

ECONOMIC STUDIES

Impact of the Institutional Quality on Economic Growth in Libya

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ABSTRACT

In this study, the researchers focused on investigating the effect of institutional quality on the economic growth of Libya. This paper used the auto-regressive distributed lag (ARDL) method to determine time series data in the period from 1981 to 2019. The results showed that institutional quality positively affected economic growth in Libya. In addition, an adverse relationship an institutional quality has with economic growth above certain of level institutional quality exceeded.

Hence, the implication of this finding is that Libya requires high level of institutional quality for ensuring long-term economic growth

أثر النوعية المؤسسية على النمو الاقتصادي في ليبيا

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الكلمات المفتاحية	الملخص
ليبيا أثر النوعية المؤسسية النمو الاقتصادي ARDL التكامل المشترك	في هذه الدراسة يهدف الباحثون في هذه الدراسة إلى دراسة تأثير النوعية المؤسسية (Institutional Quality) على النمو الاقتصادي في ليبيا. استخدمت هذه الورقة نهج اختبار الانحدار التلقائي للتأخر الموزع (ARDL) باستخدام بيانات السلاسل الزمنية في الفترة ما بين 1981 و 2019. وأظهرت النتائج أن النوعية المؤسسية أثرت بشكل إيجابي على النمو الاقتصادي في ليبيا. بالإضافة إلى ذلك، علاقة سلبية أظهرت الجودة المؤسسية مع النمو الاقتصادي فوق مستوى معين من الجودة المؤسسية. وبالتالي، فإن ما يترتب على هذه النتيجة هو أن ليبيا تتطلب مستوى عال من النوعية المؤسسية لضمان النمو الاقتصادي على المدى الطويل.

Introduction

Theoretical and practical issues of the relationship between institutions and economic growth have been thoroughly explored in developed countries but not in developing countries. In other words, in the investigation of factors that influence economic growth, existing studies have mainly focused on the traditional factors such as, human capital, tax revenue, investment, trade openness and infrastructure. The role of other factors such as the quality of institution in the developing oil countries was largely ignored.

Influential study of [1] raised awareness of the role of institutions in establishing incentives for economic activity. According to North, institutions dictate social behaviour or, in more terms, are the humanly created norms that shape human interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights). [1] further mentioned that institutions determine the incentive structure of a society and that the political and economic institutions influence and shape economic performance. In other words, institutional quality is a reflection of embedded social practices like property rights, rule of law, legal traditions, trust between individuals, free and fair accountability of governments, and human rights [2].

Institutions can affect economic performance by influencing the components of economic growth. For instance, institutions can influence the security of property rights, the occurrence of corruption, distorted or extractive policies, and thus have an impact on the amount and the type of investment and therefore, economic growth. Institutional quality contributes to growth and to development by affecting incentive structures, transaction, and production costs and by reducing the risk of doing business, thus directing resources towards innovation. The general idea that economic growth is related to institutional quality, however recent surveys of the empirical literature evidence in favour of institutions remain mixed. For instance, institutional quality positively affects economic performance, this is the main conclusion drawn by [3], [4], [5], and [6]. However, [7] and [8] observed a negative effect of institutional quality on the country's economic growth. This was seen to be a matter of concern in this paper.

Based on the positive effect of institutional quality on the economic growth of the country, many developing economies have strived to undertake reforms in terms of institutional quality. Libya is one of the countries that has picked up a pace of economic and structural reforms, including institutional quality, which was prescribed by the

International Monetary Fund (IMF). Libya is an oil-rich country with the oil revenue accounting for approximately 70 percent of GDP, almost 90 percent of government revenues and more than 95 percent of export earnings in Libya.

From the late 1990s following the removal of the international sanctions which had hampered the growth of the economy, Libya has executed some principal reforms in institutional quality and political conditions. The authorities established a legal institution for increasing the market functionality and ensuring private possession. The government also established better laws and regulations, improved the working of many trade-related key institutions. The aim of this study was to determine the effect of institutional quality on Libyan economic growth. They used an auto-regressive distributed lag (ARDL) bound test to determine time series data from 1981 and 2019.

This study made a significant contribution to the existing literature in 3 different ways. First, they redefined the relationship between institutional quality and economic growth. Second, studies explaining the role of institutional quality in economic performance in developing oil countries have been less comprehensive. This was done as part of a pioneering study that examined the impact of institutional quality on the economic growth of Libya as an oil-producing country. This study also contributes to the literature by showing an inverted U-shaped relationship of institutional quality on Libya's economic growth. Finally, this study could present important results and guidelines, which could help the Libyan policymakers to improve the Libyan economic growth.

