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Foreign aid instability and bundled governance dynamics in Africa

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WP/15/058

Foreign aid instability and bundled governance dynamics in Africa

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AGDI Working Paper

Research Department

Foreign aid instability and bundled governance dynamics in Africa

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December 2015

Abstract

Purpose- With the recent financial crisis and reduction of foreign aid by donor countries, the aid-institutions debate is shifting to how aid instability affects governance in developing countries. We engage the policy debate by assessing the role of foreign aid instability on governance dynamics in fifty three African countries for the period 1996-2010.

Design/methodology/approach- An autoregressive endogeneity-robust Generalized Methods of Moments is employed. Instabilities are measured in terms of standard errors and standard deviations. Three main aid indicators are used, namely: total aid, aid from multilateral donors and bilateral aid. Principal Component Analysis is used to bundle governance indicators, namely: political governance (voice & accountability and political stability/non violence), economic governance (regulation quality and government effectiveness), institutional governance (rule of law and corruption-control) and general governance (political, economic and institutional governance).

Findings- Our findings show that foreign aid instability increases governance standards, especially political and general governance.

Practical implications- In the presence of foreign aid instability, governments could be constrained to improve governance standards in exchange for, or anticipation of greater dependence on local tax revenues. Moreover, bundling governance indicators improves insights into how macroeconomic variables affect governance. This is essentially because, while aid instability improves general governance, for the most part it is not consistently for economic and institutional governance.

Originality/value- The paper has contributed to the aid-institutions' literature by examining how aid instabilities affect an aggregate index of governance dynamics in Africa.

JEL Classification: C53; F35; F47; O11; O55
Keywords: Instability; Foreign aid; Governance; Development; Africa

1. Introduction

The recent financial crisis has led to a decline in development assistance from developed countries to their less developed counterparts (Dang et al., 2009). This has reignited the debate over the effects of foreign aid on the development of recipient countries. To this end, whereas a recent stream of literature has confirmed the positive impact on development (Gyimah-Brempong and Racine, 2014; Kargbo and Sen, 2014), another strand motivated by the recent financial crisis has seriously questioned aid effectiveness (Marglin, 2013; Ghosh, 2013; Banuri, 2013; Krause, 2013; Titumir and Kamal, 2013; Wamboye et al., 2013; Monni and Spaventa, 2013; Asongu, 2014a, 2015a). Some of the conclusions have included, inter alia: neo-colonialism as the prime motivation of foreign aid to less developed countries (Amin, 2014); the entrapment of African within neo-colonial webs (Ndlovu-Gatsheni, 2013); the need to strategically limit overly foreign aid reliance from developed countries (Kindiki, 2011); the imperative for foreign aid policies to be based on the needs of recipient nations (Obeng-Odoom, 2013) and the questionable economics of development assistance for inclusive human development (Asongu, 2014b).

According to Dang et al. (2009), with the recent global economic downturn, international aid to the developing world has decreased by an average of 20 to 25 percent. The fact that donors may be less able or willing to meet aid promises and engagements during crises results in significant macroeconomic instabilities/challenges for high aid-dependent developing countries. While such instabilities in foreign aid may be viewed in a negative light by recipients, there is an evolving stream of literature suggesting the contrary (see Moore, 2008; Mahon, 2004, 2005; Morton, 1994; Bernstein & Lu, 2008; Prichard, 2009; Eubank, 2012). For example, Eubank (2012) remarked that in the absence of aid, political accountability is improved in recipient countries on the presumption that the population is willing to consent to paying more taxes in exchange for greater political representation. The Eubank Somaliland-based assumption has been confirmed for the entire African continent by Asongu (2015b) from the perspective of political governance.

The contribution of the present line of inquiry to improving scholarly understanding of the debate is twofold. First, we change ‘the absence of aid’ to ‘aid instability’ because, with the exception of Somaliland, most developing countries are receiving official development assistance (ODA). Hence, a more appropriate concern underpinning the debate should be the role of aid instabilities on political accountability in recipient nations. Second, we do no limit the concept of

governance to political accountability, but extend it to dynamics of political governance (voice & accountability and political stability/non violence), economic governance (regulation quality and government effectiveness), institutional governance (rule of law and corruption-control) and general governance (political, economic and institutional governance).

As far as we have reviewed, Kangoye (2013) is closest to the present line of inquiry. The paper concludes: "*This paper examines the effects of aid on governance from a different perspective by asserting that aid unpredictability can potentially increase corruption in recipient countries by providing incentives to risk-averse and corrupt political leaders to engage in rent-seeking activities. Analyses of data from 80 developing countries over the period 1984–2004 offers evidence that higher aid unpredictability is associated with more corruption as measured by a synthetic index. We also find further evidence that this latter impact is more severe in countries with weak initial institutional conditions. These findings are a supplementary advocacy for the need for better management and better predictability of aid flows to developing countries*" (p. 121).

Noticeably, the present paper steers clear of Kangoye (2013) by: (i) not conceiving the concept of governance in terms of corruption and (ii) elucidating the 'aid instability'-governance nexus using the Eubank conclusions. Hence, the control of corruption is only an aspect of institutional governance. First, restricting the concept of governance to corruption could be misleading. Accordingly, while corruption is employed as the dependent variable of interest, governance is used on the title. Consistent with Kaufmann et al. (2010) as recently employed in the literature (Andrés & Asongu, 2013; Andrés et al., 2015), we rethink the concept of governance into (i) political (voice & accountability and political stability/no violence), (ii) economic (governance effectiveness and regulation quality), (iii) institutional (corruption-control and rule of law) and (iv) general (political, economic and institutional). Second, after the Bottom Billion (Collier, 2007) and Dead Aid (Moyo, 2009), inter alia, that have been critically engaged in academic and policy making circles, the Eubank (2012) Somaliland-based deduction has been recently celebrated with the best paper award from the *Journal of Development Studies* in 2013.

It is important to note that the conclusions of Eubank are not quite new because there is a substantial bulk of literature that has been devoted to assessing the nexuses between accountability and government dependence on local tax income (see Moore, 2008; Mahon, 2004, 2005; Morton, 1994; Bernstein & Lu, 2008; Prichard, 2009).Consistent with the narrative, the

government depends on local taxpayers for revenue in exchange for better governance standards. Hence, according to the narrative, taxpayers have the leverage to demand better governance standards in exchange for compliance with their tax obligations. The theoretical underpinnings of the hypothesis are deeply rooted in the history of economic thought. It has foundations in negotiations between autocratic governments who needed tax income (to survive inter-state wars) and citizens who were only willing to consent to taxation if there was better governance and delivery of public goods and services.

