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بسم الله الرحمن الرحيم

I dedicate this dissertation to my family, and to everyone who's taught me something

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Abstract

In recent decades, one of the most significant issues concerned and interested scholars, communities, organisations, and nations are democracy, political stability and EG, which mainly appear in some countries and nearly do not exist in others. Therefore, this study investigates the impact of democracy and political stability on EG in 15 MENA countries using panel data from 1983 to 2019 while addressing conceptual and empirical issues. The study employs a fixed effect estimation using V-Dem and WGI datasets to measure democracy and political stability, including missing data and robusteness analysis. In addition, performing a comparative study between MENA countries in terms of religion, oil production and rich-poor countries classification to analyse findings and contribute to identifying what regressors should be included to determine economic growth in this region.

The empirical study reveals three main significant results. First, democracy hinders economic growth in the region through the participatory democracy index, while the deliberative and egalitarian democracy indices are insignificant in the model. Second, political stability is a catalyst for EG, as political instability as a proxy reveals a negative impact. Third, this research points out that a democratic regime based on elections cripples growth in the chief executive selection process. On the other hand, the comparative study shows that religion and oil production are crucial determinants of the region's EG. Countries with an Islamic regime and high oil production rank at the top of the list in all dimensions.

This study contributes to the discipline of the impact of political factors on EG analysis by encouraging researchers to take both theoretical and empirical issues into account to prevent the possibility of inaccurate findings and conclusions. Moreover, it contributes to the discipline of policy implications to provide a deeper understanding of how these political factors impact economic growth.

Keywords: economic growth; democracy; political stability; panel data.

JEL classification : B22, D73, D74, C33

الملخص:

خلال العقود الأخيرة، أضحت كل من الديمقراطية، الاستقرار السياسي والنمو الاقتصادي محل اهتمام عند الباحثين، والمجتمعات، والمنظمات و كذلك الدول بحكم أنها توجد في بعض البلدان وتكاد تكون منعدمة في بلدان أخرى. لذلك، تهدف هذه الدراسة إلى دراسة أثر الديمقراطية والاستقرار السياسي على النمو الاقتصادي في 15 دولة في منطقة MENA باستخدام نماذج السلاسل الزمنية المقطعية في الفترة الممتدة بين 1983 إلى 2019، بحيث تم الإشارة إلى حدود البحث في الدراسات السابقة والتي تتعلق بالجانب المفاهيمي لهذه المتغيرات من جهة و كيفية قياسها من جهة أخرى. تعتمد الدراسة على نموذج التأثيرات الثابتة باستخدام قواعد البيانات V-Demو WGI لقياس متغيري الديمقراطية والاستقرار السياسي مع التطرق إلى اختبارات تحليل البيانات المفقودة وتحليل جودة النموذج. زيادة على هذا، قمنا بمقارنة هذه الدول من ناحية: الدين، حجم إنتاجية البترول و مؤشر الغنى و الفقر، و ذلك بغية تحليل النتائج المتوصل إليها و المساهمة في تحديد مصادر النمو الاقتصادي في هذه الدول.

تمثلت مخرجات الدراسة في ثلاث نتائج رئيسية: أولاً: الديمقراطية تعرقل النمو الاقتصادي في دول MENA من خلال مؤشر الديمقراطية التشاركية، بينما مؤشرات الديمقراطية الأخرى ليست لها دلالة إحصائية في النموذج. ثانيًا: يعد الاستقرار السياسي عاملاً محفزًا للنمو الاقتصادي، حيث إن عدم الاستقرار السياسي أبان عن تأثير سلبي. ثالثا: يُظهر هذا البحث أن النظام الديمقراطي الذي يعتمد على الانتخابات يشل النمو الاقتصادي عندما يتعلق الأمر بعملية اختيار الأفراد الذين يشغلون المناصب العامة. تم التوصل أيضا إلى أن كل من متغير الدين و حجم إنتاجية البترول محددات مهمة للنمو الاقتصادي في هذه الدول مع تفوق الدول الإسلامية ذات الإنتاجية العالية للبترول في كل الجوانب.

