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Abstract:

Many researchers have explored the relationship between democracy, governance and economic growth. In this regard, both of democracy and governance variables have been quantified by many connoisseurs with an aim to conduct the empirical research.

Unfortunately, the African countries always found to act in the bottom of the list in most of the datasets. Therefore, this study aims to explore statistically the development of these indexes in Algeria from 1999 to 2018.

Based on a statistical approach from many datasets (Worldwide Governance Indicators and Polity dataset), the study pointed out that Algeria as a developing country is moving towards a democratic country with better quality of governance. However, compared with the rest of the world and the average in these datasets, Algeria's score is very low. Therefore, as researchers we highly recommend our Algerian government to improve democracy and governance by applying new strategies based on E-government and Digital Democracy.

Keywords: Democracy; Governance; Economic Growth, Statistical Analysis, Algeria.

JEL Classification Codes : D73, G38, B22.

Résumé :

De nombreux chercheurs ont exploré la relation entre la démocratie, la gouvernance et la croissance économique. À cet égard, les variables de la démocratie et de la gouvernance ont été quantifiées dans le but de mener des recherches empiriques. Malheureusement, les pays africains se sont toujours retrouvés au bas de la liste dans la plupart des bases de données. Par conséquent, cette étude vise à explorer statistiquement l'évolution de ces indices en Algérie au cours de la période 1999-2018.

S'appuie pays démocratique de meilleure qualité de gouvernance. Cependant, par rapport au reste du monde et à la moyenne de ces ensembles de données, le score de l'Algérie est très faible. Par conséquent, nous recommandons fortement à notre gouvernement algérien d'améliorer la démocratie et la gouvernance en appliquant de nouvelles stratégies basées sur l'E-gouvernement et la démocratie numérique.

Mots clés : La démocratie ; La gouvernance ; La croissance économique, Analyse statistique, Algérie.

JEL Classification Codes : D73, G38, B22.

1. INTRODUCTION

Democracy, governance and economic growth is a research area that has captured the interest of both politicians and economists. The existing literature in this regard show many conflicting views. In the context of the relationship between democracy and economic growth that aims to answer the question: are countries prosperous because they are democratic or they are democratic because they are prosperous, we can distinguish between two major opinions: economic growth causes democracy that corroborates the Lipset's theory (Lipset M, 1959); democracy causes economic growth (Daron, Simon , James , & Yared, 2005) that showed that democracy is an explanative variable, and based on this theory research pointed out three controversial empirical results. According to (Ghardallou & Sridi, 2019), Democracy hinders economic growth through the massive redistribution of income and the autonomy of the state. On the other hand, democracy has a positive impact on economic development through political stability, technology and innovation, accumulation of human capital and the protection of civil liberties. The third argument is that there is no relationship between democracy and economic growth, which clearly shown in a study conducted by (Tianfang , Paul , & Hanjoon , 2017).

In the context of the linkage between governance and countries development, most studies have shown that governance correlates positively with economic growth. A study by (Daron, Simon & James A., The Colonial Origins of Comparative Development, 2000) found that the difference between countries in the term of economic development rates can be explained by the quality of institutions, furthermore, a study delivered by (Knack & Keefer, 1997) revealed that both property rights and contract enforcement have positive impact on economic growth. However, this research area is very timid in the MENA countries because of the obstacles of the availability of data, and according to (Kokou & Kossi, 2019) the MENA region ranks always below the average. (Sarieddine, Yazbeck, & Mehanna, 2010) showed that improving governance is the main challenge facing the MENA countries.

Algeria as a developing country has made some efforts to improve both democracy and the quality of governance. Therefore, this study aims to analyse statistically the variation of democracy and governance in Algeria using time series data during the period of 1999-2018. This study is crucial for policy makers and economists; especially, democracy and good governance has become the major demand of people.

The study assumes the following hypotheses:

- Regardless the efforts of Algeria towards democracy, its level is low;
- Governance in Algeria is weak compared to the rest of the world;
- The average of democracy and governance are growing gradually in Algeria.

