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The External Debt-Economic Growth Nexus in West African Countries: Does Institutional Quality Matter?

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Abstract:
The issues of rising external debt and weak institutions are two of the major challenges facing West African countries in modern times. This study lends a voice to the role of institutions in the discourse of the relationship between external debt and economic growth in West African countries. Using available panel data from the World Development Indicators and the International Country Risk Guide, spanning 1985-2020, the generalized method of moments was employed to analyze the data. The findings from the study confirm that institutional quality lessens the severity of external debt's negative effect on economic growth. Moreover, the findings hint that the threshold of institutional quality beyond which the West African countries could reap the economic growth benefits of their external debt stock ranges from 5.98 to 6.82 on a 10-point scale. Therefore, this study demonstrates that the quality of institutional infrastructure matters in the way external debt influences economic growth in West Africa. As such, West African countries need to reinforce the institutional infrastructure within their debt management systems. They are also to orient their institutions toward controlled procurement and prudent use of external debt funds. This study contributes to the literature by comprehensively investigating the intervening role of institutions in the external debt-economic growth nexus in West Africa, including the role of each institutional quality indicator. The study also deviates from previous studies by determining the threshold of institutional quality beyond which external debt enhances economic growth in West Africa.

Keywords: external debt, economic growth, institutional quality, system GMM, threshold.

西非国家外债与经济增长的关系：制度质量重要吗？

摘要：
外债上升和机构薄弱是西非国家当今面临的两大挑战。这项研究阐述了机构在西非国家外债与经济增长之

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间关系的讨论中的作用。利用1985年至2020年《世界发展指标》和《国际国家风险指南》中的可用面板数据，采用广义矩法对数据进行分析。研究结果证实，制度质量减轻了外债对经济增长负面影响的严重程度。此外，调查结果表明，西非国家能够从其外债存量中获得经济增长收益的制度质量门槛在5.98至6.82之间（满分10分制）。因此，本研究表明，制度基础设施的质量对于外债影响西非经济增长的方式至关重要。因此，西非国家需要加强其债务管理系统内的制度基础设施。他们还应引导其机构进行受控采购和审慎使用外债资金。本研究通过全面调查机构在西非外债与经济增长关系中的干预作用，包括每个机构质量指标的作用，为文献做出了贡献。该研究还与之前的研究不同，它确定了制度质量的阈值，超过该阈值外债将促进西非的经济增长。

关键词：外债、经济增长、制度质量、制度高斯模型、门槛。

1. Introduction

Over the years, attaining long-run economic growth has been a key challenge to many sub-Saharan African (SSA) countries. Since the 1970s, SSA countries have turned to external debt, which is a key element of capital formation in the Solow growth model (Villaneuva, 2003). The critical role of savings in capital formation in the economic growth process has been articulated by Solow (1956) in his neoclassical growth theory. Owing to the abysmally low level of savings in most developing countries, alongside heavy dependence on exports of primary products, weak foreign exchange earnings, and their attendant inadequate government revenue, resorting to external debt to drive physical capital accumulation to the level needed to engender growth becomes necessary (Drine & Nabi, 2010; Sethi, 2014; Simplice & Jellal, 2016). The rising trend of external debt accumulation in SSA over the years has sparked unremitted discourse in the literature over its role in the growth process in this subregion (Drine & Nabi, 2010).

As at the beginning of the global debt crisis that started in 1982, when Mexico declared it could not deliver on its debt obligations (Freytag & Pehnelt, 2008), African countries' external debt stock had already become unsustainable, with associated macroeconomic challenges (Ndikumana & Boyce, 2011). The debt crisis facing these African countries was further exacerbated by a chain of unbridled debt-rescheduling since the 1980s, as it rose from almost $14 billion in 1989 to about $23 billion in 2000, while the multilateral debt relief initiative (MDRI), which was implemented within the highly indebted poor countries (HIPC) scheme, helped to significantly lower the figure to about $1 billion in 2007 (Muhanji & Ojah, 2011). Despite the cycle of external debt unsustainability witnessed in SSA countries, it has been established in the literature that capital inflow through external debt could galvanize an economy on the path of sustainable growth if obtained and used sustainably and productively (Ferrarini, 2008; Cassimon & Vaessen, 2007). Brazil, Chile, Ghana, and South Korea are some of the developing countries where external debt has been successfully used to drive economic growth (Muhanji & Ojah, 2011).

Although the literature is replete with studies involving the link between external debt and economic growth, there is no unanimity on the precise nature of the relationship between the two variables. Many studies argue that external debt exerts a deleterious impact on economic growth (Cordella et al., 2010; Pattillo et al., 2011; Daud & Podivinsky, 2012; Ramzan & Ahmad, 2014; Ali & Mustafa, 2012; Ciftcioglu & Sokhanvar, 2018; Dey & Tareque, 2019; Edo et al., 2020; Soydan & Bedir, 2015). Contrariwise, some other studies claim that external debt is highly beneficial in the economic growth process (Pattillo et al., 2004; Amin & Audu, 2006; Baker & Hassan, 2008; Ogunlana, 2016; Joshua et al., 2020). Additionally, another set of literature posits that external debt enhances growth only up to a point, beyond which it starts slowing down growth (Cordella et al., 2010; Dogan & Bilgili, 2014; Hassan & Meyer, 2020; Qureshi & Liaqat, 2020). However, putting this hypothesis to test, Schclarek (2004), Schclarek and Ramon-Ballester (2005), Blavy (2006), Soydan and Bedir (2015), and Asafo et al. (2019) find no evidence of nonlinearity in the external debt-economic growth nexus. As such, the relationship between external debt and economic growth is inconclusive.

The key objective of this study is to explore the moderating role of institutional quality (IQ) in the external debt-economic growth nexus in West African countries. While the overarching aim of obtaining foreign loans by these countries has always been to stimulate long-run economic growth, the need for macroeconomic managers in the economies to ensure an enabling environment and institutions ancillary to the growth process cannot be overemphasized. This is because the management of debt is crucial considering its associated risks and costs. As such, the interplay between IQ and external debt in the economic growth process has continued to draw the attention of researchers (Imbs & Ranciere, 2005; Cordella et al., 2010; Mensah et al., 2018; Daud, 2020; Hassan & Meyer, 2021). This becomes important because growth disparities between different countries have been attributed to differences in economic institutions (Acemoglu & Robinson, 2008; Qayyum et al., 2014). Furthermore, Gwartney et al. (2004) argued that how productive inputs of capital or labor are determined by the quality of institutions, while the nature and level of impact of debt on firms' financial structure is impacted

by the country's level of institutions. Indeed, of the various prudential guidelines approved by the IMF as a way of assisting countries with debt crises to manage their debt stock more prudently and transparently, good governance and institutional quality appear to be the most critical (Freytag & Pehnelt, 2008; Ouedraogo, 2015).

Cordella et al. (2005) argued that the inconclusiveness in empirical findings on external debt-economic growth linkage could be ascribed to variations in country-specific characteristics. Though, external debt-economic growth linkage has been examined for West Africa, the role of institutions in this relationship has been sparsely considered. Therefore, this study focuses on West Africa for some distinctive reasons.

First, in 1996 when the International Monetary Fund (IMF) and the World Bank introduced the Highly Indebted Poor Countries (HIPC) initiative and in 2006 when the Multilateral Debt Relief Initiative (MDRI) scheme was implemented, the external debt stock of West African countries was reduced (Table 1). Apart from these two periods that were characterized by a series of debt forgiveness, restructuring, and reforms as part of the international community efforts toward combating the problems faced by debtor countries, the remaining period witnessed an untold increase in the external debt stock of West African countries. The external debt stock, which stood at $3.7 billion, following MDRI implementation in 2006, rose to $14.1 billion in 2020 (Table 1). This bespeaks unbridled external debt accumulation in West African countries over the years.

