (0.804)	-0.118 (0.623)	-0.077 (0.718)	0.795** (0.016)	-0.136 (0.273)	-0.076 (0.583)	1.197*** (0.000)
Aid (NODA)	0.0004 (0.865)	---	---	0.003** (0.030)	---	---	0.006** (0.038)	---	---
Tax revenues	0.003 (0.411)	0.003 (0.459)	-0.006 (0.706)	-0.0006 (0.851)	-0.001 (0.757)	0.001 (0.657)	-0.001 (0.667)	-0.001 (0.721)	0.013 (0.155)
Aid* 'Tax revenues'	---	0.000 (0.694)	0.000 (0.836)	---	0.000 (0.438)	-0.0004 (0.374)	---	0.0001** (0.026)	-0.001** (0.022)
Press Freedom	---	---	-0.005 (0.408)	---	---	-0.022*** (0.000)	---	---	-0.031*** (0.000)
Inflation	---	---	0.003 (0.875)	---	---	0.021*** (0.001)	---	---	0.037*** (0.000)
Public Investment	---	---	0.042 (0.422)	---	---	0.006 (0.298)	---	---	0.076*** (0.000)
Times Effects	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No

AR(2)	(0.144)	(0.162)	(0.924)	(0.340)	(0.360)	(0.361)	(0.586)	(0.564)	(0.161)
Sargan OIR	(0.436)	(0.470)	(0.993)	(0.345)	(0.264)	(0.917)	(0.736)	(0.820)	(0.999)
Wald (Joint)	118.60***	90.50***	159.35***	78.32***	81.33***	n.a	1395***	320.0***	1214.3***
Instruments	15	15	15	15	15	15	15	15	15
Countries	13	13	10	13	13	10	13	13	10
Observations	48	48	36	48	48	36	48	48	36

Panel B: French Civil Law

	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.806***	0.911***	1.073***	0.825***	0.797***	0.573***	0.797***	0.843***	0.929***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.395***	-0.161	-0.472*	-0.210	-0.167	0.449***	-0.081	0.013	-0.039
	(0.000)	(0.380)	(0.050)	(0.318)	(0.352)	(0.000)	(0.532)	(0.920)	(0.930)
Aid (NODA)	0.007*	---	---	0.003	---	---	0.008*	---	---
	(0.085)			(0.339)			(0.073)		
Tax revenues	0.010**	0.008**	0.009	0.0005	-0.001	-0.0009	0.005**	0.004	0.010**
	(0.015)	(0.017)	(0.255)	(0.773)	(0.609)	(0.708)	(0.033)	(0.269)	(0.034)
Aid* 'Tax revenues'	---	0.000	0.0004	---	0.0001	0.0001	---	0.000	0.0003
		(0.734)	(0.188)		(0.521)	(0.279)		(0.677)	(0.397)
Press Freedom	---	---	0.005	---	---	-0.012	---	---	-0.001
			(0.342)			(0.005)			(0.836)
Inflation	---	---	-0.0004	---	---	-0.0003	---	---	-0.001*
			(0.417)			(0.222)			(0.084)
Public Investment	---	---	-0.007	---	---	-0.009*	---	---	-0.016
			(0.734)			(0.079)			(0.213)
Times Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	(0.260)	(0.217)	(0.478)	(0.722)	(0.130)	(0.181)	(0.210)	(0.224)	(0.518)
Sargan OIR	(0.165)	(0.116)	(0.419)	(0.386)	(0.382)	(0.798)	(0.344)	(0.285)	(0.490)
Wald (Joint)	48.16***	27.17***	234.73***	86.52***	153.7***	1090***	84.97***	190.7***	656.98***
Instruments	12	15	18	15	15	18	15	15	18
Countries	28	28	20	28	28	20	28	28	20
Observations	103	103	64	103	103	64	103	103	64

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial (-1): lagged dependent variable. Aid: Net Official Development Assistance. 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. P-values in brackets.