This paper is divided as follows: Section 2 reviewed the theoretical and the empirical literature, while Section 3 described the methods and the models' specifications used in the study, while Section 4 describes the variables and data obtained. Section 5 presents the empirical results and the conclusions and a few of the policy implications are described in Section 6.

Literature Review

The role played by institutional quality in the process of economic growth is an ongoing and intensively debated issue in the recent comparative economic development literature. Key works by [9],[10], [11], and [12] emphasize the role of institutional quality on economic growth. They point to institutions that evolve to reduce transaction costs as key to economic performance. These costs include those of information and enforcement of contracts. Furthermore, they are among many others argue that the establishment of both secure economic liberties and rights and political liberties and rights could improve economic growth.

[13] analysed the panel data set for developed and developing countries and evaluated the factors determining the rate of economic growth in the period ranging between 1970 and 1990. They observed that institutional quality has an important effect on economic growth. Somehow, they find that democratic measures have no apparent relationship with growth, and more importantly, these results challenge the idea that the overall maintenance of the rule of law is more important to growth than democratic institutions, especially for developing countries.

Furthermore, [14] tested the effect of institutional quality in developed and developing countries. Using panel cross-section and data ranging between 1980 and 2004 the finding was that, the institutional quality contributes to economic

growth. However, the result provides mixed evidence of the role of institutional quality for long -run growth and they recommend of using better proxies to capture the whole and correct institutional environment. In another similar study [15] explore the relationship between the institutional quality and economic performance in Western Balkans for cross country data ranging between 2006 and 2016 and observed a positive effect of institutional quality on economic performance .However , the analysis of individual indicators reveals varying degrees of significant and impact, Improvements in rule of law, regulatory quality and government effectiveness are most commonly related with economic performance , while political stability , control of corruption and accountability matter only in some cases. [16] examine the impact of institutional quality on economic growth. The author used panel data for the years from 1976 to 2005 and find that the institutional quality is important for economic growth. The result also stated that, institutional quality can promote economic growth directly through a better resources allocation or indirectly through physical capital investment and human capital investment. In one study [17] examined panel data for countries in the period between 1981 and 2010 and identified that, the improvement in institutional quality leads to an acceleration in the economic growth. However, the result also reveals that, the impact of institutions on growth is relatively greater in developed countries than as compared to the developing countries. Among emerging economies [18] investigated the panel data for Asian countries in the period between 1990 and 2016 and identified the institutional environment as important factor to increase the economic growth.

Some studies investigated the institutional quality effect on the country's economic performance and determined a reverse or non-significant effect. In one study, [8] investigated the cross sectional and pooled data in the developing and the developed countries in the period ranging between 1960 to 1985 and observed a negative effect of institutional quality on the economic growth. In another similar finding [7] studied the panel data in developed and developing countries from 2002 to 2006 and stated that the institutional quality negatively affects the economic growth. However, based on the cross-sectional data for 23 states in India between 2005 and 2014 [19] analysed the impact of institutional quality on economic growth and noted that the institutional quality showed no effect.

Islam Contribution

The strong appeal of Islam lies in the fact that it is an all-embracing way of life that governs the entire Muslim being. As Allah's (s.w.t) surrogate in this world, people are not a completely free agent, but are constrained by religious principles, as a code of conduct for interpersonal relationships, in social and economic activities.

Al-Qur'an clearly orders believers to bind contracts to be written in the presence of witnesses. Allah (s.w.t) says in the Qur'an: "You who believe! when you deal with each other in transactions involving future obligations for a fixed period of time, reduce them to writing and let the scribe write faithfully as between the parties"[20] . Muslims are not only enjoined to draw up treaties, but also to abide by their terms. Allah (s.w.t) vividly requires Muslims to fulfill each of their contractual obligations as mentioned in the Qur'an "O you who believe, fulfill covenants"[21].

Furthermore, for early modern Muslim traders, contracts, properly authenticated and dated, were crucial business tools. As the fourteenth-century Maghreb scholar Ibn Khaldun explains when discussing the behavior of merchants, "there will also be non-recognition or denial of obligations, which may prove destructive to equity if (the obligation) has not been put in writing and properly." witness "[22]. Historically, the Islamic religion in daily life emphasizes the practice of institutional quality as mentioned in al-Qur'an and Sunnah.