تساهم هذه الدراسة في فهم مدى تأثير العوامل السياسية على النمو الاقتصادي و التي تحث بدورها الباحثين أن يأخذوا بعين الاعتبار حدود البحث التي تتعلق بالمفاهيم و النمذجة، أما فيما يتعلق بولاة الأمور فهذه الدراسة تساهم أيضا في إيضاح الطريقة التي تؤثر بها هذه العوامل السياسية على النمو الاقتصادي.

الكلمات المفتاحية : النمو الاقتصادي، الديمقراطية، الاستقرار السياسي، نماذج السلاسل الزمنية المقطعية.

تصنيف C33, D74, D73, B22:JEL

TABLE OF CONTENTS

LIST Of TABLE

LIST Of FIGURES

LIST OF ACRONYMS

AIC: Akaike's Information Criterion

ARCH: Autoregressive Conditional Heteroskedasticity

ARDL: Autoregressive-Distributed Lag

CEE: Central and Eastern European

CNTS: Cross-National Time Series

DD: Democracy Dictatorship Index

DOLS: Dynamic Ordinary Least Square

EBA: Extreme Bounds Analysis

EG: Economic Growth

EGI: Economic Globalisation Index

EIEC: Executive Index of Electoral Competitiveness

EIU: Economic Intelligence Unit

FDI: Foreign Direct Investment

FHI: Freedom House Index

FMOLS: Fully Modified Ordinary Least Square

F-test: Fisher test

GDP: Gross Domestic Product

GDPC: Gross Domestic Product per Capita

GNP: Gross National Product

GNPC: Gross National Product per Capita

GMM: Generalised Method of Moments

HDI : Human Development Index

ICRG: International Country Risk Guide

IEP: Institute for Economics and Peace

IMF: International Monetary Fund

LDCs: Least Developed Countries

LIEC: Legislative Index Electoral Competitiveness

MENA: Middle East and North Africa

MPI: Malmquist Productivity Index

OECD: Organisation for Economic Co-operation and Development **OIC**: Organisation of Islamic Cooperation member Countries **OLS**: Ordinary Least Square

OPEC: Organisation of the Petroleum Exporting Countries

PCA: Principal Components Analysis
PLS: Partial Least Squares regression
PSI: Political Stability Index
PSM: Propensity Score Matching
SBC: Schwarz's Bayesian Criterion
SUR: Seemingly Unrelated Regressions **TFP**: Total Factor Productivity Growth **V-Dem**: Varieties of Democracy
VAR: Vector Autoregression
VIF: Variance Inflation Factor
WDI: World Bank Development Indicator **WGI**: Worldwide Governance Indicators **2SLS**: Two-Stage Least Square
3SLS: Three-Stage Least Square

CHAPTER ONE

GENERAL INTRODUCTION

1.1. Economic growth Background of MENA region:

The MENA countries have huge populations and natural resources that contribute significantly to overall petroleum production and exports, with Saudi Arabia having the largest economy. The region's nominal GDP was $610 billion in 1994, with an expected population increase of roughly 3%.[1]

Since 1820, the MENA region's EG has been volatile. According to (Pamuk, 2006), several MENA countries (Othman empires) have extended periods of prosperity as a result of critical institutional improvements known as "Tanzimat reforms" implemented between 1820 and 1913. From 1913 to 1970, the region enjoyed high GDPC growth rates due to massive oil production, particularly in Iran, Iraq, Kuwait, and Saudi Arabia. On the other hand, Turkey experienced a decline in GDPC rates due to the impact of reforms.