Table 5: Openness to Sea (System GMM with Total Aid)

Panel A: Landlocked Countries									
	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.839**	0.873**	0.531*	0.664***	0.667**	0.535***	0.858***	0.865***	0.972***
	(0.039)	(0.029)	(0.099)	(0.000)	(0.013)	(0.009)	(0.000)	(0.007)	(0.001)
Constant	-0.419**	-0.440	-0.812***	-0.469**	-0.428	0.333	-0.486**	-0.296	-0.252
	(0.049)	(0.269)	(0.001)	(0.042)	(0.253)	(0.303)	(0.020)	(0.165)	(0.716)
Aid (NODA)	-0.002	---	---	0.006	---	---	0.018	---	---
	(0.907)			(0.570)			(0.397)		
Tax revenues	0.008	0.008	0.015**	0.007*	0.005	0.004	0.012*	0.006	-0.001
	(0.319)	(0.567)	(0.043)	(0.070)	(0.430)	(0.176)	(0.058)	(0.579)	(0.915)
Aid* 'Tax revenues'	---	0.000	-0.0002	---	0.000	0.000	---	0.0006	0.0005
		(0.908)	(0.539)		(0.803)	(0.977)		(0.261)	(0.360)
Press Freedom	---	---	-0.002	---	---	-0.013**	---	---	0.000
			(0.596)			(0.042)			(0.994)
Inflation	---	---	0.002	---	---	0.011	---	---	0.018*
			(0.830)			(0.186)			(0.090)
Public Investment	---	---	0.035	---	---	-0.005	---	---	0.002
			(0.345)			(0.763)			(0.948)

Times Effects	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No
AR(2)	(0.266)	(0.190)	(0.749)	(0.264)	(0.377)	(0.636)	(0.956)	(0.917)	(0.272)
Sargan OIR	(0.686)	(0.735)	(0.959)	(0.579)	(0.594)	(0.659)	(0.876)	(0.870)	(0.934)
Wald (Joint)	212.61***	178.16***	na	63.37***	33.31***	284.56***	48.27***	48.01***	115.37***
Instruments	15	15	15	12	15	15	15	15	15
Countries	11	11	10	11	11	10	11	11	10
Observations	41	41	35	41	41	35	41	41	35

Panel B: Not Landlocked Countries

	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.737*** (0.000)	0.734*** (0.000)	0.882*** (0.000)	0.920*** (0.000)	0.918** (0.011)	0.461*** (0.004)	0.837*** (0.000)	0.896*** (0.000)	0.572*** (0.000)
Constant	-0.310** (0.043)	-0.252 (0.114)	-0.097 (0.621)	-0.037 (0.783)	-0.020 (0.934)	1.021*** (0.000)	-0.127 (0.145)	-0.061 (0.496)	1.321** (0.021)
Aid (NODA)	0.004* (0.053)	---	---	0.003** (0.035)	---	---	0.005*** (0.000)	---	---
Tax revenues	0.008** (0.019)	0.007* (0.068)	0.004 (0.566)	-0.002 (0.258)	-0.002 (0.413)	-0.001 (0.872)	0.003** (0.036)	0.002* (0.077)	0.0007 (0.915)
Aid* 'Tax revenues'	---	0.000 (0.210)	-0.000 (0.893)	---	0.000 (0.697)	-0.000 (0.926)	---	0.000 (0.126)	-0.000 (0.840)
Press Freedom	---	---	-0.002 (0.670)	---	---	-0.022*** (0.000)	---	---	-0.023** (0.026)
Inflation	---	---	-0.0008* (0.068)	---	---	-0.0001 (0.515)	---	---	-0.001 (0.171)
Public Investment	---	---	0.027 (0.208)	---	---	-0.007 (0.681)	---	---	0.020 (0.490)
Times Effects	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
AR(2)	(0.739)	(0.780)	(0.243)	(0.271)	(0.290)	(0.609)	(0.320)	(0.411)	(0.659)
Sargan OIR	(0.235)	(0.203)	(0.263)	(0.800)	(0.447)	(0.231)	(0.850)	(0.791)	(0.190)
Wald (Joint)	33.936***	25.84***	192.24***	402.7***	537.5***	1741***	116.1***	48.44***	1389***
Instruments	12	12	18	15	15	18	15	12	18
Countries	30	30	20	30	30	20	30	30	20
Observations	110	110	65	110	110	65	110	110	65