In light of the above, the testable hypothesis in this study is simple and easy to follow: foreign aid instability may increase governance standards in recipient countries because in the presence of such volatility, tax payers are only willing to pay more taxes in exchange for better government (political, economic and institutional). The underpinnings of this hypothesis, while consistent with Eubank (2012), run counter to the findings of Kangoye (2013). Given that the Eubank proposition is based on 'aid unavailability', its extension to 'aid instability' is qualified as an 'extended Eubank conclusions throughout the paper. The rest of the study is organized as follows. Section 2 discusses the data and methodology. The empirical analysis and discussion of results are covered in Section 3. Section 4 concludes with implications and future directions.

2. Aid instability and clarification of governance

2.1 Aid unpredictability: views and assumptions

We devote some space to discussing: (i) some summary insights into the nature of instability in the international aid system; (ii) why/how aid instability might influence recipient governments and (iii) the assumption of 'aid volatility' as 'aid instability'.

According to Kangoye (2003) in the first strand, some sources of aid can be unstable for a plethora of reasons. They are: (i) Aid may be unstable because the approval of aid disbursements is from multiple actors (e.g., parliamentary versus executive powers). (ii) The economic/financial conditions of donors may change because of multiple factors, *inter alia*: negative economic shocks like global financial/economic crisis. (iii) Donor priorities for recipient countries may change owing to unstable events like natural catastrophes in some of them, such that more (less) aid is disbursed to affected (non-affected) recipients. The above factors may be sources of variations between commitments and actual disbursements. According to the authors, aid flows are less predictable in nations that are not strongly covered by the International Monetary Fund

(IMF) programs. Moreover, Lemma (2004) has established that in some aid categories, only a small fraction (about 12% in certain cases) of initial disbursements eventually trickle-down to recipient countries themselves.

In the second strand, the underlying gap between commitment and actual disbursements affect aid-dependent countries in a multitude of ways, notably in their domestic macroeconomic management and development programs (Kangoye, 2013). Some documented consequences of 'aid instability' on recipient governments include: (i) the difficulty in fiscal planning for the nation's development based on the assumption that government planning may be long-term while aid commitments are short-run; (ii) monetary and fiscal instability; (iii) pro-cyclicality in aid which increases volatility in economic output and (iv) an increase in political accountability due to more reliance on domestic taxation for public income. While the first-two points are from Kangoye (2013), the third and fourth points are respectively from Lensink and Morrissey (2000) and Asongu (2015b). The third point is consistent with Lensink and Morrissey because they have argued that it is difficult establishing a significant growth effect from aid unless some indicator capturing instability in aid is factored into the regression. Conversely, predictability of aid can create over dependence of recipients on donors.

In the underlying literature, Lensink and Morrissey (op.cit) have used the term instability interchangeably with uncertainty whereas Kangoye (op.cit) has used instability interchangeably with unpredictability. We prefer to use the term 'instability' interchangeably with 'volatility' because equating volatility with unpredictability may not be a perfectly defensible assumption. This is essentially because the underlying equation is based on the hypotheses that: (i) there is a constant stream of aid flows and (ii) the sources of volatility are not the result of an aid program stopping in a predictable manner. In essence, the implicit assumption that volatility implies unpredictability is short of substance. This is because, whereas volatility may result from events like the global economic crisis (which is not predictable for the most part), volatility may also result from aid programmes starting and stopping in an entirely predictable manner.

2.2 Clarification of governance

This section is devoted to clarifying the concept of governance adopted. We discuss it in two principal strands, notably: definitions of governance and debates surrounding the governance concepts to be adopted in the paper.

The perception of governance is complex and multidimensional and can take several definitions (Asongu, 2016). First, according to Dixit (2009), economic governance can be defined as '…*structure and functioning of the legal and social institutions that support economic activity and economic transactions by protecting property rights, enforcing contract, and taking collective action to provide physical and organizational infrastructure*'(p.5). Second, Tusalem (2015) understands governance as consisting of regulation quality, political stability, rule of law, bureaucratic effectiveness and corruption-control. Third, Fukuyama (2013) has said that governance should comprehensively embody four principal measures, namely: bureaucratic measures, procedural measures, output measures and capacity indicators which entail both professionalism and resources. Fourth, to the best of our knowledge, the most widely employed governance indicators in the literature are from Kaufmann et al. (2010). These consist of three main governance categories: institutional, economic and political governances. (i) Institutional governance is defined as respect by the State and citizens of institutions that govern interactions between them. It is measured with two variables: corruption-control and the rule of law. (ii) Economic governance is defined as the formulation and implementation of policies that deliver public goods and services. It is also measured with two indicators: regulation quality and government effectiveness. (iii) Political governance is defined as the election and replacement of political leaders. It is measured with two main indicators: political stability/no violence and voice and accountability.

In spite of some criticisms that have arisen in policy-making and scholarly circles, Kaufmann, Kraay and Mastruzzi have promptly responded with rebuttals to defend the confidence enjoyed by the underlying governance variables in scholarly circles. As far as we have reviewed, one of the most interesting debates has been with Andrew Schrank and Marcus Kurtz. The reader can find more insights into the highlighted debate in: 'models, measures and mechanisms' (Kurtz & Schrank, 2007a); a reply (Kaufmann et al., 2007a); a defense (Kurtz & Schrank, 2007b) and a rejoinder (Kaufmann et al., 2007a). In light of the debate, we have found the reply and rejoinder from Kaufmann et al. (2007ab) very informative on the quality of governance indicators from the World Governance Indicators of the World Bank. In this light, the study adopts the governance indicators from Kaufmann et al: consistent with a recent stream of literature on unbundling (Gani, 2011; Andrés et al., 2014; Oluwatobi et al., 2015; Yerrabit &

Hawkes, 2015) and bundling (Asongu, 2016; Asongu & Nwachukwu, 2015) governance dynamics.

3. Data and Methodology

3.1 Data

We examine a sample of fifty three African countries using annual data from the African Development Indicators of the World Bank for the period 1996-2010. Good governance indicators from the World Bank are only available from 1996. The focus on the African continent has a twofold justification. It is (i) consistent with developing countries to which the findings of Kangoye are relevant and (ii) in line with the Eubank (2012) hypothesis which has been postulated theoretical/literally and confirmed empirically in Africa (Asongu, 2015b).