Methods and Model Specification

In this study, the researchers applied the Auto-Regressive Distributed Lag (ARDL) technique, proposed by Pesaran et al. (2001). This technique investigates the long-term equilibrium relationship amongst the variables irrespective of the fact that the underlying Regressor showed a value of I(0) or I(1) or a combination of the two values [23]. Furthermore, the ARDL model is applicable if the sample data is limited [24].

The ARDL Bound test is carried out as follows: Step 1 determines the presence of a long-term relationship (i.e., cointegration) between the variables present in the equation. The F-value was used for investigating the Null hypothesis (i.e., No cointegration) after comparing these values with the critical-bound values that were reported earlier. These critical values consisted of the upper and lower-bound values for the different categories of variables, which were divided into I(0), I(1) or a combination of the cointegrated variables. If the F-values are higher than the upper-level critical values, the Null hypothesis (i.e., No cointegration) gets rejected, indicating that there was a cointegration amongst the assessed variables from the model. However, if the F-value lies within the upper and lower-level critical values, the decision remains inconclusive. However, if the F-value is lower than the low-level values, it indicates that the variables were not cointegrated.

If it obtains evidence which describes the long-term relation (cointegration) between the variables, Step 2 involves the estimation of the coefficients present in this long-term cointegrating relationship. For this purpose, the authors used the Schwartz Bayesian Criteria (SBC) for choosing the proper lag length of the ARDL model for the variables used in this study.

The impact of institutional quality

For determining the effect of the institutional quality on the Libyan economic growth, the researchers used the Eq. (1). Along with institutional quality, some of the empirical studies included other explanatory variables to Eq. (1) like physical capital [25]; labor force [26]; inflation[27]; and trade openness [28]. Hence, the authors of this study proposed the following estimation model:

$$Y_t = \beta_0 + \beta_1 (INS)_t + \beta_2 (LAB)_t + \beta_3 (K)_t + \beta_4 (INF)_t + \beta_5 (TR)_t + \beta_6 (DUM)_t \quad (1)$$

Here, Y = economic growth, INS = institutional quality, LAB = labor, K = domestic physical capital, INF = inflation, TR = trade openness, DUM refers to the dummy variable for the 2011 political conflict, whereas ε_t is an error term.

For determining a cointegrating relationship between those variables this study estimated the error correction for the ARDL model using Eq. (1) as follows:

$$\begin{aligned} \Delta \ln(Y)_t = & c_0 + \alpha_0 t + \sum_{i=1}^P \phi_i \Delta \ln(Y)_{t-i} \\ & + \sum_{i=0}^P \theta_i \Delta \ln(INS)_{t-i} + \sum_{i=0}^P \lambda_i \Delta \ln(LAB)_{t-i} \\ & + \sum_{i=0}^P \varphi_i \Delta \ln(K)_{t-i} + \sum_{i=0}^P \sigma_i \Delta \ln(INF)_{t-i} \\ & + \sum_{i=0}^P \beta_i \Delta \ln(TR)_{t-i} + \delta_1 \ln(Y)_{t-1} + \delta_2 \ln(INS)_{t-1} \\ & + \delta_3 \ln(LAB)_{t-1} + \delta_4 \ln(K)_{t-1} + \delta_5 \ln(INF)_{t-1} + \\ & \delta_6 \ln(TR)_{t-1} + \rho (DUM)_t + \varepsilon_t \quad (2) \end{aligned}$$

Wherein; symbol Δ refers to the first difference operator, c_0 is an intercept term, t is time trend, ε_t is an error term and $\ln(\cdot)$ is a logarithmic operator.

For determining the role of the institutional quality on economic growth, the researchers investigated 2 ARDL models using Eq. (2).

Data and variable description

The study used the annual time-series data between 1981 and 2019. The definitions of the variables are shown as following:

Economic Growth: Real GDP per capita is used to measure (proxy) economic growth. Per capita GDP is defined as GDP divided by the total population.

Institutional Quality: The Civil liberties are utilized as a measure of institutional quality. The Civil liberties based on an evaluation of four subcategories: freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights. Rating 7-levels. The scale ranges from level 1 (a wide range of civil liberties) indicating higher institutional quality and to level 7 (the least civil liberties) means less institutional quality.

Labor: Labor is proxied by the working age population. The working age population refers to people aged 15 to 64 as a percentage of the total population that is in the 15 to 64 age group.

Physical Capital: It is measured by gross fixed capital formation percentage of GDP. Gross fixed capital formation includes improvements to land, purchases of plant, machinery and equipment; and construction of roads, railways and the like, including schools, offices, hospitals, private residential houses and commercial and industrial buildings.