The rest of the paper proceeds as follows:

2. LITERATURE REVIEW, 3. METHODOLOGY; 4. THEORETICAL EVIDENCE

5. STATISTICAL REVIEW; 6. CONCLUSION146

2. LITERATURE REVIEW

A study performed by (Kefi, Hadhek, & Ben Hamed, 2013) titled Poverty, Governance and Economic Growth. Eight developing countries during the period 2000-2009 where the sample of the study, they found that governance has a positive effect on political instability and negative impact on corruption and poverty.

(Rachdi & Saidi, 2015), they investigated the impact of democracy on economic growth in the MENA region in the period 1983-2012, economic growth was measured by GDP pc growth and democracy by the polity1 components. Based on a fixed effect, random effect and the generalised method of moments, they found that economic growth is negatively significant with democracy.

A study titled E-government and Economic Growth: A Panel Data Analysis (Majeed & Malik, 2017). By using a panel data of 154 countries between the period of 2003-2010, results showed that E-government is a crucial tool that improves economic growth in countries.

(Mira & Hammadache, 2017) The study showed that good governance policies are relevant only if countries reach an appropriate level of economic and social development that enables institutions of good governance to foster growth.

(Yi Man Li, Chi Ho Tang, & Leung, 2019), examined the relationship between democracy and economic growth, they discussed the impact of both democracy and corruption using a panel data included 167 countries. Democracy was measured by the Economic Intelligence Unit (EIU) and GDP growth as a metric of economic growth. Results showed that democracy slow down indirectly economic growth for a short period.

The relationship between democracy and economic growth in Algeria: A Causal Analysis, a study conducted by (Zirari & Souar, The Relationship Between Democracy and Economic Growth in Algeria: A Causal Analysis, 2019). Based on a VECM analysis, the study supports the revisit Lipset's theory.

Study	Results
Kefi, Hadhek, & Ben Hamed, 2013	Governance enhances political instability and
	hinders corruption on poverty.
Rachdi & Saidi, 2015	Democracy may cripple economic growth
Majeed & Malik, 2017	E-government is crucial for economic growth
Mira & Hammadache, 2017	Good governance needs an appropriate level
	of development
Yi Man Li, Chi Ho Tang, & Leung, 2019	Democracy decreases economic growth
Zirari & Souar,2019	Democracy causes economic growth
Source: authors' construction	

Table 1. Literature Review

Source: authors' construction

3. METHODOLOGY

Our study spans annual data during the period 1999-2018. The basic variables of this exploration are democracy and governance. Democracy is measured by Polity index. For Governance, all data was extracted from the World Bank development index (Worldwide Governance Indicators) and these include control of corruption, political stability, and absence of violence, listening to citizens and accountability, quality of regulation, the effectiveness of public authorities, and the rule of law. The aim of this study is to analyse statistically the variation of data in Algeria compared to the average in these databases, and explore whether Algeria is considered as a democratic country with a good quality of governance. To do this, we have focused on analysing graphs and percentages during the study period.

4. THEORETICAL EVIDENCE

4.1. **Democracy:**

4.1.1. Definition of democracy:

According to (Becker & Jean-Aimé, 2008) the word "democracy" is a term that comes from Greek and it is made up with two other words *demos*= People and *kratein*= to govern, to rule. "Democracy" can then be literally translated by the following terms: Government of the People or Government of the Majority.

4.2. **Measures of Democracy:**

There are multiple measures for democracy; however, in our study we have focused on only polity index which it is a time-series data.

Index Availability Definition N Range from includes Freedom House Subjective 19722016 2091 (highest) lists of civil to 7 (lowest) Index liberties and political rights Polity2 Index Contestation 1800 2016195 -10 (lowest) of offices to 10 (highest) constitutional constraints on head of state -Dem Electoral 1900 2016 0 (lowest) Democracy liberal. to 1 (highest) egalitarian, deliberative, Indices and participatory dimension Source: (Vanessa, 2019, P06) 4.2.1. Polity index:

Table 2. Overview of the democracy best-known measures

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Polity dataset has a broad chronological scope starts from 1800 to 2018 (Polity IV). Moreover, a geographical scope (195 countries). It is one of the most often used indices in the empirical research. According to (Vanessa, 2019) it was first introduced in 1975 and constituted one of the first major attempts to quantify authority patterns on a global scale over an extended period of time.