Table 1. Descriptive statistics of the variables (Developed by the authors)

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Kurtosis
GDP growth rate	3.879	4.149	26.417	-28.999	4.397	10.183
External debt/GDP	79.412	61.744	384.840	4.951	68.553	8.328
External debt/export	409.881	261.202	4224.237	14.527	593.948	19.823
IQ composite index	4.591	3.814	4.930	1.898	1.018	3.276
Corruption	3.763	3.333	5.667	1.528	1.274	2.786
Law and order	4.466	4.128	6.333	1.667	1.346	3.381
Government stability	6.051	6.128	7.792	0.833	1.861	2.389
Investment	18.718	17.832	54.948	-2.424	8.714	6.305
Population growth	2.735	2.662	4.979	-0.444	0.66	8.249
Trade openness	55.409	52.899	131.485	9.136	19.413	4.231

Second, the institutional framework for West Africa appears to be the weakest compared to the other subregions in SSA. For example, there have been 22 attempts to forcefully change the government in this sub-region since 2010 in the forms of coups, countercoups, and coup attempts, and this far outweighs 17 cases for all the remaining sub-regions of SSA put together over the same period. This suggests a high level of military intervention in politics, government instability and the associated policy inconsistencies, human rights abuses, and restraint to economic freedom. According to Ouedraogo (2015), an institutional quality measure that pertains to curbing military incursion into politics enhances economic growth in West Africa.

Furthermore, the examination of five IQ variables from the International Country and Risk Guide (ICRG), which are rescaled from 1 to 10 for comparability and uniform interpretations (Olaniyi & Oladeji, 2021; Hassan & Meyer, 2021), reveals that West African countries have a very low quality of institutions. The composite IQ index obtained from the rescaled values of law, order, corruption, and government stability elements shows that the highest IQ index of 4.93/10 was obtained far back in 1999, while the average index of 4.59/10 was recorded from 1981 to 2020. This below-average level of institutional framework might engender the leakage of the external debt fund from productive activity financing to rent-seeking and unproductive activities. Additionally, West Africa has the largest population compared to other SSA subregions (Ehigiamusoe & Lean, 2019), which implies that incidents in this subregion tend to rub off on the entire SSA.

This study contributes to the literature by providing insight into the moderating role of IQ in the external debt-economic growth nexus in West Africa. As such, it would engender the policies and actions necessary to orient external debt toward sustainable economic growth. Furthermore, it sheds light on the appropriate level of IQ required for external debt in West African countries to drive economic growth. By determining this threshold, policymakers could be guided on the minimum level of IQ that needs to be attained before West African countries can optimize external debt in the economic growth process.

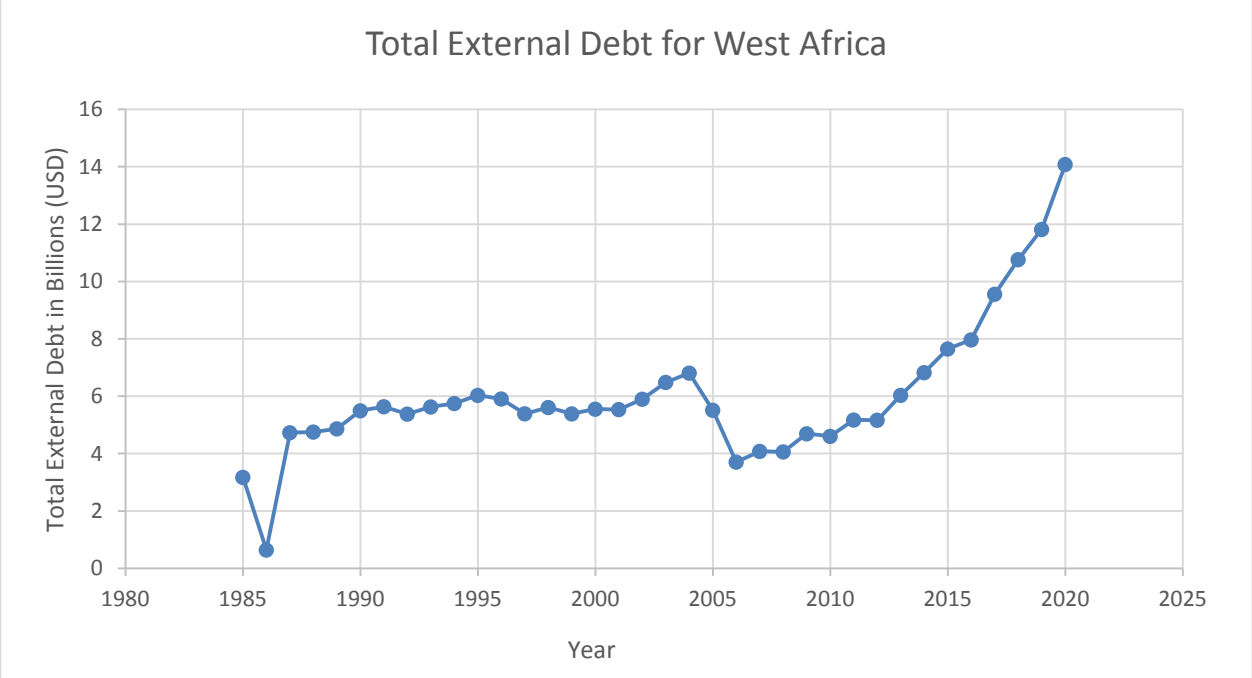

Figure 1. Trend of total external debt for West Africa (World Development Indicators)

2. Literature Review

In recent times, research efforts on the role of institutional quality (IQ) in the external debt-growth nexus have been increasing. By exploring the intervening role that IQ plays in external debt-economic growth linkage in 53 developing countries from 2005 to 2016, Daud (2020) used system GMM and dynamic panel threshold approaches. They found that external debt depresses economic growth and that this is contingent on the quality of institutions. This finding is similar to that of Hassan and Meyer (2021), who investigated 39 highly indebted poor countries from 1996 to 2018. Their system GMM results show that the effect of external debt on growth depends on IQ. They further argued that a threshold of IQ must be attained if the economic growth benefit of external debt is to be realized. Mensah et al. (2018) also reported that institutions significantly impact the external debt-economic growth nexus in 36 SSA countries in a study covering 1996–2013.

In a study of 79 developing countries with varying debt levels and other country attributes for the period 1970-2002, Cordella et al. (2005) employed both OLS and GMM methods. They established that policies and institutions are crucial in determining the manner of the impact of external debt on growth for all the countries. Similar methods of estimation were employed by Imbs and Ranciere (2005), who investigated 87 developing countries from 1969 to 2002. Estimates from their analysis reveal that measures of IQ, namely bureaucratic quality, government effectiveness, and rule of law, aid countries in controlling their accumulation of debt, thereby enhancing growth. Moreover, Presbitero (2008) considered how policy and IQ influenced the linkage between external debt and growth in the case of 114 developing countries for the period 1980-2004, by using the system GMM estimator. Their results indicate that external debt has no impact on growth in countries with poor IQ, but in countries with adequate IQ, high external debt stock does not slow down growth. In addition, in a study of 6 West African Economic and Monetary Union (WAEMU) economies, Ouedraogo (2015) explored how external debt and IQ influence growth. Their ECM estimates reveal that measures of IQ that pertain to curbing military involvement in government, control of corruption, and government stability promote growth and development. He further argues that external debt affects growth nonlinearly. The argument of nonlinear relation is, however, refuted by Kourtellos et al. (2013) in a study on 82 countries throughout three 10-year periods (1980-1989, 1990-1999 and 2000-2009). After conducting structural threshold regressions to analyse the data, they established that IQ moderates the effect of debt on growth in an economy. Furthermore, they identified a particular threshold of IQ and posited that if a country's IQ falls below this threshold, debt accumulation would slow down growth, while the negative impact disappears once an economy attains a high level of IQ.

The role of IQ in the debt-economic growth nexus is investigated for Malaysia from 1970 to 2011 by Daud and Podivinsky (2014). Results from the Hansen (2000) threshold estimation suggest that the nature and effect of debt on growth is contingent on IQ. Additionally, Hansen (2000) argues that Malaysia must raise the quality of its institutions to a certain threshold for the economy to reap the growth benefits of its debt stock. This finding is corroborated by Qayyum et al. (2014) who explored the interplay of external debt, official development assistance, and growth in an open economy using a modified RCK growth model. Their

analysis shows that for developing countries to transform their economies, governance must be improved, while external debt accumulation should be curtailed. In the same vein, the important role that IQ and policies play in determining the factors that are responsible for variations in the level and extent of debt distress among different economies was explored by Kraay and Nehru (2003). The estimates of the probit regression conducted suggest that IQ, along with debt burden and debt shocks, is a crucial determinant of the variations.