Inflation: It is measured by the consumer price index (CPI). Consumer price index reflects changes in the average consumer's cost of purchasing a basket of goods and services that may be fixed or change at specified intervals.

Trade Openness: The sum of export and import percentage of GDP is used to measure trade openness. Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.

Empirical results

In Table 1, the researchers have presented the unit root results for the Augmented Dickey-Fuller (ADF), Dickey-Fuller GLS (DF-GLS) and the Phillips-Perron (PP) tests. According to these results, a combination of the stationary I (0) and I (1) variables were investigated in the equation, and none of them results, we used the ARDL process.

Table 1: Unit root test result

	ADF	DF-GLS	PP
Y	I (1) *	I (1) **	I (1) ***
INS	I (0) **	I (0) **	I (0) **
LAB	I (1) *	I (1) *	I (1) *
K	I (1) *	I (1) *	I (1) *
INF	I (0) **	I (0) **	I (1) *
TR	I (1) *	I (1) *	I (1) *

Notes: *, ** and *** indicated a statistically significant at 1, 5 and 10 % respectively.

After presenting the unit root results, the researchers examined the long-term relationship between the various variables using the F-test based on the bound test, with the upper and the lower bound values. Eq. (2) was estimated and the results of the test process have been described in Table 2. For both the models (2A and 2B), it was observed that the estimated F-values were 8.086 and 7.804, respectively. All the estimated F-values were higher than the critical values described by [29] at 5%, which led to the rejection of the Null hypothesis (No cointegration). Hence, the researchers observed the presence of a long-term relationship between the independent variables and the INS.

Table 2: Result of the bounds test for cointegration

Estimated Model	F-statistics
Y = f (INS, LAB, K, INF, TR, DUM)	8.068
Y = f (INS, LAB, K, INF, TR, INS ² , DUM)	7.804
Critical Values	
	95% bound 90% bound
	I(0) I(1) I(0) I(1)
	3.945 4.088 2.752 3.883

Notes: Y was the independent variable

Then, they estimated the long-term coefficients in the ARDL model. Table 3 presents the results for the models. The 2A and 2B models showed a positive effect of the institutional quality on the Libyan economic growth. The INS coefficients in the models were 0.997 and 9.816 which were significant at 5%. For example, Model 2A showed a 1 percent increase in the INS value, which led to a 0.99 percent increase in the Libyan economic growth. Model 2B showed a 1 percent increase in the INS value, which improved the economic growth by 9.8 percent. Similar results were also described by [14] and [17] who stated that INS significantly improved the economic growth. In the both models, the coefficient of physical capital is positive and statistically significant at 5 percent level of significance, suggesting positive relationship between physical capital and economic growth. This finding is similar to that reported by [17] who demonstrated that physical capital force has a share in improving economic growth.

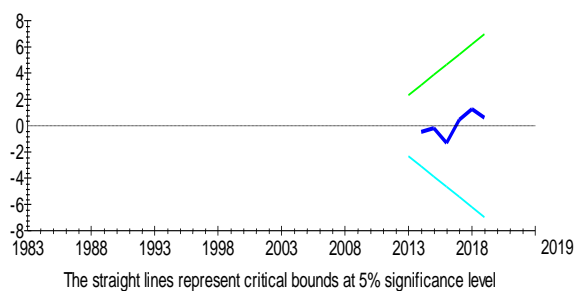
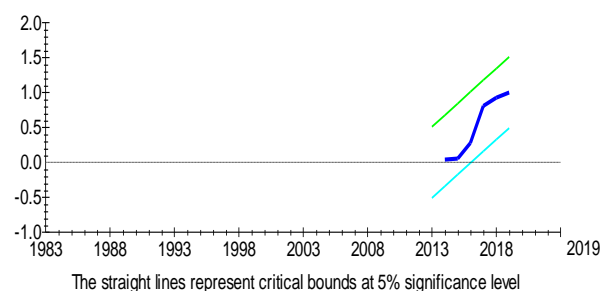
However, an unexpected result is that the inflation exhibits a significant positive effect on economic growth. The finding of the positive effect of inflation on economic growth is consistent with those reported by [30] and [31] who suggested that inflation has a positive impact on economic growth.

Furthermore, the results in Table 3 showed that the coefficient for the Error Correction Term (ECT) was statistically significant at a 5% significance level, and had a minus sign for the 2 models.