Polity Index ranges from -10 (strongly autocratic) to 10 (strongly democratic) and is calculated by subtracting a measure of autocracy (Autoc) from a measure of institutionalised democracy (Democ): Polity = Democ - Autoc. Both indices, Democ and Autoc, range from 0 to 10.

Variable	Label
Competitiveness of Executive Recruitment	XRCOMP
Openness of Executive Recruitment	XROPEN
Constraint on Chief Executive	XCONST
Regulation of participation	PARCOMP
Competitiveness of Political Participation	PARCOMP

Table 2. Ccomponents of Polity Index

Source: authors' construction

4.3. Governance:

4.3.1. Definition of Governance:

Governance defined as a set of traditions and institutions that can be used to exercise the power of authority (Kaufmannl, Kraay, & Mastruzzi , 2010).

4.3.2. Measures of Governance:

The Worldwide Governance Indicators (WGI) project aggregate and individual governance indicators ranges from -2.5 to 2.5 which covers 200 countries and territories over the period 1996–2018, for six dimensions of governance:

- Voice and Accountability
- Political Stability and Absence of Violence
- Government Effectiveness
- Regulatory Quality
- Rule of Law
- Control of Corruption

Variable	Label
Voice and accountability	Measures the ability of citizens to participate in the process of selecting their government, as well as freedom of expression, freedom of association, and a free media.
Political Stability and	Measures political instability and violence, including
Absence of Violence	terrorism.
Government Effectiveness	Assess the quality of the civil service and how much it
	is independent from political pressures; meantime, the
	government's commitment to policies.
Regulatory Quality	Analyse the ability of the government in the term of
	formulating and implementing good policies and
	regulations that nurture private sector development.
Control of Corruption	Measure whether public power is exercised for private
	gain. It ranges between -2.5 and $+2.5$.
Rule of Law	Measures the quality of property rights, the police, and the courts, as well as the likelihood of crime and violence.

 Table 3. Worldwide Governance Indicators

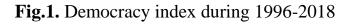
Source: Authors' Construction

5. STATISTICAL REVIEW

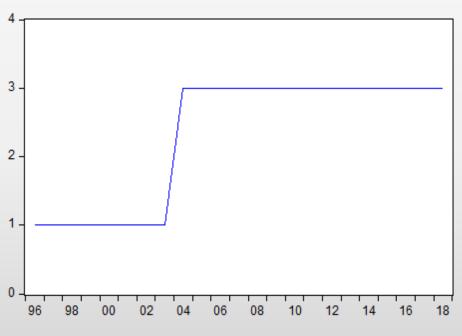
1. Polity Index:

As shown in Figure 1, it's clearly seen that democracy has known a gradual movement during the period of 1996 to 2004. Statistically the index of democracy has moved from 1/10 to 3/10 which shows that Algeria is less democratic to the average (5/10). Since 2004 democracy in Algeria and according to polity dataset didn't change till 2018. For the index of autocracy (Figure 2), Algeria has been considered as an autocratic country during the period of low rates of democracy (1996-2004). However, it continued being autocratic with low values.

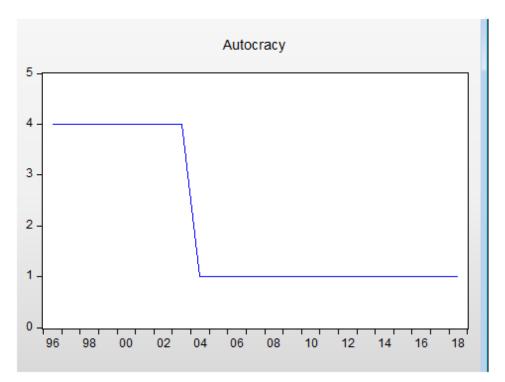
In the term of statistics, it decreased from the value of 4/10 to 1/10. In order to figure out whether the regime type in Algeria is democratic or autocratic, we have analysed polity index (Dem-Auto), and results in Figure 3 shows that Algeria has moved from an autocratic regime type to a less democratic regime type.