Concerning the importance of IQ in debt management and financial risk dimensions of government debt, a study on the impact of democratic accountability, history of debt problems, and IQ on debt management was conducted by Melecky (2012) for 107 countries. After conducting logit regression to analyse the survey data collected for the research, it was found that IQ is crucial in shaping an economy's debt management process, especially in terms of accountability and transparency. Furthermore, this area of external debt-growth nexus was previously examined by Muhanji and Ojah (2011) using the fixed-effects method for African, East Asian, and Latin American countries from 1970 to 2008. Following the outcomes of their analysis, they suggest that to attain result-oriented debt management practices, African countries need to follow the institutional and policy standards adopted by East Asian countries.

As the aforementioned studies suggest that IQ is crucial in determining the manner and level of impact that external debt has on growth, a study by Moss and Chiang (2003) has suggested that external debt accumulation could, on the other hand, influence IQ. In their study, which aimed at determining the cost of external debt accumulation in low-income countries, they concluded that humongous debt stock leaks out the efficacy of economic reforms and curtails the growth and development of institutional infrastructure.

3. Data and Methodology

This study investigates panel data covering a period of 36 years from 1985 to 2020 for a sample of 13 West African countries, which comprise Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Annual data on GDP growth rate, gross fixed capital formation/GDP ratio, population growth rate, trade openness/GDP ratio, and external debt/GDP ratio are used to measure economic growth, investment, population growth, trade openness, and external debt, respectively, and they were all drawn from the World Development Indicators (WDI). To measure institutional quality (IQ), a composite index of International Country Risk Guide (ICRG) IQ variables, sourced from the Political Risk Services (PRS) Group, was constructed. Many recent studies on the growth have used the ICRG IQ data set to measure the quality of institutions (Law et al., 2018; Hassan & Meyer, 2021; Olaniyi & Oladeji, 2021). Moreover, it has been adjudged the most widely used data set for institutions (Williams & Siddique, 2008). We derived the composite institutional quality index by computing the average of the following three institutional quality elements: corruption (range: 0-6), law and order (range: 0-6), and government stability (range: 0-12). As a way of uniformity and to see that they can be compared with each other, each of the elements of the index is standardized to range between 0 and 10 (Law et al., 2018; Olaniyi & Oladeji, 2021; Hassan & Meyer, 2021). With this range, the higher the score, the better the level of IQ, and vice versa.

Following the standard growth literature, the external debt-economic growth linkage model is specified as follows:

$$EG_{it} = \theta' ED_{it} + \alpha Z_{it} + \varepsilon_{it} \quad (1)$$

where EG is economic growth, ED_{it} is external debt for country i, Z_{it} represents a vector of control variables, which are initial economic growth, investment, population growth, trade openness and institutional quality, in line with the growth literature (Cordella et al., 2010; Law et al., 2018; Mensah et al., 2018; Daud, 2020; Olaniyi & Oladeji, 2021; Hassan & Meyer, 2020, 2021).

As this study involves the investigation of the moderating role of IQ in the external debt-economic growth linkage, an interaction term of external debt and IQ is added to Equation (1), in line with existing studies (Mensah et al., 2018; Daud, 2020; Hassan & Meyer, 2021). Therefore, the empirical model for this study is specified as follows:

$$GDP_{it} = \alpha_1 GDP_{it-1} + \alpha_2 ED_{it} + \alpha_3 IQ_{it} + \alpha_4 (ED_{it} * IQ_{it}) + \vartheta Z_{it} + \rho_i + \sigma_t + \quad (2)$$

where GDP_{it-1} denotes lagged GDP growth rate; ρ_i, σ_t, and ϵ_{it} are the country-specific effect, time effect, and error term, respectively, while $(ED_{it} * IQ_{it})$ represents the interaction of external debt and IQ. As such, Equation (2) indicates that the relation between external debt and economic growth depends on IQ. Therefore, by differentiating Equation (2) with respect to external debt in Equation (3), changes in the impact of external debt on economic growth under varying levels of IQ can be evaluated.

$$\emptyset = \frac{\partial GDP_{it}}{\partial ED_{it}} = \alpha_2 + \alpha_4 IQ_{it} \quad (3)$$

The intervening attribute of IQ in Equation (3) centers on the two parameters, α_2 and α_4, and there are four possible outcomes:

(1) If $\alpha_2 > 0$ and $\alpha_4 > 0$, external debt promotes growth, and this is reinforced by IQ;

(2) If $\alpha_2 > 0$ and $\alpha_4 < 0$, external debt promotes growth, and this is depressed by IQ;

(3) If $\alpha_2 < 0$ and $\alpha_4 > 0$, external debt depresses

growth, and this is mitigated by IQ;

(4) If $\alpha_2 < 0$ and $\alpha_4 < 0$, external debt depresses growth, and this is worsened by IQ.

Furthermore, should α_2 and α_4 be both significant and bear opposite signs, it suggests the existence of a threshold of IQ beyond which external debt drives economic growth (Ehigiamusoe & Lean, 2019). This threshold is identified by setting Equation (3) to zero to obtain:

$$IQ_{it} > \frac{-\alpha_2}{\alpha_4} \quad (4)$$

To estimate Equation (2), this study follows extant studies on external debt-economic growth nexus (Presbitero, 2008; Mensah et al., 2018; Daud, 2020; Hassan & Meyer, 2021) and employs the system GMM approach of Blundell and Bond (1998) to overcome the problems of endogeneity and linear correlation usually associated with debt and institutional variables that are often used in growth models (Wooldridge, 2002; Pattillo et al., 2011; Kourtellos et al., 2013). It has been established in the literature that in cases where individual-specific effect and the lag of the dependent variable are included as part of the regressors in a dynamic panel model like we have in Equation (2), the likelihood of a linear correlation between the duo could engender the generation of biased estimates if methods such as pooled OLS, fixed effects, and random effects are used in estimation (Hsiao, 2003; Buck et al., 2008). To overcome this problem, Blundell and Bond (1998) suggested the use of a system GMM that employs both first difference and level equations, alongside the lags of explanatory variables as instruments for the level equations. Within this framework, the validity of the instruments is based on the assumption that the correlation between the country-specific effect and the levels of the regressors is constant over time.

The application of the system GMM estimator requires panel data with a higher number of cross-sections than time-series observation. To meet this condition, we follow the trend in the literature (Law et al., 2018; Olaniyi & Oladeji, 2021; Hassan & Meyer, 2021) and use four-year average data, which gives nine non-overlapping observations for each country. The nine observations span 1985-1988, 1989-1992, 1993-1996, 1997-2000, 2001-2004, 2005-2008, 2009-2012, 2013-2016, and 2017–2020. Failure to average the data could engender instrument proliferation problems, which could render the estimates unreliable (Roodman, 2009; Law et al., 2018). Moreover, using the four-year average of non-overlapping periods helps to address the effect of business cycle fluctuations, thereby ensuring that estimates are free from bias (Law et al., 2018).

4. Results and Discussion

4.1. Descriptive Statistics

The statistical attributes of the variables in the study are displayed in Table 1. The statistics show that the mean GDP growth rate is 3.88%, which is less than its median of 4.15%. This suggests that the data distribution of the GDP growth rate is skewed to the left. Sierra Leone recorded the highest GDP growth rate of 26.42% in 2002, while the lowest of -28.99% is reported for Guinea Bissau for 1998The two external debt variables have mean values of 79.41 and 409.88 for external debt/GDP and external debt/export, respectively. These values are higher than their respective median values, which suggest that the two variables are skewed to the right. The same applies to all other variables as they mean values higher than the respective median values. The highest IQ index of 4.93 was attained by the Gambia in 2001, while the lowest index of 1.89 was recorded by Liberia in 1992. The standard deviation of each variable (except GDP growth) is very low compared to its mean value. This suggests that each series is adequately represented by the mean. Lastly, kurtosis reveals that only corruption with a kurtosis statistic value of 3 is platykurtic. All the remaining variables are leptokurtic, as the respective kurtosis of each of them is higher than 3. As such, none of the variables is mesokurtic.

4.2. Regression Results

The results of the system GMM estimations regarding Equation (2) are presented in Tables 2 and 3. While the external debt variable for the estimations in Table 2 is the external debt/GDP ratio, that of the estimations in Table 3 is the external debt/export ratio. In each table, there are four estimations. Model 1 contains the estimation with the composite IQ index as the institutional quality variable. In the remaining three estimations, each of the three IQ measures that make up the composite index is the IQ variable, such that Models 2, 3, and 4 contain empirical results with corruption, law and order, and government stability, respectively, as the IQ variables.