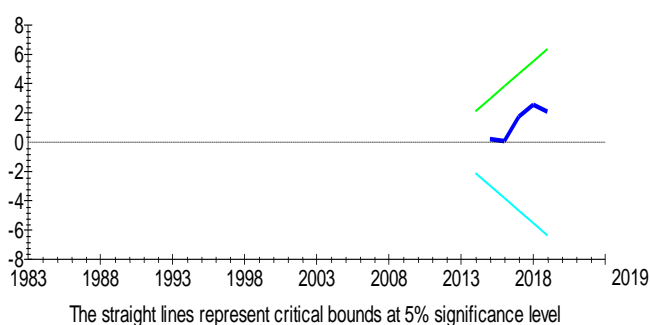
Lastly, the results of the CUSUM and CUSUMSQ tests were presented in Figure 1 indicating that the coefficients were stable during the research time period and all models were valid.

Table 3: Estimation Results for the long-run coefficients Notes: LGDP was the dependent variable. The ARDL model was chosen based on the SBC. A maximal lag of 2 was used. Values in the bracket refer to the p-values

Regressor	Model (A) ARDL (2,2,0,0,0,0,2)	Model (B) ARDL (1,2,1,2, 0,0,0,2)
Constant	10.254(0.181)	34.247 (0.048)
Trend	-0.003 (0.860)	0.029 (0.437)
Institutional quality, INS	-0.997 (0.039)	-9.816 (0.015)
Labor , LAB	-0.397 (0.835)	-3.477 (0.325)
Physical capital, K	0.106 (0.087)	0.310 (0.046)
Institutional quality, INS ²		0.110 (0.033)
Inflation, INF	0.339 (0.087)	0.361 (0.233)
Trade openness, TR	0.210 (0.007)	-0.050 (0.822)
Dummy for 2011, DUM	-0.845 (0.001)	-1.292 (0.006)
Speed of adjustment (ECM _{t-1})	-0.671 (0.000)	-0.453 (0.002)
R-square	0.93	0.94
Diagnostic Test (LM version)		
Serial correlation	1.718 (0.190)	2.698 (0.100)
Normality	0.177 (0.915)	0.815 (0.665)
Heteroscedasticity	0.218 (0.640)	1.274 (0.259)

Plot of Cumulative Sum of Recursive Residuals**Plot of Cumulative Sum of Squares of Recursive Residuals**

Plot of Cumulative Sum of Recursive Residuals



Plot of Cumulative Sum of Squares of Recursive Residuals

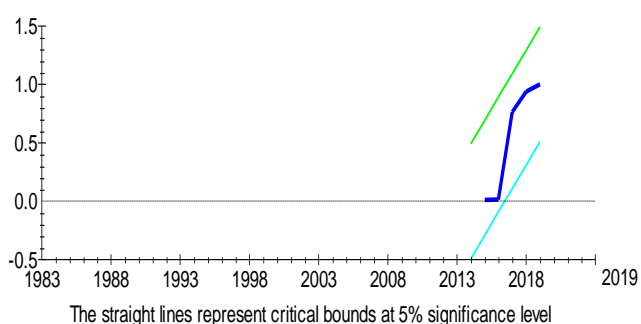


Figure 1: CUSUM and CUSUMSQ plots for the parameters stability

Conclusion

In this study, we investigated the effect of the institutional quality on the Libyan economic growth. The study used the ARDL-bound test for its analysis. The findings indicated that the institutional quality in the country improved the Libyan economic growth, thus implying that, increasing in the institutional quality increased the economic growth.

An inverted U-shaped relationship an institutional quality has with economic growth only after certain the level of institutional quality exceeded, otherwise, institutional quality was found to have a favorable influence on economic growth. The institutional quality was seen to play an important role in improving the Libyan economic growth. Hence, to achieve high and sustainable economic growth, the Libyan government and the policymakers must design and develop a policy to strengthen the institutional quality indicators in Libya. The current research was conducted using political indicators of institutional quality, Thus, further research recommended for investigating the impact and the institutional quality on economic growth utilizing economic indicators of institutional quality, which the findings may become different. The current research was conducted using political indicators of institutional quality, Thus, further research recommended for investigating the impact and the institutional quality on economic growth utilizing economic indicators of institutional quality, which the findings may become different.

Author Contributions: "Osama, et al. in this study made a significant contribution to the existing literature in 3 different ways. First, they redefined the relationship between institutional quality and economic growth. Second, studies explaining the role of institutional quality in economic performance in developing oil countries have been less comprehensive. This was done as part of a pioneering study that examined the impact of institutional quality on the economic growth of Libya as an oil-producing country. Third this study also contributes to the literature by showing an inverted U-shaped relationship of institutional quality on Libya's economic growth.

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