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial (-1): lagged dependent variable. Aid: Net Official Development Assistance. 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. P-values in brackets.

Table 6: Resources (System GMM with Total Aid)

Panel A: Oil Exporting Countries									
	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.641*** (0.006)	0.624*** (0.000)	na	0.633*** (0.000)	0.604** (0.011)	na	0.661*** (0.000)	0.652*** (0.000)	na
Constant	-0.643 (0.132)	-0.742* (0.068)	na	-0.414* (0.071)	-0.404* (0.058)	na	-0.373* (0.081)	-0.450** (0.035)	na
Aid (NODA)	-0.012 (0.614)	---	---	0.010 (0.295)	---	---	-0.010 (0.661)	---	---
Tax revenues	0.014** (0.041)	0.016** (0.026)	na	-0.003 (0.459)	-0.004 (0.324)	na	0.006* (0.098)	0.007* (0.070)	na
Aid* 'Tax revenues'	---	-0.0002 (0.741)	na	---	0.0003 (0.252)	na	---	-0.0002 (0.743)	na
Press Freedom	---	---	na	---	---	na	---	---	na
Inflation	---	---	na	---	---	na	---	---	na
Public Investment	---	---	na	---	---	na	---	---	na
Times Effects	No	No		No	No		No	No	

AR(2)	(0.106)	(0.110)	(0.994)	(0.961)	(0.171)	(0.177)
Sargan OIR	(0.977)	(0.987)	(0.968)	(0.958)	(0.960)	(0.967)
Wald (Joint)	93.53***	108.06***	33.23***	30.48***	32.22***	30.22***
Instruments	12	12	12	12	12	12
Countries	7	7	7	7	7	7
Observations	22	22	22	22	22	22

Panel B: Non-Oil Exporting Countries

	Political Stability (No Violence)			Voice & Accountability			Political Governance (Polgov)		
Initial (-1)	0.737*** (0.000)	0.734*** (0.001)	0.882*** (0.000)	0.920*** (0.000)	0.918** (0.011)	0.461*** (0.000)	0.837*** (0.000)	0.896*** (0.000)	0.572*** (0.002)
Constant	-0.310** (0.043)	-0.252 (0.114)	-0.097 (0.621)	-0.037 (0.783)	-0.020 (0.934)	1.021*** (0.000)	-0.127 (0.145)	-0.061 (0.496)	1.321** (0.021)
Aid (NODA)	0.004* (0.053)	---	---	0.003** (0.035)	---	---	0.005*** (0.000)	---	---
Tax revenues	0.008** (0.019)	0.007* (0.068)	0.004 (0.566)	-0.002 (0.258)	-0.002 (0.413)	-0.001 (0.872)	0.003** (0.036)	0.002* (0.077)	0.0007 (0.915)
Aid* 'Tax revenues'	---	0.000 (0.210)	-0.000 (0.893)	---	0.000 (0.697)	-0.000 (0.926)	---	0.000 (0.126)	-0.000 (0.840)
Press Freedom	---	---	-0.002 (0.670)	---	---	-0.022*** (0.000)	---	---	-0.023** (0.026)
Inflation	---	---	-0.0008* (0.068)	---	---	-0.0001 (0.515)	---	---	-0.001 (0.171)
Public Investment	---	---	0.027 (0.208)	---	---	-0.007 (0.681)	---	---	0.020 (0.490)
Times Effects	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
AR(2)	(0.739)	(0.780)	(0.243)	(0.271)	(0.290)	(0.609)	(0.320)	(0.411)	(0.659)
Sargan OIR	(0.235)	(0.203)	(0.263)	(0.800)	(0.447)	(0.231)	(0.850)	(0.791)	(0.190)
Wald (Joint)	33.93***	25.84***	192.24***	402.7***	537.5***	1741***	116.1***	48.44***	1389***
Instruments	12	12	18	15	15	18	15	12	18
Countries	30	30	20	30	30	20	30	30	20
Observations	110	110	65	110	110	65	110	110	65