The choice of three non-overlapping intervals (NOI) has a fourfold justification. First, one degree of freedom is lost after computation of residuals in the first-order autoregressive processes and at least two periods are needed for standard deviations of the corresponding residuals to be further computed. Second, averages mitigate short-run or business cycle disturbances that may loom substantially large. Third, three year NOI ensure that the basic conditions for the employment of Generalized Methods of Moments (GMM) are satisfied (N>T: 53>5). Fourth, 3 year NOI restrict overidentification or limit instrument proliferation by ensuring that the numbers of cross-sections are higher than the number of instruments in each specification.

The dependent variables are governance dynamics (political, economic, institutional and general). They are obtained from principal component analysis (PCA) discussed in Section 3.2.1 below.

The independent variable of interest is net official development assistance as a percentage of Gross Domestic Product (NODA). In order to add subtlety to the analysis for robustness purposes, we add: (i) NODA from the Development Assistance Committee as a percentage of GDP (NODADAC) and (ii) NODA from Multilateral donors as a percentage of GDP (NODAMD). The instabilities are computed using two approaches: (i) simple standard deviations of three-year intervals and (ii) standard errors or standard deviations of the saved residuals after first-order autoregressive processes in the NODA dynamics. The latter approach is consistent with Kangoye (op.cit). As we have emphasized in Section 2.1, we equate volatility with

instability in the study. Two points are worth noting in the computation of instability. First, the second measurement of instability (from standard errors) is motivated by the need to distinguish simple variations (from the first measurement) with more unstable factors. Therefore, more unstable changes in aid flows are captured by the second measurement of aid instability. Second, the study uses two year averages for the computation of standard errors (after a loss of one degree of freedom from first autoregressive processes). The corresponding low order of non-overlapping intervals enables the study to limit the mitigation of short-run or business cycle disturbances that are essential to capture instability as much as possible. Therefore, with scholarly modesty in mind, contrary to the Kangoye (2013) computation which based on ten year data averages, with three-year data averages, the approach in this study limits the mitigation of the short-run disturbances that are required to better compute instability.

We control for inflation, trade openness, economic prosperity and government expenditure. Whereas the role of government expenditure is consistent with fiscal behavior in governance (Eubank, 2012; Asongu & Jellal, 2013), globalization in terms of trade openness has been documented to improve governance (Khandelwal & Roitman, 2012; Asongu, 2014c). Economic prosperity and income-levels are instrumental in the quality of government (Asongu, 2012, p. 191). The sign of inflation on governance remains ambiguous. It may be positive if the measures put in place are designed to effectively improve government quality and correct the problem. On the other hand, it could substantially affect governance standards negatively if issues of soaring food prices remain unaddressed. The latter constitute factors that culminated in the "Arab Spring" (Khandelwal & Roitman, 2012). We also employ time-effects in the specifications to further control for unobserved heterogeneity. It is important to note that, whereas dummy or fixed effects like legal origins have been documented to affect the quality of governance (Anyanwu & Erhijakpor, 2014), unfortunately we cannot control for dummy variables in the GMM specification because these are eliminated by first differencing for the difference equation of the system GMM.

Definition of the variables is presented in Appendix 1, the summary statistics disclosed in Appendix 2 and the correlation analysis in Appendix 3. From the summary statistics it can be observed that variables are comparable and from their corresponding variations we can be confident that reasonable estimated relationships would emerge. The correlation analysis has been employed to mitigate multicollinearity and overparameterization issues that could arise.

These are apparent among NODA instability dynamics. We also notice from the summary statistics that the computed 'aid volatiles' are quite large. Accordingly, for the most part, the variances of 'aid instability' indicators are as substantial as those of baseline aid variables.

3.2 Methodology

3.2.1 Principal Component Analysis

This section extends the definition of governance from corruption to political, economic, institutional and general dynamics. We use principal component analysis (PCA) to reduce the dimensions of each governance dynamic because some information may be redundant owing to the high degrees of substitution. PCA is a widely employed statistical method that consists of reducing a set of highly correlated variables into a smaller set of uncorrelated variables called principal components that reflect a substantial variation or proportion of initial information. We first reduce all the governance indicators to obtain a general governance measurement before further mitigating them into: (i) voce & accountability and political stability for political governance (PolGov), (ii) government effectiveness and regulation quality for economic governance (EcoGov) and (iii) corruption-control and rule of law for institutional governance (InstGov).

The Kaiser (1974) and Jolliffe (2002) criterion are employed to determine common factors. They recommend stopping at first principal components (PCs) with an eigen value greater than the mean (or unity). In this light, as shown in Table 1 below: General governance (*G.Gov*) has an eigenvalue of 4.642 and represents more than 77 percent of variation in the six government variables (regulation quality, government effectiveness, corruption-control, rule of law, political stability/no violence and voice and accountability); political governance (PolGov) summarizes about 82 percent of information with an eigenvalue of 1.852; economic governance denotes more than 90 percent of information with an eigenvalue of 1.812 and; institutional governance represents 93.5 percent of variability with a 1.871 eigenvalue. Consistent with Andrés et al. (2014), the following definitions are relevant to governance dynamics: (i) *Political governance* is the process by which those in authority are selected and replaced. (ii) *Economic governance* denotes the capacity of government to formulate and implement policies as well as deliver services. (iii) *Institutional governance* represents the respect for citizens and the state of institutions that govern the interactions among them.

Table 1: Principal Component Analysis (PCA) for Governance (Gov)

Principal Components	Component Matrix(Loadings)						Proportion	Cumulative Proportion	Eigen Value
	VA	PS	RQ	GE	RL	CC			
First PC (G.Gov)	0.383	0.374	0.403	0.429	0.443	0.413	0.773	0.773	4.642
Second PC	0.297	0.774	-0.369	-0.350	-0.021	-0.230	0.077	0.851	0.466
Third PC	0.750	-0.300	0.353	-0.127	-0.223	-0.396	0.066	0.917	0.398
First PC (PolGov)	0.707	0.707	---	---	---	---	0.829	0.829	1.659
Second PC	-0.707	0.707	---	---	---	---	0.170	1.000	0.340
First PC (EcoGov)	---	---	0.707	0.707	---	---	0.906	0.906	1.812
Second PC	---	---	-0.707	0.707	---	---	0.093	1.000	0.187
First PC (InstGov)	---	---	---	---	0.707	0.707	0.935	0.935	1.871
Second PC	---	---	---	---	-0.707	0.707	0.064	1.000	0.128

P.C: Principal Component. VA: Voice & Accountability. RL: Rule of Law. R.Q: Regulation Quality. GE: Government Effectiveness. PS: Political Stability. CC: Control of Corruption. G.Gov (General Governance): First PC of VA, PS, RQ, GE, RL & CC. PolGov (Political Governance): First PC of VA & PS. EcoGov (Economic Governance): First PC of RQ & GE. InstGov (Institutional Governance): First PC of RL & CC.