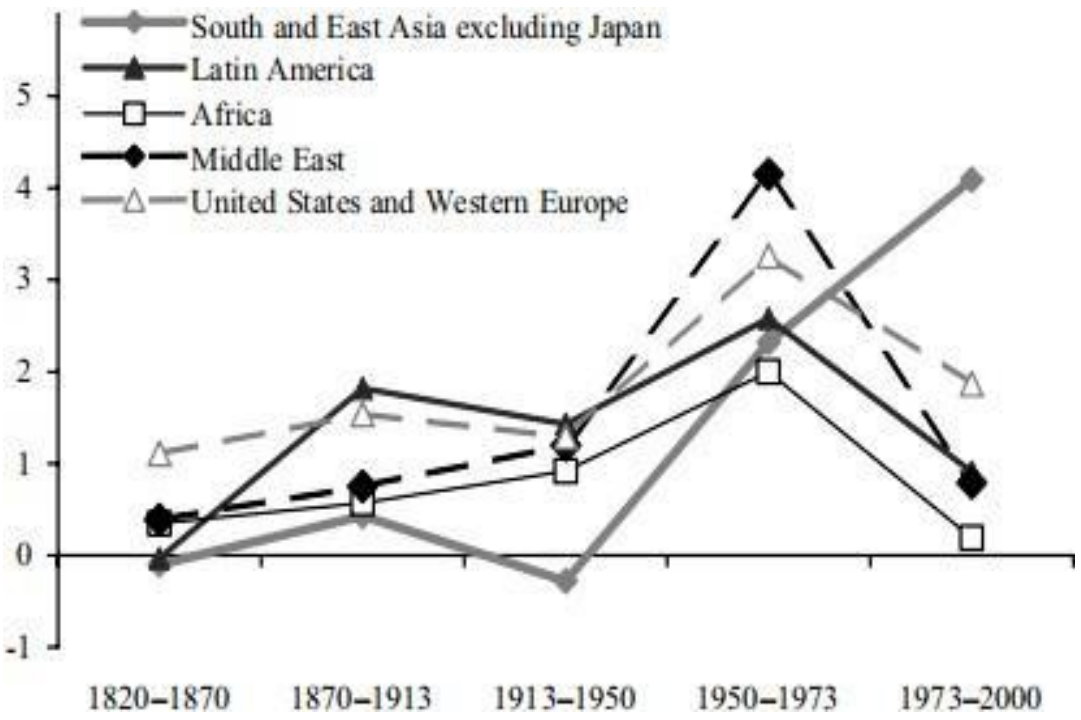


Figure 1 Annual rates of growth of GDPC, 1820-2000

Source : (Pamuk, 2006, 811).

[1] see: https://www.imf.org/external/pubs/ft/mena/04econ.htm#c1, Retrieved 06 February 2022.

During this period, 1960 was the most prosperous year in the region. As a result, the region has the most outstanding GDPC performance globally. "...averaging 4.6% per year. Fueled by revenues from oil exports, worker remittances, and external financing flows…" (Dasgupta et al., 2001, 18).

In 1970, the massive accumulation of human and physical capital slowed TFP growth, which had been viewed as a helpful instrument for analysing cross-country disparities; thus, an essential tool for policymakers (Saliola & Seker, 2011). However, over the period 1980–1990, MENA countries experienced macroeconomic crises due to the GDPC declining by 0.7% because of the significant fall in international oil prices that ranged from $27 to less than $10 ($to $ in dollars). Thus, countries have adopted some reforms such as the Washington Consensus's reforms to pursue economic, institutional, and political performance. These reforms were guided by the IMF, World Bank, and the United States Department of the Treasury. As a result, GDPC growth increased over the region only by 3%, but not as was desired.

Table 1

Region	1960s	1970s	1980s	1990s
Sub-Saharan Africa	0.45	-0.71	-0.73	0.22
East Asia and the Pacific	0.23	0.07	0.07	0.86
Latin America and the Caribbean	0.94	-0.36	-2.33	0.06
South Asia	0.56	-0.48	1.21	1.15
High income/OECD	1.64	0.09	0.17	0.39
Middle East and North Africa	2.37	-1.35	-1.85	-0.33
Early reformers	2.60	1.18	-1.37	0.09
Later reformers	1.37	-1.75	-1.72	0.31
GCC	4.69	-4.34	-2.62	-1.66
World Average	1.05	-0.37	-0.80	0.26

Table 2

MENA GDPC growth between the 1980s and 1990s

Source : (Dasgupta et al., 2001, 17).