Table 2. System GMM estimation results (ED = external debt/GDP) (Developed by the authors)

Variable	Model 1	Model 2	Model 3	Model 4
GDP (-1)	0.823*** (48.26)	0.789*** (38.81)	0.809*** (41.39)	0.805*** (41.44)
ED	-0.014** (-2.54)	-0.029*** (-8.57)	-0.125*** (-7.73)	-0.035*** (-10.04)
Investment	0.004*** (3.50)	0.193*** (2.91)	0.003*** (4.53)	0.064** (2.76)
Population growth	0.071* (1.94)	0.306 (1.601)	0.237 (1.614)	0.016 (1.36)
Trade openness	0.007** (2.07)	0.083 (0.94)	0.018*** (11.40)	1.281 (0.93)
IQ	0.226*** (3.017)			
ED*IQ	0.002** (2.17)			
CORR		0.168** (2.04)		
ED*CORR		0.005** (2.76)		

Continuation of Table 2				
LAWO			0.308* (1.97)	
ED*LAWO			0.019** (2.27)	
GOVSTAB				0.192** (2.41)
ED*GOVSTAB				0.006** (2.69)
Threshold	6.38	5.98	6.73	6.04
AR(2): p-value	0.412	0.537	0.371	0.581
The Sargan test: p-value	0.213	0.611	0.229	0.466
The Hansen test: p-value	0.537	0.439	0.504	0.283

Notes: *, **, and *** indicate significance at 10%, 5%, and 1%, respectively; IQ - institutional quality; CORR - corruption; LAWO - law and order; GOVSTAB - government stability

Table 3. System GMM estimation results (ED = external debt/export) (Developed by the authors)

Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**
GDP (-1)	0.674*** (51.31)	1.417*** (15.17)	0.907*** (11.67)	1.308*** (83.47)
ED	-1.119** (-4.33)	-0.135*** (-6.22)	-0.293*** (-4.91)	-1.216*** (-6.33)
Investment	0.316*** (3.50)	0.031*** (3.24)	0.011* (1.91)	0.073** (2.14)
Population growth	0.132 (1.73)	0.517* (1.894)	0.513 (1.706)	0.139** (2.36)
Trade openness	0.013* (1.97)	0.174*** (10.25)	0.132 (1.34)	0.531** (2.67)
IQ	0.127*** (3.801)			
ED*IQ	0.164** (2.61)			
CORR		0.093** (2.11)		
ED*CORR		0.021** (1.97)		
LAWO			0.195** (2.53)	
ED*LAWO			0.043** (3.11)	
GOVSTAB				0.465* (1.94)
ED*GOVSTAB				0.190*** (4.95)
Threshold	6.82	6.43	6.77	6.39
AR(2): p-value	0.667	0.415	0.431	0.237
The Sargan test: p-value	0.393	0.437	0.316	0.519
The Hansen test: p-value	0.469	0.631	0.510	0.481

Notes: *, **, and *** indicate significance at 10%, 5%, and 1%, respectively; IQ - institutional quality; CORR - corruption; LAWO - law and order; GOVSTAB - government stability

In each of the four models in Table 2, the probability values of the AR(2) test are higher than 5%, which indicates that the models are all free from second-order serial correlation. Similarly, the probability values of both the Sargan and Hansen tests are greater than 5%, thus indicating the acceptance of the null hypothesis. As such, the instrumental variables used by the system GMM in estimation are adjudged valid because they are uncorrelated with the error term. As the validity and reliability of GMM estimates are predicated upon the outcomes of the tests, the resulting estimates are reliable and fit for inferences. Furthermore, in each of the four models, the coefficients of the lag of GDP growth [GDP(-1)] are strongly significant and bear positive signs, which indicate that economic growth in West African countries is path-dependent and persistent. This result implies that the previous value of economic growth in the West African countries exerts a strong positive impact on its current value, as it is involved in explaining it. Consequently, this result suggests that an improvement in the previous year's economic growth tends to engender a further increase in the value of economic growth for the current year. This result supports several past studies that demonstrated that the past level of economic growth matters in the determination of its present level (Law et al., 2018; Hassan et al., 2019; Olaniyi & Oladeji, 2021; Hassan & Meyer, 2021).

In Model 1, external debt is found to bear a negative influence on economic growth at the 5% level of significance. In particular, an increase of 1 unit in external debt is associated with a 0.014-unit decline in economic growth. By implication, for West African countries, higher levels of external debt stock are associated with declining economic growth, and vice versa. This suggests that although external debt as a source of capital is important in the growth process, its burden in the West Africa subregion is slowing down economic growth. This result further demonstrates that a reduction in the accumulation of external debt by West African countries would enhance economic growth. The research outcome supports findings in past studies for other emerging economies, which suggest that external debt has a negative impact on economic growth. Some of these studies include those by Daud and Podivinsky (2012) for Malaysia, Ciftcioglu and Sokhanvar (2018) in the case of Central and Eastern Europe, and Edo et al. (2020) for SSA. Other studies that reported a negative link between external debt accumulation and economic growth include those by Ramzan and Ahmad (2014), Soydan and Bedir (2015), and Dey and Tareque (2019). However, the result contradicts those of Ogunlana (2016) and Joshua et al. (2020), which suggest that external debt has a positive impact on economic growth.

Now considering the estimate of the interaction between external debt and the IQ index (ED*IQ), it is positive and statistically significant at 5%. This estimate

suggests that the interaction of external debt with IQ has a positive effect on economic growth. Put differently, when embedded within a stronger institutional framework, external debt in West African countries provides stimulus for attaining higher economic growth. Therefore, this research outcome proves that while external debt depresses economic growth, the severity of this harmful effect is mitigated in West African countries with good institutions. It also implies that if and where put in place, good institutions avail the countries of the needed impetus and ancillaries that engender the efficient allocation and use of external debt funds in a manner that would sustainably drive the economiic growth process. Therefore, in the case of West African countries, IQ matters and plays a moderating role in the transmission mechanism from external debt to economic growth. This result is consistent with the findings in past studies such as Presbitero (2008), Ouedraogo (2015), Mensah et al. (2018), Daud (2020), Hassan and Meyer (2021). In each of these previous studies, the results emphasize the important role of institutions as a key determinant of the nature of external debt impact on economic growth.

Meanwhile, the outcome of different signs for the coefficients of external debt (negative) and the interaction variable (positive) is an indication that there is a threshold of IQ beyond which external debt can enhance growth (Ehigiamusoe & Lean, 2019). Therefore, Equation (3) is solved for the minimum level of institutional quality index that West African countries need to attain in order for external debt to promote growth. In other words, to obtain the threshold of IQ beyond which external debt promotes growth, the estimated equation (Model 1) in Table 2 is differentiated with reference to external debt $\left(\frac{\partial GDP}{\partial ED} = -0.01385 + 0.00217\right)$. The result is subsequently set equal to zero to determine the threshold. Therefore, the threshold is computed at 6.38. This research outcome implies that for external debt to enhance economic growth, the West African countries must consistently maintain a level of IQ of at least 6.38 on a 10-point scale. This result reveals that on average, external debt in the subregion depresses economic growth because of the abysmally poor institutional quality scores. The average and highest institutional quality scores in the subregion stand at 4.59/10 and 4.93/10, respectively, and are both far below the threshold of 6.38/10 needed for external debt to drive growth. This result supports the previous studies arguing that when the level of IQ is below certain thresholds, external debt would not be able to stimulate growth; it promotes growth when the thresholds are attained (Daud & Podivinsky, 2014; Mensah et al., 2018; Daud, 2020; Hassan & Meyer, 2021).

In Models 2, 3, and 4, the separate impact of external debt on economic growth is negative, just as is the case in Model 1. Furthermore, the interaction of external debt and each measure of IQ is positive and significant. This implies that in line with the outcome of Model 1, external debt depresses economic growth, but the negative impact is mitigated in countries with good ratings in corruption, law and order, and government stability. Furthermore, there exist minimum levels of corruption, law and order, and government stability that West African countries must maintain for external debt to benefit economic growth. To obtain these thresholds, Models 2, 3 and 4 are differentiated with respect to external debt and the resultant estimates are set equal to zero, as demonstrated in the case of Model 1. Therefore, the thresholds are computed as 5.98/10, 6.73/10, and 6.04/10 for corruption, law and order, and government stability, respectively. This implies that West African countries must maintain the thresholds for the respective measures of IQ for it to stimulate external debt to drive growth.