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. Initial (-1): lagged dependent variable. Aid: Net Official Development Assistance. 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. P-values in brackets.

We cannot conclude on the validity of the underlying hypothesis in Tables 4-6 based on the adopted standard information criteria for a substitution effect. Hence, while the Eubank hypothesis is invalid in Africa and low-income countries of the continent, we cannot establish its validity for other fundamental characteristics of development.

4.2 Further discussion of results, policy implications, caveats and future directions

We have consistently noticed that foreign aid improves political governance. Unfortunately, this significance has not been factored into the two-step interpretation of the results because it is inconsistent with the underlying hypothesis. Accordingly, the two-step interpretation criteria has consisted of first, confirming the positive impact of taxation on political governance and then verifying the corresponding interaction effect of 'taxation and aid' on political governance to determine a substitution effect. Hence, we have overlooked the positive effect of foreign aid on political governance. But since the Eubank hypothesis is invalid, the positive effect of foreign aid on political governance merits some emphasis.

Given that GMM estimates should be interpreted as short-term effects because we have used non-overlapping intervals to mitigate short-run disturbances that may loom substantially, it is logical to infer that foreign aid improves political governance in the short-term. Two implications are note worthy here. First, because the periodicity of the study covers the post 'Berlin wall' era, it is fairly plausible to find a positive aid-governance nexus. Accordingly, Donor objectives of foreign aid radically changed in the

1990s. In essence, before the fall of the Berlin wall, *real politik* was the name of the foreign aid game because the prime objective of aid was to deter African nations from allying with the Soviet Union (Gibson et al., 2014)⁴. Second, consistent with Asongu (2013a, p. 14) foreign aid directly improves voice & accountability because it is an essential condition for its disbursement.

Assessing the Eubank hypothesis has improved the scholarly debates on the aid-institutions nexus at least in a threefold manner. First, by putting an empirical structure to the Eubank literature, we have provided the much needed guidance as to whether the Somaliland-based findings are relevant across Africa. This is in direct response to a request for further research by Eubank who has clearly warned that his findings should not be construed as reflecting the overall African context unless they are backed by some empirical evidence. Second, we have taken the extant of knowledge on the drivers of accountable and representative governments to another platform. Accordingly, the hypothesis of the dependence on tax revenues by government as an income channels to political accountability has been scarcely covered in the literature (Mahon, 2004; Morton, 1994; Bernstein & Lu, 2008; Moore, 2008; Prichard, 2009). Third, the scope of the problem statement has also provided an opportunity of extending a recent debate on aid and institutions by Okada & Samreth and Asongu & Jellal that has had a substantial influence in policy making and academic circles⁵. *The complementary effect of taxation and aid would be further increased if development assistance is channeled through investment mechanisms and not via government final consumption expenditure (Asongu & Jellal, 2013).*

The policy recommendations are valid only for political governance and should not be extended to economic (government effectiveness & regulation quality) and institutional (corruption-control & rule of law) governance without empirical justification. Based on the empirical underpinnings, we have only *invalidated* the Eubank hypothesis in the short-run. Hence, a long-term assessment is an interesting future research direction. *Moreover, in the appreciation of development assistance, the analysis has failed to distinguish between grants and concessional loans. Therefore, it is also worthwhile to assess the dynamics of foreign aid that positively interact with tax effort to improve political governance.*