	GDP per capita (1995 US$)			*Average Annual Growth*	
	1980	**1990**	**1999**	**1980-1990**	**1990-1999**
Algeria	1,692	1,638	1,573	-0.3	-0.4
Egypt, Arab Rep.	731	971	1,194	2.9	2.3
Iran, Islamic Rep.	1,421	1,330	1,610	-0.7	2.2
Jordan	1,715	1,436	1,468	-1.8	0.2
Morocco	1,114	1,310	1,368	1.6	0.5
Syrian Arab Republic	1,071	956	1,242	-1.1	3.0
Tunisia	1,641	1,823	2,394	1.1	3.1
Yemen, Rep.	315	315	281	0.0	-1.3
Bahrain	12,022	8,551	9,329	-3.3	1.0
Oman	3,509	5,581	5,900	4.7	0.6
Saudi Arabia	11,554	7,101	6,455	-4.8	-1.1
GDP per capita: weighted average	1,817	1,702	1,859	-0.7	1.0

Since the 2000s, MENA's EG reached its high rate in 2004 and the lowest rate after the 2008 economic crisis. Furthermore, a noticeable decline due to the political instability between 2010 and 2015, with a good peak in late 2015-2016 caused by oil price refresh.

According to (Nosier & El-karamani, 2018), MENA countries can be distinguished in terms of income into the following:

1. The United Arab Emirates, Qatar, Kuwait, Bahrain, Saudi Arabia, and Oman are high-income countries, with an average GDPC of $32,728 in 2015.
2. Turkey, Lebanon, Libya, Iran, Iraq, and Algeria are middle-income countries. In 2015, the average GDPC of this group was around $7,094.
3. The West Bank and Gaza, Egypt, Morocco, Jordan, and Tunisia are among the lower-middle-income countries, with an average GDPC of $2332 in 2015.