Consistent with the underlying literature on bundling institutions (Asongu, 2016; Asongu & Nwachukwu, 2015), is it relevant to engage some issues that might arise in the validity of estimated coefficients from PC-augmented regressions. The concerns, to the best of our knowledge, were first raised by Pagan (1984, p.242) who established that three main anxieties are linked to the use of estimates from initial regressions in second-stage modeling, namely concerns about efficiency, consistency and inferential validity of estimations. Pagan argues that whereas estimates from two-step estimation processes are efficient and consistent, not all corresponding inferences are valid. The issue about inferences broadly aligns with an abundant supply of literature that has focused on the same issue, notably: Oxley and McAleer (1993), McKenzie and McAleer (1997), Ba and Ng (2006) and Westerlund and Urbain (2012, 2013ab).

Narrowing-down the perspective to the specific framework of the PC-derived indicators employed in this study, to the best of our knowledge Westerlund and Urbain (2012, 2013b) have provided insights into how the concern about inferential validity can be tackled. The authors have built on more contemporary literature (Stock & Watson, 2002; Bai, 2003; Pesaran, 2006; Bai, 2009; Greenaway-McGrevy et al., 2012) in order to sustain that normal inferences can be established with PC regressors provided that the estimated coefficients converge to their corresponding real values at the rate $\sqrt{NT}$ with N (T) as the number of cross-sections (time series). While the authors have articulated that for convergence to be feasible N and T need to be sufficiently large, they have stopped short of elucidating how 'large is large'. Within the specific

framework of this inquiry, we are faced with three major issues. First, N cannot be stretched further because we have included all existing fifty three African countries, with the exception of South Sudan for which data was not available before 2011. Second, we cannot extend T to a date before 1996 because good governance variables from the World Bank Governance indicators are only available therefrom . Third, we cannot employ annual periodicities so as to extend T because of analytical and methodological constraints. On the analytical front, the calibration of aid instabilities (standard errors) require that we use at least three non-overlapping intervals so that (i) one degree of freedom is lost after the first autoregressive process and (ii) at least two degrees of freedom are required for the computation of standard errors (or standard deviations of corresponding residuals). At the methodological level, a basic requirement for the adopted GMM technique is that N>T. Hence using non-overlapping intervals also enables the study to limit instrument proliferation or over-identification. Above all, recent literature on bundling institutions (albeit with lower values of N and T) has established that inferences with bundled governance indicators are equally valid (Asongu & Nwachukwu, 2015; Asongu, 2016).

3.2.2 Estimation technique

The system GMM estimation strategy is adopted for a threefold interest: (i) it accounts for some potential endogeneity[1]; (ii) cross-country regressions are eliminated in the estimation process and (iii) biases in the difference estimation resulting from small samples are mitigated. Hence it is substantially for this third point that we are consistent with Bond et al. (2001, pp. 3-4) in choosing the system GMM approach (Arellano & Bover, 1995; Blundell & Bond, 1998) instead of the difference estimator (Arellano & Bond, 1991). In the specification, a heteroscedasticity-consistent *two-step* approach is preferred to the homoscedasticity-consistent *one-step* procedure. Two tests are performed to ascertain the validity of the models, notably: (i) the Sargan over-identifying restrictions (OIR) test for instrument validity and (ii) the Arellano and Bond autocorrelation (AR(2)) test for the absence of autocorrelation in the residuals. The interests of using data averages in terms of three year NOI have already been discussed in the data section.

[1] In essence, the system GMM controls for: (i) autoregressive endogeneity in the dependent variables by exploiting all orthogonality conditions between the lagged endogenous variable and error terms; (ii) simultaneity by instrumenting the regressors with the first lagged and first differences and (iii) time-invariant omitted variables with time fixed effects.

The following equations in levels and first difference represent the GMM approach.

$$Gov_{i,t} = \sigma_0 + \sigma_1 Gov_{i,t-1} + \sigma_2 T_{i,t} + \sigma_3 DAC_{i,t} + \sigma_4 MD_{i,t} + \sum_{j=1}^{4} \partial_j X_{i,t} + \eta_i + \xi_t + \varepsilon_{i,t} \quad (1)$$

$$Gov_{i,t} - Gov_{i,t-1} = \sigma_1 (Gov_{i,t-1} - Gov_{i,t-2}) + \sigma_2 (T_{i,t} - T_{i,t-1}) + \sigma_3 (DAC_{i,t} - DAC_{i,t-1})$$
$$+ \sigma_4 (MD_{i,t} - MD_{i,t-1}) + \sum_{j=1}^{4} \partial_j \left(X_{i,t} - X_{i,t-1} \right) + (\xi_t - \xi_{t-1}) + (\varepsilon_{i,t} - \varepsilon_{i,t-1}) \quad (2)$$

Where: 't' denotes the period and 'i' stands for a country. Gov is Governance; T, Total NODA; DAC, NODA from DAC countries; MD, NODA from Multilateral Donors; X is the set of control variables (*Trade openness*, *Government expenditure*, *Inflation* and *GDP growth*); η_i is a country-specific effect; ξ_t is a time-specific constant and $\varepsilon_{i,t}$ an error term. The estimation procedure involves jointly estimating the regression in levels (Eq. [1]) with that in first-difference (Eq. (2)), hence exploiting all the parallel or orthogonality conditions between the error term and the lagged endogenous variable.