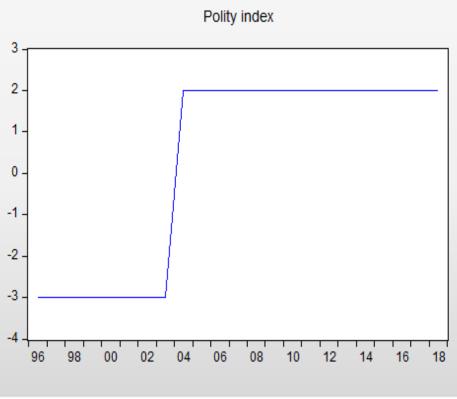


Source: authors' construction based on Eviews.10 Fig.2. Autocracy index during 1996-2018



Source: authors' construction based on Eviews.10



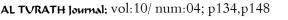


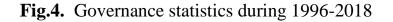
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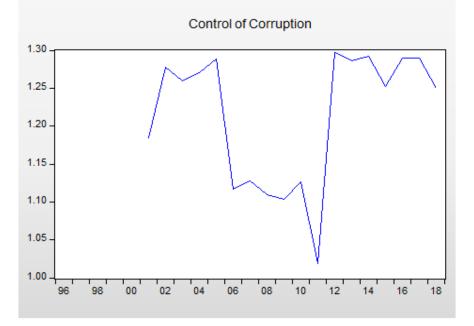
2. Worldwide Government Indicator:

According to statistics, Algeria seems to have a gradual progress in the governance variables and this because of the government efforts in this regard. For the control of corruption (Figure 4), the graph shows that the greatest value was in 2012, because of the government strategies and the new decrees to fight corruption while the lowest value was in 2011, which known a great percentage of corruption. government effectiveness knows an augmentation year after year and it reached its greatest value in 2018, meanwhile, the rule of law variable is following the same positive approach.

Algeria had a good statistic in the term of regulatory quality, however, it started to deteriorate since 2010, which is the same case of voice and accountability.



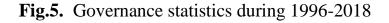


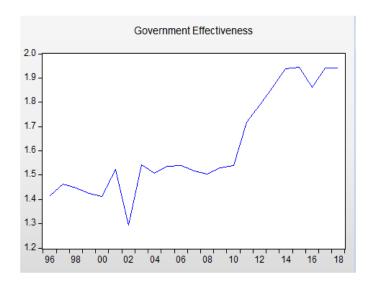


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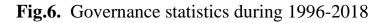
Political stability known its law values in the dark decade (1990-1999), nevertheless, it started to grow up after the 2000s with a greatest value of 1.49 in 2001.

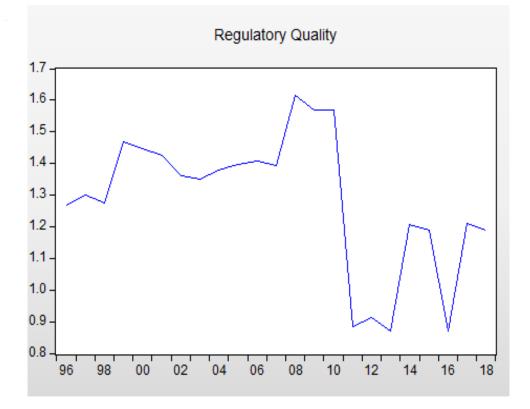
Based on this analysis, Algeria seems to be in the right way of development. However, compared to rest of the world and the average in these databases, the Algerian government is very far away with low rates of democracy and governance. The figures show progress in some indicators for governance in Algeria, but if we compare the high value Algeria has reached (1.2 in the term of government effectiveness) it is under the average of 2.5, which reveal that Algeria is still needing more progress and development in governance.