Across the four models, institutional quality variables (IQ composite index, corruption, law and order, and government stability) are statistically significant and positively signed. This suggests that stronger institutions are associated with higher economic growth. As such, IQ has a separate positive influence on economic growth. This further indicates that improving the overall quality of institutions is very crucial in the economic growth of West African countries. This result supports the preponderance of findings in the literature that IQ promotes economic growth (Acemoglu & Robinson, 2008; Ouedraogo, 2015; Ben Ali & Kramer, 2016; Olaniyi & Oladeji, 2021; Hassan & Meyer, 2021).

Furthermore, investment, which is represented in the model by the ratio of the gross fixed capital formation to GDP, is positive and significant in the equations. This suggests that an increase in the capital formation is important in the growth of West African countries. Therefore, it conforms with the position of the endogenous growth theory, which identifies capital as an essential factor input in the growth model. This result agrees with Ouedraogo (2015), who showed that investment has a positive impact on economic growth in WAEMU countries. Trade openness is significant and positive in two of the four models. This shows that an increase in trade openness is associated with higher economic growth. This result supports Ouedraogo (2015) and Hassan and Meyer (2021), who found that trade openness positively affects economic growth in WAEMU and HIPC countries, respectively. Population growth is only significant at 10% in Model 1, while it is insignificant in the remaining three models.

Lastly, Table 3 reports the estimates of system GMM based on external debt/export as the external debt variable. The AR(2) results indicate that across the four models, there is no second-order serial correlation, while the Hansen and Sargan tests also adjudged the instrumental variables employed valid. Overall, the results in Table 3 are similar to those in Table 2, which implies that the same interpretations and discussion apply. Therefore, the robustness of the estimates is

confirmed.

5. Conclusion

In the last few decades, issues around debt burden and debt unsustainability in developing countries have attracted increased attention from researchers and policymakers. While there is no unanimity in the empirical literature regarding the precise impact of external debt on the growth process of economies, recent research efforts have been directed toward exploring the role of institutions on the nature and extent of external debt impact on the economic growth process. Considering this, the key objective of this study was to explore the moderating role of institutional quality in the relationship between external debt and economic growth in West African countries. To this end, panel data of 13 West African countries for the period 1985-2020 was estimated utilizing system GMM.

The outcome of the panel estimations revealed that external debt has a separate negative impact on economic growth, which suggests that external debt accumulation is associated with the growth slowdown in the subregion. This result corroborates findings for other emerging countries by Daud and Podivinsky (2012), Ciftcioglu and Sokhanvar (2018), Edo et al. (2020), and Hassan and Meyer (2021), which suggest that external debt has a negative effect on economic growth. However, the result contradicts Ogunlana (2016) and Joshua et al. (2020), who found that external debt positively affects economic growth. The interaction of external debt and institutional quality is positive and significant, which suggests that the negative impact of external debt on economic growth is moderated by institutional quality. This research outcome corroborates Presbitero (2008), Ouedraogo (2015), Mensah et al. (2018), Daud (2020), and Hassan and Meyer (2021), who found that IQ matters in the determination of the impact of external debt on economic growth.

This result further reveals that the severity of the negative effect of external debt on growth is diminished by improvement in institutional quality. Indeed, this research outcome implies that the nature and extent of the influence that external debt wields on economic growth is contingent on the level of institutional quality. Furthermore, findings from this study hint that West African countries must attain a minimum level of institutional quality computed at 5.98–6.82 on a 10-point scale to reap the economic growth benefit of their external debt stocks. This result agrees with findings by Daud and Podivinsky (2014), Mensah et al. (2018), Daud (2020), and Hassan and Meyer (2021), who argued that before external debt could enhance economic growth, the IQ level in the country must improve beyond a minimum threshold.

The findings of this study have some policy implications. First, West African countries need to reinforce the institutional infrastructure within their debt management systems. The institutions must be oriented toward the controlled procurement of debt and prudent use of the funds. Furthermore, lending entities and foreign aid donors should develop a policy that entails improvement in institutional quality beyond a threshold as an important requirement that recipients of foreign loans and aids must achieve in order to qualify for disbursement. Also, West African countries should explore other sources of mobilizing capital formation in their economies. Tax baskets should be expanded; enabling environment should be facilitated for increased inflows of diaspora remittances, while foreign aid should also be attracted. This would ensure that the dependence of these countries on foreign loans is reduced.

Another significant policy implication of the adverse impact of large foreign debt on economic growth is that governments of West African countries should implement a practical approach to lowering their external debt burden by efficiently using the already acquired debt. They must take concrete actions to eradicate misallocation and waste of borrowed money. Additionally, borrowed funds should focus on several important areas, including the development of human capital, the eradication of poverty, the closure of infrastructure gaps, the stimulation of production, and other initiatives that advance the welfare and growth of the economy. By doing this, the economy would be on the path of inclusive growth, and the subregion's existing shackles of external debt would be lifted.

This study contributes to the literature on the external debt-economic growth nexus by investigating the role of IQ and determining the threshold of IQ that drives growth, using the system GMM estimator that allows for endogeneity and linear correlation, which could lead to biased results. The study is limited by the lack of sufficient data for 3 (Benin, Cape Verde, and Mauritania) out of 16 West African countries, which is why the study is based on a sample of 13 West African countries.

Regarding future research direction, the external debt of West African countries could be disaggregated into public and private sector components to assess the relative impact of each of the two components on the growth. Moreover, other researchers could evaluate external debt management strategies in light of debt management goals, including debt sustainability and lowering borrowing costs. Further analysis of the strategies' general structures from the perspective of institutional infrastructure could also be performed. Additionally, future research should concentrate on individual West African country time-series analysis, especially in a comparative study, to understand more about the subject in West Africa.

References

[1] ACEMOGLU, D., & ROBINSON, J.A. (2008). *The Role of Institutions in Growth and Development.* Washington, District of Columbia: World Bank. Retrieved from http://hdl.handle.net/10986/28045

[2] ALI, R., & MUSTAFA, U. (2012). External debt accumulation and its impact on economic growth in Pakistan. *The Pakistan Development Review*, 51(4), 79-96. http://dx.doi.org/10.30541/v51i4IIpp.79-96

[3] AMIN, A.A., & AUDU, I. (2006). External debt, investment and economic growth: evidence from Nigeria. *CBN Economic and Financial Review*, 44, 1-20.

[4] ASAFO, S.S., MATUKA, A., & DOMINIC, N. (2019). External Debt and Economic Growth: Two-Step System GMM Evidence for Sub-Saharan Africa Countries. *International Journal of Business, Economics and Management*, 6(1), 39-48. https://doi.org/10.18488/journal.62.2019.61.39.48

[5] BAKER, N.A., & HASSAN, S. (2008). Empirical evaluation on external debt of Malaysia. *International Business and Economics Research Journal*, 7(2), 95-108. http://dx.doi.org/10.19030/iber.v7i2.3226

[6] BEN ALI, M.S., & KRAMMER, M.S. (2016). The Role of Institutions in Economic Development. In: BEN ALI, M.S. (ed.) *Economic Development in the Middle East and North Africa*. New York: Palgrave Macmillan, pp. 1-25. https://doi.org/10.1057/9781137480668_1

[7] BLAVY, R. (2006). *Public debt and productivity: the difficult quest for growth in Jamaica.* International Monetary Fund. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Public-Debt-and-Productivity-The-Difficult-Quest-for-Growth-in-Jamaica-19489

[8] BLUNDELL, R., & BOND, S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. *Journal of Econometrics*, 87(1), 115-143. https://doi.org/10.1016/S0304-4076(98)00009-8

[9] BUCK, T., LIU, X., & SKOVORODA, R. (2008). Top executive pay and firm performance in China. *Journal of International Business Studies*, 39(5), 833-850. https://doi.org/10.1057/palgrave.jibs.8400386

[10] CASSIMON, D., & VAESSEN, J. (2007). Theory, practice and potential of debt for development swaps in the Asian and Pacific region. *Economic Systems*, 31, 12-34. http://dx.doi.org/10.1016/j.ecosys.2006.12.003

[11] CIFTCIOGLU, S., & SOKHANVAR, A. (2018). External debt-economic growth nexus in selected CEE countries. *Romanian Journal of Economic Forecasting*, 21(4), 85-100. Retrieved from https://ipe.ro/rjef/rjef4_18/rjef4_2018p85-100.pdf

[12] CORDELLA, T., RICCI, L.A., & RUIZ-ARRANZ, M. (2005). *Debt overhang or debt irrelevance? Revisiting the debt-growth link.* International Monetary Fund. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Debt-Overhang-or-Debt-Irrelevance-Revisiting-the-Debt-Growth-Link-18707