4. Conclusion

This paper has put figures to the facts of Eubank (2012), a recently celebrated paper in the Journal of Development Studies. We have investigated the underpinning Somaliland-based hypothesis that *foreign aid dilutes the positive role of taxation on political governance. While the Eubank hypothesis is invalid in Africa and low-income countries of the continent, we cannot conclude on its validity for other fundamental characteristics of development.* Policy implications, caveats and future research directions have been discussed. This conclusion should *not* be assumed as an extension of the heated debate on the recognition of Somaliland by the international community. Accordingly, the objective of the paper has simply been to assess the empirical validity of a celebrated literature.

⁴ *“The roots of the Washington consensus that grew in the 1980s and the end of the Cold War quickly changed this status quo: in addition to strong external pressure to liberalize, rulers began to face increasing constraints to using foreign aid to support their followers. While aid continued to flow, it came increasingly in forms far less amenable to patronage politics” (p. 25).*

⁵ For more insights into the heated debate on the incidence of foreign aid on corruption and/or institutional quality please refer to Okada & Samreth (2012), Asongu (2012a, 2013a, 2014e), Asongu & Jellal (2013). Accordingly, Asongu (2012a) has invalidated the Okada & Samreth (2012) results in Africa. In response to criticisms arising, he has further used conditional (Asongu, 2013a, 2014e) and indirect channels (Asongu & Jellal, 2013) to fully and partially confirm his findings respectively.

Appendices

Appendix 1: 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 2: Summary statistics and presentation of countries

Panel A: Summary Statistics

	Mean	S.D	Min	Max	Obs.
Political Stability (or No violence)	-0.571	0.952	-3.229	1.143	265
Voice & Accountability	-0.679	0.730	-2.161	1.047	265
Political Governance (Polgov)	-0.016	1.291	-3.204	2.621	264
Tax revenues	26.746	12.798	3.760	93.633	189
Foreign Aid (NODA)	10.889	12.029	0.015	102.97	253
Foreign Aid (NODADAC)	6.278	7.303	-0.003	68.063	253
Foreign Aid (NODAMD)	4.525	5.083	0.004	33.249	253
Press Freedom	57.475	19.067	18.000	94.000	235
Inflation	56.191	575.70	-45.335	8603.3	230
Public Investment	7.492	4.204	0.000	28.342	229

Panel B: Presentation of Countries

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. 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.

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

Appendix 3: Correlation Analysis

PolSta	VA	Polgov	Taxes	NODA	DAC	MD	Press	Infl.	Pub.I	
1.000	0.682	0.917	0.340	-0.105	-0.106	-0.093	-0.650	-0.098	0.274	PolSta
	1.000	0.917	0.046	0.028	0.037	0.017	-0.919	-0.109	0.034	VA
		1.000	0.207	-0.040	-0.036	-0.040	-0.848	-0.114	0.167	Polgov
			1.000	-0.097	-0.068	-0.139	-0.120	-0.116	0.541	Taxes
				1.000	0.975	0.946	0.049	-0.023	0.148	NODA
					1.000	0.854	0.021	-0.011	0.128	DAC
						1.000	0.078	-0.035	0.144	MD
							1.000	0.150	-0.095	Press
								1.000	-0.121	Infl.
									1.000	Pub. I

PolSta: Political Stability. VA: Voice & Accountability. Polgov: Political governance. Taxes: tax revenues. NODA: Total Net Official Development Assistance (NODA). DAC: NODA from Development Assistance Committee (DAC). MD: NODA from Multilateral Donors.

Appendix 4: Categorization of Countries

Category	Panels	Countries	Num
Income-level	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
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 & Principe, Seychelles, South Africa, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.	43
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 & Principe, Seychelles, South Africa, Tanzania, Togo, Tunisia.	38

Num: Number of cross sections (countries)

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