4. Empirical results

While Section 4.1 presents the findings with foreign aid instability as standard deviations, Section 4.2 reveals robustness checks with foreign aid instability as standard errors (standard deviations of the residuals after first-order autoregressive processes). We observe that the post-estimation diagnostics test confirms the validity of the models for the most part. Accordingly, two tests have been performed to investigate the validity of these models, notably: the Arellano and Bond autocorrelation test which investigates the null hypothesis of no autocorrelation and the Sargan-test that assesses the over-identification restrictions. The latter test investigates if the instruments are not correlated with the error term in the equation of interest. The null hypothesis of this test is the view that the instruments as a group display strict exogeneity or do not suffer from endogeneity. Overwhelmingly for most models, we have neither rejected the AR(2) null hypothesis for the absence of autocorrelation nor the Sargan null for the validity of the instruments.

4.1 Instability as standard deviations

Table 2 below assesses the concerns underpinning the paper using the first definition of instabilities which is the standard deviation of three-year NOI. But for a thin exception (first model on general governance with a significant Sargan OIR test), the models are overwhelmingly valid because the null hypotheses of the AR(2) and Sargan OIR tests are not rejected for the most part. The main findings support the extended Eubank conclusions with a positive effect of aid instabilities on political and general governance. Most of the control variables have the expected though insignificant signs.

Table 2: Total foreign aid instability with standard deviations

	Dependent variable: Governance							
	Political Governance (PolGov)		**Economic Governance (EcoGov)**		**Institutional Governance (InstGov)**		**General Governance (G.Gov)**	
Gov (-1)	**0.970*** **	**1.128*** **	**1.081*** **	**0.862*** **	**0.854*** **	**0.913*** **	**1.040*** **	**0.955*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Constant	-0.067	-0.145	-0.041	-0.007	0.048	0.063	0.008	-0.088
	(0.358)	(0.177)	(0.701)	(0.963)	(0.572)	(0.673)	(0.944)	(0.634)
NODASD1 (Total)	**0.006***	**0.015***	0.012	0.007	0.003	0.006	**0.017** **	**0.017***
	(0.054)	**(0.075)**	(0.251)	(0.582)	(0.482)	(0.350)	**(0.044)**	**(0.056)**
Gov. Expenditure	---	0.005	---	0.004	---	0.0008	---	0.009
		(0.324)		(0.539)		(0.865)		(0.225)
GDP growth	---	0.012	---	0.018	---	0.004	---	0.019
		(0.217)		(0.240)		(0.786)		(0.383)
Trade	---	0.0002	---	0.0005	---	-0.0003	---	0.0007
		(0.831)		(0.668)		(0.797)		(0.634)
Inflation	---	0.0009	---	-0.001	---	0.001	---	0.0007
		(0.139)		(0.571)		(0.233)		(0.393)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	**(0.550)**	**(0.614)**	**(0.395)**	**(0.701)**	**(0.389)**	**(0.300)**	**(0.524)**	**(0.338)**
Sargan OIR	**(0.599)**	**(0.290)**	**(0.029)**	**(0.196)**	**(0.115)**	**(0.297)**	(0.071)	**(0.252)**
Wald (joint)	**91.426*** **	**953.30*** **	**102.44*** **	**1084.3*** **	**79.441*** **	**1339.6*** **	**168.15*** **	**3076.3*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Instruments	14	18	14	18	14	18	14	18
Countries	51	34	50	34	51	34	50	34
Observations	199	118	195	118	199	118	195	118

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. 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 bracket. Gov: Government. NODA: Total Net Official Development Assistance. NODA S.D1(Total): Distortions by Simple Standard Deviation.

In Table 3 below, specifications of Table 2 are replicated with NODA from DAC countries (Panel A) and NODA from Multilateral Donors (Panel B). The models in both panels are overwhelmingly valid and the extended Eubank is also confirmed from political and general governance perspectives.

Table 3: DAC and MD foreign aid instability with standard deviations

Dependent variable: Governance

Panel A: Foreign Aid from the Development Assistance Committee (DAC) Countries

	Political Governance (PolGov)		**Economic Governance (EcoGov)**		**Institutional Governance (InstGov)**		**General Governance (G.Gov)**	
Gov (-1)	**0.992*** **	**1.131*** **	**1.084*** **	**0.835*** **	**0.843*** **	**0.919*** **	**1.035*** **	**0.963*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Constant	-0.054	-0.160	-0.044	0.009	0.055	0.081	0.022	-0.081
	(0.467)	(0.140)	(0.677)	(0.952)	(0.526)	(0.581)	(0.844)	(0.670)
NODADACSD1	0.002	**0.019*** **	0.016	0.005	0.0009	0.004	**0.019* **	**0.016** **
	(0.541)	**(0.000)**	(0.249)	(0.714)	(0.844)	(0.513)	**(0.092)**	**(0.041)**
Gov. Expenditure	---	0.005	---	0.004	---	0.0007	---	0.009
		(0.299)		(0.617)		(0.873)		(0.216)
GDP growth	---	0.013	---	0.019	---	0.004	---	0.019
		(0.188)		(0.223)		(0.771)		(0.357)
Trade	---	0.0003	---	0.0006	---	-0.0004	---	0.0006
		(0.752)		(0.605)		(0.740)		(0.686)
Inflation	---	**0.001* **	---	-0.001	---	0.001	---	0.0008
		(0.084)		(0.530)		(0.272)		(0.355)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	**(0.646)**	**(0.669)**	**(0.338)**	**(0.682)**	**(0.383)**	**(0.296)**	**(0.560)**	**(0.333)**
Sargan OIR	**(0.536)**	**(0.281)**	(0.032)	**(0.199)**	**(0.120)**	**(0.330)**	(0.075)	**(0.244)**
Wald (joint)	**50.416*** **	**1245.2*** **	**112.70*** **	**1085.5*** **	**48.786*** **	**1674.0*** **	**150.14*** **	**2994*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Instruments	14	18	14	18	14	18	14	18
Countries	51	34	50	34	55	34	50	34
Observations	199	118	195	118	199	118	195	118