[13] CORDELLA, T., RICCI, L.A., & RUIZ-ARRANZ, M. (2010). Debt Overhang or Debt Irrelevance? *IMF Staff Papers*, 57, 1-24. https://doi.org/10.1057/imfsp.2009.20

[14] DAUD, S.N.M. (2020). External debt, institutional quality and economic growth. *Bulletin of Monetary Economics and Banking*, 23(2), 221–238. http://dx.doi.org/10.21098/bemp.v23i2.1173

[15] DAUD, S.N.M., & PODIVINSKY, J.M. (2012). Revisiting the Role of External Debt in Economic Growth of Developing Countries. *Journal of Business, Economics and Management*, 13, 968-993. http://dx.doi.org/10.3846/16111699.2012.701224

[16] DAUD, S.N.M., & PODIVINSKY, J. (2014). Government Debt and Economic Growth in Malaysia: The Role of Institutional Quality. *Applied Economics Letters*, 21(17), 1179-1183. http://dx.doi.org/10.1080/13504851.2014.916378

[17] DEY, S.R., & TAREQUE, M. (2019). External debt and growth: role of stable macroeconomic policies. *Journal of Economics, Finance and Administrative Science*, 25(50), 185-204. https://doi.org/10.1108/JEFAS-05-2019-0069

[18] DOGAN, I., & BILGILI, F. (2014). The non-linear impact of high and growing government external debt on economic growth: a Markov regime-switching approach. *Economic Modelling*, 39, 213-220. https://doi.org/10.1016/j.econmod.2014.02.032

[19] DRINE, I., & NABI, M.S. (2010). Public external debt, informality and production efficiency in developing countries. *Economic Modelling*, 27, 487-495. http://dx.doi.org/10.1016/j.econmod.2009.10.014

[20] EDO, S., OSADOLOR, N.E., & DATING, I.F. (2020). Growing external debt and declining export: the concurrent impediments in economic growth of sub-Saharan African countries. *International Economics*, 161, 173-187. http://dx.doi.org/10.1016/j.inteco.2019.11.013

[21] EHIGIAMUSOE, K.U., & LEAN, H.H. (2019). Influence of Real Exchange Rate on the Finance-Growth Nexus in the West African Region. *Economies*, 7(1), 23. https://doi.org/10.3390/economies7010023

[22] FERRARINI, B. (2008). Proposal for a Contingency Debt Sustainability Framework. *World Development*, 36(12), 2547-2565. https://doi.org/10.1016/j.worlddev.2008.02.002

[23] FREYTAG, A., & PEHNELT, G. (2008). Debt Relief and Governance Quality in Developing Countries. *World Development*, 37(1), 62-80. https://doi.org/10.1016/j.worlddev.2008.01.004

[24] GWARTNEY, J.D., HOLCOMBE, R.G., & LAWSON, R.A. (2004). Economic Freedom, Institutional Quality, and Cross-Country Differences in Income and Growth. *Cato Journal*, 24, 205–233. Retrieved from https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.507.5811&rep=rep1&type=pdf

[25] HANSEN, B.E. (2000). Sample Splitting and Threshold Estimation. *Econometrica*, 68, 575–603. https://doi.org/10.1111/1468-0262.00124

[26] HASSAN, A.S., & MEYER, D.F. (2020). Non-Linear Effect of External Debt on Economic Growth: Evidence from Sub-Saharan African Countries. *International Journal of Economics and Management*, 14(3), 447-460. Retrieved from http://ijem.upm.edu.my/vol14no3/9.%20Non%20linear.pdf

[27] HASSAN, A.S., & MEYER, D.F. (2021). Moderating effect of institutional quality on the external debt-economic growth nexus: Insights from highly indebted poor countries (HIPC). *African Journal of Business and Economic Research*, 16(2), 7-28. https://doi.org/10.31920/1750-4562/2021/v16n2a1

[28] HASSAN, A.S., MEYER, D.F., & KOT, S. (2019). Effect of institutional quality and wealth from oil revenue on economic growth in oil-exporting developing countries. *Sustainability*, 11(13), 3635. https://doi.org/10.3390/su11133635

[29] HSIAO, C. (2003). *Analysis of Panel Data*. Cambridge: Cambridge University Press.

[30] IMBS, J., & RANCIERE, R. (2005). *The Overhang Hangover*. Washington, District of Columbia: World Bank. Retrieved from http://hdl.handle.net/10986/8631

[31] JOSHUA, U., ADEDOYIN, F.F., & SARKODIE, S.A. (2020). Examining the external-factors-led growth hypothesis for the South African economy. *Heliyon*, 6(5), e04009. https://doi.org/10.1016/j.heliyon.2020.e04009

[32] KOURTELLOS, A., STENGOS, T., & TAN, C.M. (2013). The Effect of Public Debt on Growth in Multiple Regimes. *Journal of Macroeconomics*, 38, 35-43. http://dx.doi.org/10.2139/ssrn.2099957

[33] KRAAY, A., & NEHRU, V. (2003). *When Is External Debt Sustainable?* Washington, District of Columbia: World Bank. Retrieved from http://hdl.handle.net/10986/14314

[34] LAW, S.H., KUTAN, A.M., & NASEEM, N.A.M. (2018). The role of institutions in finance curse: evidence from international data. *Journal of Comparative Economics*, 46(1), 174–191. https://doi.org/10.1016/j.jce.2017.04.001

[35] MELECKY, M. (2012). Formulation of Public Debt Management Strategies: An Empirical Study of Possible Drivers. *Economic Systems*, 36, 218–234. https://doi.org/10.1016/j.ecosys.2011.08.001

[36] MENSAH, D., BOKPIN, G., & BOACHIE-YIADOM, E. (2018). External Debts, Institutions and Growth in SSA. *Journal of African Business*, 9, 457-490. http://dx.doi.org/10.1080/15228916.2018.1452466

[37] MOSS, T.J., & CHIANG, H.S. (2003). *The Other Costs of High Debt in Poor Countries: Growth, Policy Dynamics, and Institutions*. Washington, District of Columbia: World Bank Group. Retrieved from http://documents.worldbank.org/curated/en/523881468153868169/The-other-costs-of-high-debt-in-poor-countries-growth-policy-dynamics-and-institutions

[38] MUHANJI, S., & OJAH, K. (2011). Management and sustainability of external debt: a focus on the emerging economies of Africa. *Review of Development Finance*, 1, 184-206. http://dx.doi.org/10.1016/j.rdf.2011.09.001

[39] NDIKUMANA, L., & BOYCE, J.K. (2011). Capital Flight from Sub-Saharan Africa: Linkages with External Borrowing and Policy Options. *International Review of Applied Economics*, 25(2), 149-170. http://dx.doi.org/10.1080/02692171.2010.483468

[40] OGUNLANA, O.F. (2016). Causal nexus between external debt and economic growth: the Nigerian case. *International Journal of Management and Commerce Innovations*, 4(1), 92-97. Retrieved from https://www.researchpublish.com/papers/causal-nexus-between-external-debt-and-economic-growth-the-nigerian-case

[41] OLANIYI, C.O., & OLADEJI, S.I. (2021). Moderating the effect of institutional quality on the finance–growth nexus: insights from West African countries. *Economic Change and Restructuring*, 54, 43–74. https://doi.org/10.1007/s10644-020-09275-8

[42] OUEDRAOGO, J. (2015). External debt, quality of institutions, and economic growth in WAEMU. In: ELHIRAIKA, A.B., MUKUNGU, A.C.K., & NIKE, W. (eds.) *Regional Integration and Policy Challenges in Africa*. London: Palgrave Macmillan, pp. 124-142. https://doi.org/10.1057/9781137462084_7

[43] PATTILLO, C., POIRSON, H., & RICCI, L. (2004). *What are the channels through which external debt affects growth?* International Monetary Fund. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2016/12/30/What-Are-the-Channels-Through-Which-External-Debt-Affects-Growth-17021

[44] PATTILLO, C., POIRSON, H., & RICCI, L.A. (2011). External debt and growth. *Review of Economics and Institutions*, 2(3), Article 2. http://dx.doi.org/10.5202/rei.v2i3.45

[45] PRESBITERO, A.F. (2008). The Debt-Growth Nexus in Poor Countries: A Reassessment. *Economics*, 2(1), 20080030.