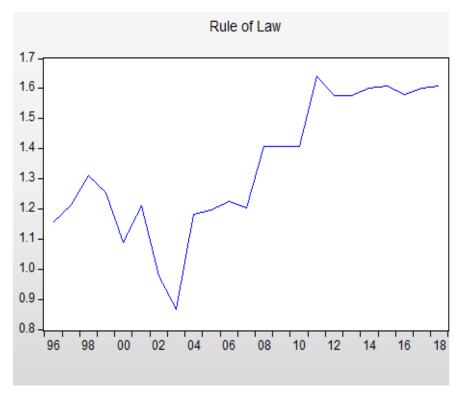


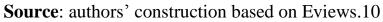
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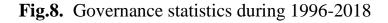


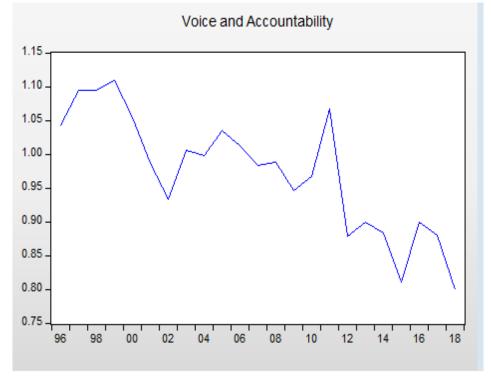


Source: authors' construction based on Eviews.10Fig.7. Governance statistics during 1996-2018

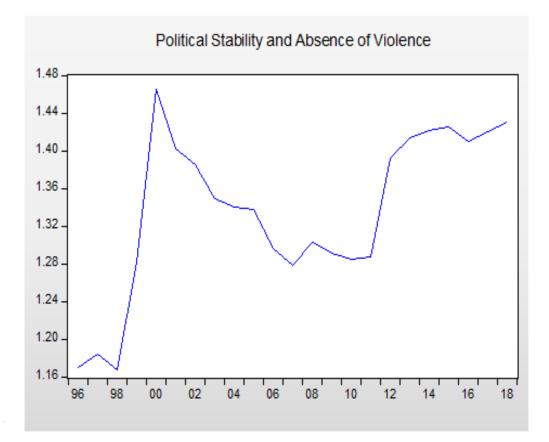








Source: authors' construction based on Eviews.10Fig.9. Governance statistics during 1996-2018



Source: authors' construction based on Eviews.10

These above-mentioned analyses answer the problematic of why this research area and especially empirical research is very narrow in MENA countries. The low values of democracy that sometimes classify some countries as non-democratic even they are democratic by name, and the low scores of World Government indicators will cause problems in studies.

For democracy researchers have gathered different datasets that helped scholars to perform authentic investigation and reveal robust results, and (Aisen, 2019) showed that V-Dem dataset is the most appropriate for empirical research.

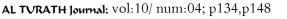
This study gives a general view on the variation of democracy and governance in Algeria these past decade, it is important for policy makers to identify the problem and then form efficient plans.

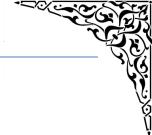
6. CONCLUSION

The nexus democracy-governance has become a major concern for academics in the recent years. Therefore, this paper aims to statistically investigate the index of democracy and governance in Algeria during the period of 1996 to 2018. To conduct the study, we have followed both the theoretical and the statistical approach. Democracy was measured by the polity index and the worldwide governance indicator for governance.

The study revealed the following:

- Algeria as developing country has moved from an autocratic regime to a less democratic regime,
- In the term of governance, the Algerian government's strategy has a greater impact on the control of corruption, government effectiveness, rule of law and political stability.
- In the context of world ranking and the average in these indexes, Algeria is far from being a highly democratic country with a good quality of governance. Thus, our study recommends:
- The necessity of new plans and strategies based on digital democracy and Egovernment that will lead to high values for both democracy and governance indicators.





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