Panel B: Foreign Aid from Multilateral Donors

	Political Governance (PolGov)		**Economic Governance (EcoGov)**		**Institutional Governance (InstGov)**		**General Governance (G.Gov)**	
Gov (-1)	**0.872*** **	**1.115*** **	**1.047*** **	**0.882*** **	**0.834*** **	**0.971*** **	**1.005*** **	**0.947*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Constant	-0.078	-0.106	-0.041	-0.037	0.039	0.155	-0.014	-0.020
	(0.284)	(0.378)	(0.705)	(0.807)	(0.644)	(0.309)	(0.904)	(0.903)
NODAMDSD1	**0.039*** **	0.011	**0.025** **	0.039	0.013	0.009	**0.052*** **	0.032
	(0.000)	(0.748)	**(0.044)**	(0.422)	(0.211)	(0.724)	**(0.000)**	(0.493)
Gov. Expenditure	---	0.004	---	0.003	---	0.001	---	0.007
		(0.390)		(0.646)		(0.711)		(0.283)
GDP growth	---	0.013	---	0.020	---	-0.002	---	0.017
		(0.224)		(0.194)		(0.865)		(0.462)
Trade	---	0.0001	---	0.0004	---	-0.001	---	0.0006
		(0.881)		(0.694)		(0.465)		(0.723)
Inflation	---	0.0001	---	-0.001	---	0.001	---	-0.0002
		(0.743)		(0.300)		(0.178)		(0.678)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	**(0.519)**	**(0.700)**	**(0.605)**	**(0.902)**	**(0.406)**	**(0.339)**	**(0.633)**	**(0.364)**
Sargan OIR	**(0.562)**	**(0.250)**	(0.035)	**(0.319)**	**(0.114)**	**(0.562)**	(0.059)	**(0.396)**
Wald (joint)	**59.108*** **	**733.31*** **	**156.94*** **	**1280.6*** **	**74.766*** **	**1051.6*** **	**153.56*** **	**2885*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Instruments	14	18	14	18	14	18	14	18
Countries	51	34	50	34	51	34	50	34
Observations	199	118	195	118	199	118	195	118

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. 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

bracket. Gov: Government. NODADAC: Net Official Development Assistance from the Development Assistance Committee. NODAMD: Net Official Development Assistance from Multilateral Donors. NODADAC SD1: Instability by Simple Standard Deviation.

4.2 Robustness checks: instability as standard errors

Tables 4 and 5 below address the underlying problem using standard errors as instabilities instead of standard deviations. The standard errors are computed as the standard deviations of the residuals saved from the first-order autoregressive processes. The extended Eubank conclusion is broadly confirmed for political and general governance.

Table 4: Total foreign aid instability with standard errors

	Dependent variable: Governance							
	Political Governance (PolGov)		**Economic Governance (EcoGov)**		**Institutional Governance (InstGov)**		**General Governance (G.Gov)**	
Gov (-1)	**0.969*** **	**1.128*** **	**1.078*** **	**0.828*** **	**0.841*** **	**0.915*** **	**1.034*** **	**0.938*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Constant	-0.057	-0.147	-0.025	0.012	0.055	0.078	0.030	-0.068
	(0.431)	(0.165)	(0.815)	(0.938)	(0.513)	(0.593)	(0.785)	(0.691)
NODA SD2 (Total)	**0.003** **	**0.012** **	0.005	0.002	0.0006	0.002	0.009	0.008
	(0.030)	**(0.035)**	(0.468)	(0.811)	(0.804)	(0.514)	(0.178)	(0.167)
Gov. Expenditure	---	0.005	---	0.003	---	0.0008	---	0.008
		(0.333)		(0.633)		(0.861)		(0.238)
GDP growth	---	0.012	---	0.020	---	0.004	---	0.021
		(0.198)		(0.216)		(0.777)		(0.330)
Trade	---	0.0002	---	0.0007	---	-0.0004	---	0.0009
		(0.845)		(0.573)		(0.775)		(0.529)
Inflation	---	0.001	---	-0.001	---	0.001	---	0.0003
		(0.119)		(0.457)		(0.267)		(0.689)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	**(0.655)**	**(0.673)**	**(0.524)**	**(0.687)**	**(0.381)**	**(0.294)**	**(0.765)**	**(0.307)**
Sargan OIR	**(0.596)**	**(0.308)**	(0.024)	**(0.228)**	**(0.120)**	**(0.350)**	(0.053)	**(0.290)**
Wald (joint)	**82.210*** **	**1065.2*** **	**84.379*** **	**1026.0*** **	**49.500*** **	**1487.1*** **	**133.72*** **	**3105*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Instruments	14	18	14	18	14	18	14	18
Countries	51	34	50	34	51	34	50	34
Observations	199	118	195	118	199	118	195	118

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. 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 bracket. Gov: Government. NODA: Total Net Official Development Assistance. NODAS.D2 (Total): SD2: Instability by Standard Deviation of the Residuals after first-order autoregressive processes.

Table 5: DAC and MD foreign aid instability with standard errors

Dependent variable: Governance

Panel A: Foreign Aid from the Development Assistance Committee (DAC) Countries

	Political Governance (PolGov)		**Economic Governance (EcoGov)**		**Institutional Governance (InstGov)**		**General Governance (G.Gov)**	
Gov (-1)	**0.985*** **	**1.131*** **	**1.078*** **	**0.810*** **	**0.838*** **	**0.917*** **	**1.032*** **	**0.950*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Constant	-0.050	-0.149	-0.031	0.021	0.056	0.081	0.035	-0.075
	(0.499)	(0.170)	(0.771)	(0.890)	(0.513)	(0.573)	(0.750)	(0.677)
NODADAC SD2	0.002	**0.013** **	0.009	0.002	0.0002	0.002	0.011	**0.010* **
	(0.412)	**(0.014)**	(0.389)	(0.825)	(0.935)	(0.564)	(0.223)	**(0.097)**
Gov. Expenditure	---	0.005	---	0.003	---	0.0007	---	0.008
		(0.306)		(0.683)		(0.873)		(0.220)
GDP growth	---	0.012	---	0.020	---	0.004	---	0.021
		(0.194)		(0.229)		(0.742)		(0.307)
Trade	---	0.0002	---	0.0007	---	-0.0004	---	0.0007
		(0.796)		(0.555)		(0.746)		(0.604)
Inflation	---	**0.001* **	---	-0.001	---	0.001	---	0.0006
		(0.099)		(0.464)		(0.273)		(0.504)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	**(0.681)**	**(0.684)**	**(0.466)**	**(0.659)**	**(0.382)**	**(0.293)**	**(0.778)**	**(0.320)**
Sargan OIR	**(0.527)**	**(0.288)**	(0.027)	**(0.205)**	**(0.125)**	**(0.360)**	(0.060)	**(0.269)**
Wald (joint)	**52.18*** **	**1318.2*** **	**95.147*** **	**1019.6*** **	**37.637*** **	**1818.7*** **	**130.29*** **	**3194.3*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Instruments	14	18	14	18	14	18	14	18
Countries	51	34	50	34	51	34	50	34
Observations	199	118	195	118	199	118	195	118