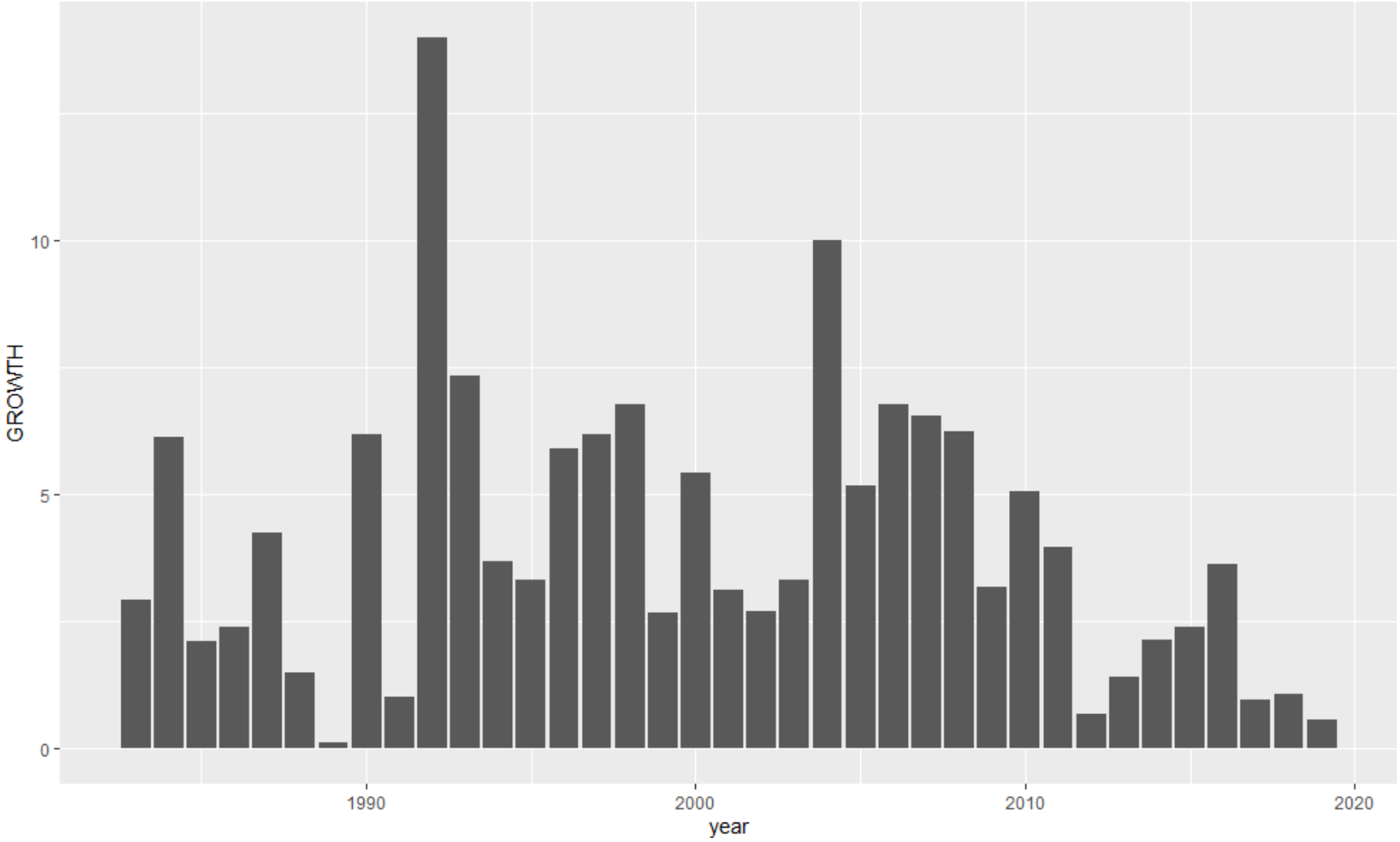


Figure 2 Annual GDP growth between 1999 and 2019, MENA region

Source: Author's construction based on World Bank data (R software).

1.2. Background of research

Better living standards and economic development are the priority needs in a country. Economic development is considered a multifaceted process in which scholars should investigate economic, social, and political variables (Araee, 2016). Many studies have used EG as the primary metric of economic development. However, according to (Pourgerami, 1992), the development consists of expanding and incremental improvements in the social movement.

It has been stated that EG is among the essential components of macroeconomics. Therefore, establishing genuine growth accelerators is crucial to creating practical policy tools supporting long-term economic development.

As per the new growth hypothesis, people's ambitions and insatiable desires drive ever-increasing productivity and economic progress. In this sense, establishing a link between social, political factors and EG has been investigated in many studies.

Adam Smith's work on whether governmental institutions were most advantageous to EG has been central to capitalist economic prosperity. In addition, his work led to an investigation into what makes economic agents feel protected and productive. Therefore, a corpus of literature has examined the nexus between political variables and EG, as democracy and political stability are the most critical political-economic variables.

The leading research in this regard is credited to the work of (Kuznets, 1955) and (Lipset, 1959). (Kuznets, 1955) pointed out that in the first phase, democracy redistributes income due to its adverse effect on income equality, thereby decreasing economic development. However, democracy decreases income inequality and promotes economic development in the long term. On the other hand, (Lipset, 1959) asserted a causal effect between economic development and democracy. He argued that the greater a country's EG, the better its prospects of retaining democracy; as a result, only richer countries can be democratic.

In this context, (Dahl, 1972) and (Adam et al., 1996) agree with Lipset's hypothesis. However, the relationship is ambiguous in the empirical work. The primary contributors to the empirical work are (Kormendi & Meguire, 1985) and (Barro, 1991), who delivered studies to identify the factors that

drive EG in a cross-section of nations. Unfortunately, scholars have not agreed on the causal direction, political factors' effect, and the robustness of empirical models.