https://doi.org/10.5018/economics-ejournal.ja.2008-30

[46] QAYYUM, U., DIN, M., & HAIDER, A. (2014). Foreign Aid, External Debt and Governance. *Economic Modelling*, 37, 41-52. https://doi.org/10.1016/j.econmod.2013.08.045

[47] QURESHI, I., & LIAQAT, Z. (2020). The long-term consequences of external debt: revisiting the evidence and inspecting the mechanism using panel VARs. *Journal of Macroeconomics*, 63, 103184. https://doi.org/10.1016/j.jmacro.2019.103184

[48] RAMZAN, M., & AHMAD, E. (2014). External Debt Growth Nexus: Role of Macroeconomic Policies. *Economic Modelling*, 38, 204-210. https://doi.org/10.1016/j.econmod.2013.12.014

[49] ROODMAN, D. (2009). How to Do Xtabond2: An Introduction to Difference and System GMM in Stata. *The Stata Journal: Promoting communications on statistics and Stata*, 9(1), 86-136. https://doi.org/10.1177/1536867X0900900106

[50] SCHCLAREK, A. (2004). *Debt and economic growth in developing and industrial countries*. Retrieved from https://project.nek.lu.se/publications/workpap/Papers/WP05_34.pdf

[51] SCHCLAREK, A., & RAMON-BALLESTER, F. (2005). *External debt and economic growth in Latin America*. Retrieved from http://www.cbaeconomia.com/Debt-latin.pdf

[52] SETHI, N. (2014). Foreign Aid vs. Economic Development: Exploring the Empirical Linkage for India, Sri Lanka and Maldives. Proceedings of the 4th IIFT Conference on Empirical Issues in International Trade and Finance, New Delhi, 18–19 December 2014. Retrieved from http://dspace.nitrkl.ac.in/dspace/bitstream/2080/2253/1/narayan_Sethi__NITR__AMIDSA_(1).pdf

[53] SIMPLICE, A., & JELLAL, M. (2016). Foreign Aid Fiscal Policy: Theory and Evidence. *Comparative Economic Studies*, 58, 279–314. https://doi.org/10.1057/ces.2016.7

[54] SOLOW, R.M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70, 65-94. https://doi.org/10.2307/1884513

[55] SOYDAN, A., & BEDIR, S. (2015). External debt and economic growth: new evidence for an old debate. *Journal of Business, Economics and Finance*, 4(3), 500-522. http://dx.doi.org/10.13140/RG.2.2.18847.82080

[56] VILLANEUVA, D. (2003). External Debt, Capital Accumulation and Growth. *SMU-SESS Discussion Paper Series in Economic Studies.*

[57] WILLIAMS, A., & SIDDIQUE, A. (2008). The use (and abuse) of governance indicators in economics: a review. *Economics of Governance*, 9, 131-175. https://doi.org/10.1007/s10101-006-0025-9

[58] WOOLDRIDGE, J.M. (2002). *Econometric analysis of cross section and panel data.* Cambridge, Massachusetts; London: The MIT Press. Retrieved from https://ipcig.org/evaluation/apoio/Wooldridge%20-%20Cross-section%20and%20Panel%20Data.pdf

参考文:

[1] ACEMOGLU, D., & ROBINSON, J.A.（2008）。**制度在增**长和发展中的作用。华盛顿哥伦比亚特区：世界银行。检索自http://hdl.handle.net/10986/28045

[2] ALI, R. **和** MUSTAFA, U. (2012)。**巴基斯坦外**债积累及其对经济增长的影响。《**巴基斯坦**发展评论》， 51(4), 79-96。http://dx.doi.org/10.30541/v51i4IIpp.79-96

[3] AMIN, A.A. **和** AUDU, I. (2006)。**外**债、投资和经济增长：来自尼日利亚的证据。**第一**财经经济金融评论，44，1-20。

[4] ASAFO, S.S.、MATUKA, A. **和** DOMINIC, N. (2019)。**外**债和经济增长：撒哈拉以南非洲国家的两步系统**高斯模型**证据。**国**际商业、经济与管理杂志， 6(1), 39-48。https://doi.org/10.18488/journal.62.2019.61.39.48

[5] 贝克，N.A.，**和哈桑**，S. (2008)。马来西亚外债实证评价。**国**际商业与经济研究杂志， 7(2), 95-108。http://dx.doi.org/10.19030/iber.v7i2.3226

[6] **本·阿里**（BEN ALI）硕士和克莱默（KRAMMER）硕士（2016）。**制度在**经济发展中的作用。**在**：BEN ALI，M.S.（编）中东和北非的经济发展。纽约：**帕**尔格雷夫·**麦克米**伦，**第** 1-25页。https://doi.org/10.1057/9781137480668_1

[7] **布拉**维，R. (2006)。**公共**债务和生产力：牙买**加增**长的艰难追求。**国**际货币基金组织。**摘自**https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Public-Debt-and-Productivity-The-Difficult-Quest-for-Growth-in-Jamaica-19489

[8]**布**伦德尔，R.，**&邦德**，S.（1998）。动态面板数据模型中的初始条件和力矩限制。计量经济学杂志， 87(1), 115-143。https://doi.org/10.1016/S0304-4076(98)00009-8

[9]**巴克**，T.，**刘**，X.，**&斯科沃**罗达，R.（2008）。**中国高**层管理人员薪酬和公司业绩。**国**际商业研究杂志， 39(5), 833-850。https://doi.org/10.1057/palgrave.jibs.8400386

[10] CASSIMON, D., & VAESSEN, J. (2007)。亚太地区债务换发展的理论、实践和潜

力。经济系统，31、12-34。http://dx.doi.org/10.1016/j.ecosys.2006.12.003

[11] CIFTCIOGLU, S. 和 SOKHANVAR, A. (2018)。部分中东欧国家的外债与经济增长的关系。罗马尼亚经济预测杂志， 21(4), 85-100。摘自https://ipe.ro/rjef/rjef4_18/rjef4_2018p85-100.pdf

[12] CORDELLA, T.、RICCI, L.A. 和 RUIZ-ARRANZ, M. (2005)。债务积压还是债务无关？重新审视债务与增长的联系。国际货币基金组织。摘自https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Debt-Overhang-or-Debt-Irrelevance-Revisiting-the-Debt-Growth-Link-18707

[13] CORDELLA, T.、RICCI, L.A. 和 RUIZ-ARRANZ, M. (2010)。债务过剩还是债务无关？基金组织工作人员文件，57，1-24。https://doi.org/10.1057/imfsp.2009.20

[14]DAUD，S.N.M.（2020）。外债、制度质量和经济增长。货币经济学和银行学通报，23(2)，221–238。http://dx.doi.org/10.21098/bemp.v23i2.1173

[15] DAUD, S.N.M., & PODIVINSKY, J.M. (2012)。重新审视外债在发展中国家经济增长中的作用。商业、经济与管理杂志，13, 968-993。http://dx.doi.org/10.3846/16111699.2012.701224

[16] DAUD, S.N.M., & PODIVINSKY, J. (2014)。马来西亚的政府债务和经济增长：制度质量的作用。应用经济学通讯，21(17), 1179-1183。http://dx.doi.org/10.1080/13504851.2014.916378

[17] DEY, S.R. 和 TAREQUE, M. (2019)。外债与增长：稳定宏观经济政策的作用。经济、金融和管理科学杂志， 25(50), 185-204。https://doi.org/10.1108/JEFAS-05-2019-0069

[18] DOGAN, I., & BILGILI, F. (2014)。高额且不断增长的政府外债对经济增长的非线性影响：马尔可夫政权转换方法。经济模型， 39, 213-220。https://doi.org/10.1016/j.econmod.2014.02.032

[19] DRINE, I., & NABI, M.S.（2010）。发展中国家的公共外债、非正规性和生产效率。经济建模， 27, 487-495。http://dx.doi.org/10.1016/j.econmod.2009.10.014

[20] EDO, S., OSADOLOR, N.E., & 约会, I.F.（2020）。外债增加和出口下降：撒哈拉以南非洲国家经济增长的并发障碍。国际经济学，161, 173-187。http://dx.doi.org/10.1016/j.inteco.2019.11.013

[21] EHIGIAMUSOE, K.U., & LEAN, H.H. (2019)。实际汇率对西非地区金融与增长关系的影响。经济， 7(1), 23。https://doi.org/10.3390/economies7010023

[22]费拉里尼，B.（2008）。应急债务可持续性框架提案。世界发展，36(12)，2547-2565。https://doi.org/10.1016/j.worlddev.2008.02.002