Panel B: Foreign Aid from Multilateral Donors

	Political Governance (PolGov)		**Economic Governance (EcoGov)**		**Institutional Governance (InstGov)**		**General Governance (G.Gov)**	
Gov (-1)	**0.916*** **	**1.135*** **	**1.053*** **	**0.849*** **	**0.818*** **	**0.962*** **	**0.990*** **	**0.934*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Constant	-0.089	-0.157	-0.047	-0.002	0.044	0.141	-0.013	-0.029
	(0.243)	(0.149)	(0.682)	(0.989)	(0.596)	(0.343)	(0.913)	(0.852)
NODAMD SD2	**0.042*** **	0.043	0.020	0.007	0.010	0.012	**0.048*** **	0.019
	(0.000)	(0.116)	(0.111)	(0.807)	(0.385)	(0.612)	**(0.000)**	(0.591)
Gov. Expenditure	---	0.004	---	0.003	---	0.001	---	0.007
		(0.345)		(0.570)		(0.713)		(0.229)
GDP growth	---	0.012	---	0.021	---	-0.002	---	0.019
		(0.257)		(0.166)		(0.890)		(0.408)
Trade	---	0.000	---	0.0006	---	-0.001	---	0.0008
		(0.977)		(0.569)		(0.489)		(0.593)
Inflation	---	0.0006	---	-0.001	---	0.001	---	-0.0002
		(0.261)		(0.304)		(0.210)		(0.743)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(2)	**(0.762)**	**(0.652)**	**(0.559)**	**(0.765)**	**(0.416)**	**(0.328)**	**(0.654)**	**(0.331)**
Sargan OIR	**(0.458)**	**(0.347)**	(0.030)	**(0.294)**	**(0.125)**	**(0.550)**	(0.049)	**(0.370)**
Wald (joint)	**43.24*** **	**981.65*** **	**92.29*** **	**1052.5*** **	**35.313*** **	**1174.1*** **	**100.18*** **	**3054.4*** **
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**
Instruments	14	18	14	14	14	14	14	14
Countries	51	34	50	34	51	34	50	34
Observations	199	118	195	118	199	118	195	118

***, **, and * indicate significance at 1%, 5% and 10% levels respectively. AR(2): Second Order Autocorrelation test. OIR: Overidentifying Restrictions test. 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

bracket. Gov: Government. NODADAC: Net Official Development Assistance from the Development Assistance Committee. NODAMD: Net Official Development Assistance from Multilateral Donors. NODADACSD2: SD2: Instability by Standard Deviation of the Residuals after first-order autoregressive processes. DAC: Development Assistance Committee. MD: Multilateral Donors.

5. Concluding implications

The recent global economic crisis has substantially reduced the foreign aid commitment and ability of developed countries towards their less developed counterparts. Despite the evolving literature that such instability is not favourable to recipient countries; building on the Eubank conclusions on 'aid unavailability' we have verified the hypothesis on how 'aid instability' affects governance standards in recipient countries. Our findings broadly confirm the Eubank amended Eubank conclusions. Hence, foreign aid instability may increase governance standards in recipient countries because, in the presence of such volatility, tax payers are only willing to pay more taxes in exchange for better government. As a policy implication, reduction in aid may not be al together a bad omen for recipient countries. It may simply push governments to adopt better governance standards in view of anticipating more tax revenues from the population. It follows that there is a positive association between 'more taxation' and greater 'political representation and better delivery of public commodities'.

By extending the hypothesis, we have also clarified the findings of Kangoye (2013) which, to the best of our knowledge, are the closest in the literature to the present line of inquiry. In essence, Kangoye has limited the conception of governance to corruption. Hence, by employing a more holistic definition and measurement of governance, we have confirmed the Eubank conclusions, using the same measurement of instability as Kangoye. As a policy implication, it is important to clearly articulate the concept of governance in applied econometrics in order to avoid misleading policy implications.

We have also observed that the effect of foreign aid instability is positively significant on general governance, while for the most part, it is not consistently significant in stimulating economic and institutional governance. Two implications derive from this finding. First, general governance may be substantially driven by political governance when it comes to the effect of aid instabilities. This may be because, in light of the extended Eubank conclusions, the population may be more sensitive to 'taxation for political representation, voice and accountability', relative to economic and institutional governance. Second, the aggregation of governance indicators improves insights into how macroeconomic variables affect governance. Hence, as opposed to Kangoye who has reduced the concept of governance to corruption, conceiving, defining and

measuring governance more inclusively in applied econometrics is relevant to advancing the scholarship on aid and institutions.

An alternative explanation to the findings is that nations with improving governments are also entitled to substantial increases in aid, given that 'aid volatility' is correlated with improving governance variables provided that the trend is not just a first-order autoregressive process. This possibility is broadly consistent with Van de Walle (2001).

Two main caveats are clearly apparent from the study. First, due to methodological constraints, we are unable to control for thresholds in foreign aid dependency. In this light, the effect on governance in low and high aid-dependent (e.g Mozambique) countries cannot easily be disassociated. Moreover, the measure of aid instability might miss country-specific volatility characteristics and linear trends. We cannot control for these factors because of concerns about instrument proliferation or overidentification. Accordingly, given that the basic requirement for the GMM approach is N>T, the use of sub-samples leads to pre-estimation N<T and post-estimation instrument proliferation. Hence, future studies could focus on accounting for aid dependency thresholds as well as country-specific cases in order to improve on the extant literature on established nexuses. Second, while the study has performed robustness checks by using different governance and aid variables, it would be worthwhile to use different indicators of governance and 'aid intensity' in future studies. Insights into this second point are documented in Kangoye (2013). These recommendations are consistent with the need to account for more heterogeneity in foreign aid inquiries (Asiedu & Nandwa, 2007; Asiedu, 2014).

Addressing the above concerns would enrich the debate and clarify the growing confidence of officials in some less aid-dependent countries. In essence, at a recent African mining conference, Hussein Abdi Dualeh (Somaliland's minister of energy and minerals) professed that his country did not need foreign aid because it was better-off without 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). This leaves room for further research on country-specific cases.