The causal direction between variables in this research area is unclear. Following the modernisation theory aspect, Lipset has defined a *causal direction* that moves from democracy towards EG, such as democracies looking for the winner's election campaign promises. Hence, growth is needed. (Huntington, 1968) noticed that economic advancement leads to high levels of corruption; so, governments would build institutions as part of the democratic process. (Przeworski & Limongi, 1997) revealed that the amount of EG has minimal influence on the likelihood of democratic transitions, but that wealth does make democratic regimes more enduring. Barro mentioned that "democracies that arise without prior economic development... tend not to last" (Barro, 1997, 34). Furthermore, (Barro, 1999) pointed out that rising living standards indicate a rise in democracy. On the other hand, in the same causal direction, (Rustow, 1970) stated that democracies might thrive at low economic development levels and (O'Donnell, 1973) considered the continuous progress of EG in modern Latin America to produce dictatorships rather than democracies.

Since the 1990s, a substantial political transformation and enormous shifts in taxes and redistribution have occurred (Acemoglu & Robinson, 2000). Therefore, scholars shed light on the revisited causality direction of Lipset's theory. (Acemoglu et al., 2008) reveal a causal path that leads from democracy to EG. Authors stated a considerable cross-national link between income and democracy, but there is no adjustment for country heterogeneity in the effect of growth on democracy. Hence, the association between income growth and democracy, including time and country-fixed effects, vanishes. This study served as the foundation for a slew of subsequent studies on the role of democratisation in growth. In this regard, (Ghardallou & Sridi, 2020) mentioned that scholars found three major results:

1. Democracy hinders EG due to the significant income redistribution, the low quality of democratic institutions, and the short-term regime type (Narayan et al., 2011; Aisen & Veiga, 2013; Rachdi & Saidi, 2015);
2. Democracy positively impacts EG via political stability, the preservation of civil liberties, and the buildup of human capital (Knutsen, 2011; Acemoglu et al., 2014);
3. There is no linkage between democracy and EG (Przeworski et al., 2000; Song et al., 2017); Moreover, (Nosier & El-karamani, 2018) and (Rita et al., 2019) pointed out that democracy has an indirect impact on EG.

Until this point, we have highlighted the causal direction between democracy and EG and its impact. However, conflicting results are seen, and according to researchers, this results from fragile modelling, inappropriate measurements of democracy, and nations' different characteristics.

(Levine & Renelt, 1992) examined robustness in previous cross-country growth regression analyses studying the relationship between economic development and political factors and identified that the results are fragile. This work was a pivotal study to focus on empirical robustness. According to (Brunetti, 1997) and (Przeworski & Limongi, 1993), previous studies had selection bias and modelling flaws. (Knutsen, 2012) revealed that the conflicting views are due to statistical loopholes. Furthermore, disparities in democracy and EG can be found among countries (Heo & Tan, 2001). Scholars found that most of these variations result from inconsistent empirical findings of previous research.

Measuring democracy is another issue scholars face in empirical research, and it is seen as a cause of the conflicting outputs (Wahman et al., 2013). (Boese, 2019) conducted a comparison between the three significant datasets used in empirical studies and found that some datasets are not valid to be used. Still, the V-Dem dataset is the most suitable for empirical research.

Aside from democracy, political stability and its impact is regarded as one of the most important subjects in economic study. (Baklouti & Boujelbene, 2020) said that political stability is seen as a requirement for economic takeoff. However, political instability and bad governance create unfavourable circumstances for economic sustainability. Moreover, they revealed that political stability is not consistently related to democracy, which is a significant concern in empirical research. For example, high levels of political stability may be seen in nations without democracy.

Studies exploring the impact of political stability on EG show a consensus in results between the theoretical and empirical studies (Barro, 1991; Diken et al., 2018).

Last but not least, the focus of research in this field has shifted to the role of institutions inside such regimes (Daron et al., 2001).

1.3. Problem statement

Investigating what causes high income is looking into the EG factors. Several studies have been performed, but mapping reliable growth channels is a concern. Scholars point out that determinants for growth differ over time, such as geography in the 16th century and the ability to capitalise on technological change in the 19th. (Lewis, 1955) emphasised the importance of institutions in economic growth by outlining four aspects (factor accumulation, human capital, institutions, and policy).