[23] FREYTAG, A., & PEHNELT, G. (2008)。发展中国家的债务减免和治理质量。世界发展，37(1)，62-80。https://doi.org/10.1016/j.worlddev.2008.01.004

[24] GWARTNEY, J.D.、HOLCOMBE, R.G. 和 LAWSON, R.A.（2004）。经济自由、制度质量以及收入和增长的跨国差异。卡托杂志，24，205-233。检索自https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.507.5811&rep=rep1&type=pdf

[25]汉森，B.E.（2000）。样本分割和阈值估计。计量经济学，68，575–603。https://doi.org/10.1111/1468-0262.00124

[26]哈桑，A.S.和迈耶，D.F.（2020）。外债对经济增长的非线性影响：来自撒哈拉以南非洲国家的证据。国际经济与管理杂志，14(3), 447-460。取自http://ijem.upm.edu.my/vol14no3/9.%20Non%20linear.pdf

[27]哈桑，A.S.和迈耶，D.F.（2021）。制度质量对外债与经济增长关系的调节作用：来自重债穷国（重债穷国）的见解。非洲商业与经济研究杂志，16(2), 7-28。https://doi.org/10.31920/1750-4562/2021/v16n2a1

[28]哈桑，A.S.，迈耶，D.F.，&KOT，S.（2019）。制度质量和石油收入财富对石油出口发展中国家经济增长的影响。可持续发展，11(13), 3635。https://doi.org/10.3390/su11133635

[29] HSIAO, C. (2003)。面板数据分析。剑桥：剑桥大学出版社.

[30] IMBS, J., & RANCIERE, R. (2005)。悬垂的宿醉。华盛顿哥伦比亚特区：世界银行。检索自http://hdl.handle.net/10986/8631

[31]约书亚，U.，阿杜因，F.F.，和萨科迪，S.A.（2020）。检验南非经济的外部因素主导的增长假说。日光，6(5)，e04009。https://doi.org/10.1016/j.heliyon.2020.e04009

[32] KOURTELLOS, A.、STENGOS, T. 和 TAN, C.M.（2013）。公共债务对多种制度下经济增长的影响。宏观经济学杂志， 38, 35-43。http://dx.doi.org/10.2139/ssrn.2099957

[33] KRAAY, A. 和 NEHRU, V. (2003)。外债何时可持续？华盛顿哥伦比亚特区

：世界银行。检索自http://hdl.handle.net/10986/14314

[34] LAW, S.H.、KUTAN, A.M. 和 NASEEM, N.A.M.（2018）。机构在金融诅咒中的作用：来自国际数据的证据。比较经济学杂志，46（1），174-191。https://doi.org/10.1016/j.jce.2017.04.001

[35]梅莱基，M.（2012）。公共债务管理策略的制定：可能驱动因素的实证研究。经济系统，36，218–234。https://doi.org/10.1016/j.ecosys.2011.08.001

[36] MENSAH, D.、BOKPIN, G. 和 BOACHIE-YIADOM, E.(2018)。外债、机构和撒哈拉以南非洲的增长。非洲商业杂志，9，457-490。http://dx.doi.org/10.1080/15228916.2018.1452466

[37] 莫斯 T.J. 和蒋 H.S.（2003）。穷国高债务的其他成本：增长、政策动态和制度。华盛顿哥伦比亚特区：世界银行集团。摘自http://documents.worldbank.org/curated/en/523881468153868169/The-other-costs-of-high-debt-in-poor-countries-growth-policy-dynamics-and-institutions

[38] MUHANJI, S. 和 OJAH, K.(2011)。外债的管理和可持续性：重点关注非洲新兴经济体。发展金融评论，1，184-206。http://dx.doi.org/10.1016/j.rdf.2011.09.001

[39] NDIKUMANA, L., & BOYCE, J.K.（2011）。撒哈拉以南非洲的资本外逃：与外部借款和政策选择的联系。国际应用经济学评论，25(2), 149-170。http://dx.doi.org/10.1080/02692171.2010.483468

[40]奥古兰纳，O.F.（2016）。外债与经济增长之间的因果关系：尼日利亚案例。国际管理与商业创新杂志，4(1), 92-97。摘自https://www.researchpublish.com/papers/causal-nexus-Between-external-debt-and-economic-growth-the-nigerian-case

[41] OLANIYI, C.O. 和 OLADEJI, S.I.(2021)。调节制度质量对金融与增长关系的影响：来自西非国家的见解。经济变革与重组，54，43–74。https://doi.org/10.1007/s10644-020-09275-8

[42]韦德拉奥戈，J.（2015）。西非经货联盟的外债、机构质量和经济增长。见：ELHIRAIKA, A.B.、MUKUNGU, A.C.K. 和 NIKE, W.（编辑）非洲的区域一体化和政策挑战。伦敦：帕尔格雷夫·麦克米伦，第 124-142 页。https://doi.org/10.1057/9781137462084_7

[43] PATTILLO, C.、POIRSON, H. 和 RICCI, L.(2004)。外债通过哪些渠道影响增长？国际货币基金组织。摘自https://www.imf.org/en/Publications/WP/Issues/2016/12/30/What-Are-the-Channels-Through-Which-External-Debt-Affects-Growth-17021

[44] PATTILLO, C.、POIRSON, H. 和 RICCI, L.A.(2011)。外债和增长。经济与制度评论，2(3), 第2条。http://dx.doi.org/10.5202/rei.v2i3.45

[45]普雷比特罗，A.F.（2008）。贫穷国家债务与增长的关系：重新评估。经济学，2(1)，20080030。https://doi.org/10.5018/economics-ejournal.ja.2008-30

[46] QAYYUM, U.、DIN, M. 和 HAIDER, A.(2014)。对外援助、外债和治理。 经济模型，37，41-52。https://doi.org/10.1016/j.econmod.2013.08.045

[47] QURESHI, I., & LIAQAT, Z.(2020)。外债的长期后果：重新审视证据并使用面板VAR检查机制。宏观经济学杂志，63，103184。https://doi.org/10.1016/j.jmacro.2019.103184

[48]拉姆赞，M.，和艾哈迈德，E.（2014）。外债增长的关系：宏观经济政策的作用。经济建模，38，204-210。https://doi.org/10.1016/j.econmod.2013.12.014

[49]鲁德曼，D.（2009）。如何做Xtabond2：斯塔塔中的差分和系统高斯模型简介。斯塔塔杂志：促进统计和斯塔塔的交流，9(1), 86-136。https://doi.org/10.1177/1536867X0900900106

[50]SCHCLAREK，A.（2004）。发展中国家和工业化国家的债务和经济增长。摘自https://project.nek.lu.se/publications/workpap/Papers/WP05_34.pdf

[51] SCHCLAREK, A., & RAMON-BALLESTER, F.(2005)。拉丁美洲的外债和经济增长。摘自http://www.cbaeconomia.com/Debt-latin.pdf

[52]塞西，N.（2014）。对外援助与经济发展：探索印度、斯里兰卡和马尔代夫的经验联系。第四届国际金融时报国际贸易和金融经验问题会议论文集，新德里，2014年12月18-19日。摘自http://dspace.nickl.ac.in/dspace/bitstream/2080/2253/1/narayan_Sethi__NITR__AMIDSA_(1).pdf

[53] SIMPLICE, A. 和 JELLAL, M.(2016)。对外援助财政政策：理论与证据。比较经济研究，58，279-314。https://doi.org/10.1057/ces.2016.7

[54]索洛，R.M.（1956）。对经济增长理论的贡献。经济学季刊， 70, 65-94。https://doi.org/10.2307/1884513

[55] SOYDAN, A. 和 BEDIR, S.(2015)。外债和经济增长：老争论的新证据。商业、经济和金融杂志， 4(3), 500-

522。http://dx.doi.org/10.13140/RG.2.2.18847.82080

[56] 维拉纽瓦，D. (2003)。**外**债、资本积累和增长。**新加坡管理大学-社会科学学会**经济研究讨论论文系列。

[57]**威廉姆斯**，A.，**&西迪克**，A.（2008）。经济学中治理指标的使用（和滥用）：回顾。**治理**经济学，9，131-175。https://doi.org/10.1007/s10101-006-0025-9

[58] **伍德德里奇**，J.M. (2002)。**横截面和面板数据的**计量经济学分析。马萨诸塞州剑桥；伦敦：麻省理工学院出版社。检索自https://ipcig.org/evaluation/apoio/Wooldridge%20-%20Cross-section%20and%20Panel%20Data.pdf