Appendices

Appendix 1: Definitions of variables

Variable(s)	Definition(s)	Source(s)
Aid1: NODASD1 (Total)	Instability of Total NODA by Simple Standard Deviation	Author
Aid 2: NODADACSD1	Instability of NODADAC by Simple Standard Deviation.	Author
Aid 3: NODAMDSD1	Instability of NODAMD by Simple Standard Deviation	Author
Aid1: NODASD2 (Total)	Instability of Total NODA by Standard Deviation of the Residuals after first-order autoregressive process.	Author
Aid 2: NODADACSD2	Instability of NODADAC by Standard Deviation of the Residuals after first-order autoregressive process.	Author
Aid 3: NODAMDSD2	Instability of NODAMD by Standard Deviation of the Residuals after first-order autoregressive process.	Author
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. The process by which those in authority are selected and replaced".	PCA
Government Effectiveness	"Government effectiveness (estimate): measures the quality of public services, the quality and degree of independence from political pressures of the civil service, the quality of policy formulation and implementation, and the credibility of governments' commitments to such policies".	World Bank (WDI)
Regulation Quality	"Regulation quality (estimate): measured as the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development".	World Bank (WDI)
Economic Governance	"First Principal Component of Government Effectiveness and Regulation Quality. The capacity of government to formulate & implement policies, and to deliver services".	PCA
Rule of Law	"Rule of law (estimate): captures perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, the courts, as well as the likelihood of crime and violence".	World Bank (WDI)
Corruption Control	"Control of corruption (estimate): captures perceptions of the extent to which publicpower is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and	World Bank (WDI)

	private interests".	
Institutional Governance	"First Principal Component of Rule of Law and Corruption-Control. The respect for citizens and the state of institutions that govern the interactions among them"	PCA
General Governance	First principal component of Political Stability, Voice & Accountability, Government Effectiveness, Regulation Quality, Rule of Law and Corruption-Control.	PCA
GDP growth	Gross Domestic Product growth rate (annual %)	World Bank (WDI)
Trade Openness	Exports plus Imports of Commodities (% of GDP)	World Bank (WDI)
Government Expenditure	Government Final Consumption Expenditure(% of GDP)	World Bank (WDI)
Inflation	Consumer Price Index (annual %)	World Bank (WDI)

WDI: World Bank Development Indicators. GDP: Gross Domestic Product. PCA: Principal Component Analysis. NODA: Net Official Development Assistance. NODADAC: NODA from the Development Assistance Committee (DAC) countries. NODAMD: NODA from Multilateral Donors. SD1: Instability by Simple Standard Deviation. SD2: Instability by Standard Deviation of the Residuals after first-order autoregressive processes.

Appendix 2: Summary statistics

	Mean	S.D	Min	Max	Obs.
Total NODA	10.889	12.029	0.015	102.97	253
Total NODADAC	6.278	7.303	-0.003	68.063	253
Total NODADMD	4.525	5.083	0.004	33.249	253
First Instability from Total NODA	2.841	6.460	0.001	64.113	250
First Instability from Total NODADAC	1.868	4.790	0.0005	44.404	250
First Instability from Total NODADMD	1.397	2.712	0.0006	29.353	250
Second Instability from Total NODA	3.409	8.106	0.005	91.927	250
Second Instability from Total NODADAC	2.201	6.333	0.001	68.826	250
Second Instability from Total NODADMD	1.678	2.714	0.000	29.906	250
Political Governance (PolGov)	-0.016	1.291	-3.204	2.621	264
Economic Governance (EcoGov)	0.049	1.310	-3.019	3.290	254
Institutional Governance (InstGov)	0.008	1.378	-3.879	3.179	264
General Governance (G.Gov)	0.108	2.095	-5.139	5.086	254
Corruption (Corruption Perception Index)	3.005	1.064	1.066	6.100	181
GDP growth	4.755	5.587	-11.272	49.367	254
Trade Openness	78.340	39.979	20.980	250.95	247
Government Expenditure	4.495	8.064	-17.387	49.275	164
Inflation	56.191	575.70	-45.335	8603.3	230

S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obs: Observations. NODA: Net Official Development Assistance. DAC: Development Assistance Committee. SD1: Instability by Simple Standard Deviation. SD2: Instability by Standard Deviation of the Residuals after first-order autoregressive processes.

Appendix 3: Correlation Analysis

	Control Variables			Foreign Aid Instabilities						Governance					
GDPg	Trade	Gov.E	Inflation	SD1Aid1	SD1Aid2	SD1Aid3	SD2Aid1	SD2Aid2	SD2Aid3	PolGov	EcoGov	InstGov	G.Gov	Corruption	
1.000	0.179	0.254	-0.132	0.219	0.193	0.166	0.145	0.091	0.109	-0.012	-0.041	-0.084	-0.049	-0.056	GDPg
	1.000	-0.070	0.024	0.082	0.050	0.047	0.105	0.091	-0.032	0.202	0.089	0.207	0.174	0.209	Trade
		1.000	-0.243	0.014	0.024	0.072	0.028	0.028	0.051	-0.040	0.007	0.023	-0.003	-0.095	Gov. E
			1.000	-0.004	0.011	-0.016	-0.003	0.006	0.016	-0.114	-0.169	-0.136	-0.149	-0.054	Inflation
				1.000	0.921	0.793	0.949	0.878	0.678	-0.157	-0.293	-0.215	-0.244	-0.130	SD1Aid1
					1.000	0.528	0.901	0.946	0.459	-0.160	-0.279	-0.224	-0.242	-0.129	SD1Aid2
						1.000	0.718	0.515	0.902	-0.105	-0.252	-0.157	-0.191	-0.132	SD1Aid3
							1.000	0.945	0.650	-0.109	-0.251	-0.179	-0.198	-0.118	SD2Aid1
								1.000	0.452	-0.115	-0.228	-0.182	-0.191	-0.112	SD2Aid2
									1.000	-0.074	-0.234	-0.153	-0.175	-0.161	SD2Aid3
										1.000	0.758	0.819	0.901	0.745	PolGov
											1.000	0.878	0.945	0.822	EcoGov
												1.000	0.957	0.895	InstGov
													1.000	0.875	G.Gov
														1.000	Corruption

GDPg: GDP growth rate. Gov. E: Government Expenditure. Aid1: Total Net Official Development Assistance (NODA). Aid2: NODA from the DAC countries. Aid3: NODA from Multilateral Donors. SD1: Instability by Simple Standard Deviation. SD2: Instability by Standard Deviation of the Residuals after first-order autoregressive processes. PolGov: Political Governance. EcoGov: Economic Governance. InstGov: Institutional Governance. G.Gov: General Governance.

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