The MENA region has enormous potential to achieve economic and social development and become a significant player in the global economy. In this context, researchers consider the political economy as a growth catalyst in this region.

The effect of political variables on EG has been a cornerstone theoretically and empirically. Academics have used different methodologies to delve into this subject, revealing many assumptions. In particular, the impact of democracy and political stability on EG.

The existing literature in this regard is ambiguous. It presents the following issues: On one hand, coping with conceptions of democracy and political stability. Democracy is multidimensional and consists of political, economic and social dimensions, with the political dimension being the primary factor in politico-economic development models (Araee, 2016). Besides, measurements of democracy and political stability vary in terms of definition and score in different datasets. On the other hand, issues related to econometric methods. A third issue is shown using the output of previous cross-section country studies, defined as fragile (Levine & Renelt, 1992).

MENA countries have experienced the third wave of democratisation recently, and its influence on EG remains debatable. As a result, seeking reliable concepts, data and models significantly answers whether political factors nurture economic growth in this region.

1.4. The objective of the study

Scholars and policymakers assume that democracy and political stability boost EG. Hence, economic development is achieved. Moreover, most MENA countries have witnessed massive political events in recent years, demanding additional usage of these political factors. According to studies, these activities cause turmoil and have harmed macroeconomic stability, particularly since what they called "the Arab Spring", straining fiscal balance and increasing national debt (Arayssi & al., 2019).

In light of the existing debates and conflicting views, the fundamental objective of this research is to delve into the impact of democracy and political stability on EG in 15 MENA countries, focusing on issues related to conceptualisation and empirical modelling. The study aims to answer the question: ***Do democracy and political stability foster economic growth in the MENA region?***

These main problematic sugests a list of sub-questions as follows:

- What are the main aspects, modelling and datasets used in empirical research?
- What are the challenges that faced previous studies to deliver reliable results?
- How does democracy and political stability impact EG in the MENA region?
- What are the hidden factors that affect MENA EG besides these political factors?

To answer these questions, we propose the following hypothese:

- The political aspect is the most used in empirical research with high focus on cross-section countries panel data models through the use of Polity and HDI datasets;
- Conceptualisation and robustness issues are the most challenges that affected the findings;
- Democracy hinders EG but political stability is a catalyst in the MENA region;
- Regime type and oil production are the main determinants of EG in these countries besides these political factors.

1.5. Significance

Are nations affluent because they are democratic and stable, or are they democratic and stable because they are rich? A question emerged in the 1980s in many countries in the MENA region. It has revealed a lot of contradictory statements in the literature. Most countries in this region have invested a significant portion of their budget in improving political institutions to ensure the practice of their tasks. However, a crucial issue may emerge as to whether to spend this money on institutions that support economic development, such as establishing industries, developing human capital, education, diversification, etc. Hence, this research attempts to contribute to the ongoing debate in the MENA region by providing three crucial contributions:

- The primary contribution of this study to the subject of MENA EG with analysis is to encourage academics to investigate conceptual and empirical issues concurrently in order to broaden their perspectives and avoid potentially misleading results and conclusions;
- A second contribution to the field of political economics is the investigation of the direct impact of democracy and political stability on EG in MENA nations;
- A third contribution to the field of policymakers is to help them to have a deeper understanding of these debates.

1.6. Outline of Study

There are four chapters in this dissertation. The **First chapter** gives an outline of the MENA region's economic development as well as a broad survey of current research on the effect of democracy and political stability on EG. **Chapter Two** gives an overview of the relevant theoretical and empirical literature.

Chapter three covers the conceptual and empirical concerns such as definitions, datasets and robustness analysis. **Finally, chapter four** includes the empirical part of the dissertation, namely the impact of political stability and democracy on EG in 15 MENA countries from 1983 to 2019. The first step is to analyse the data readiness through statistical diagnostics. Then a fixed effect estimation was performed, followed by diagnostic tests to check its robustness and a section to discuss the empirical results. Meanwhile, a comparative study between countries was performed to analyse the empirical findings.

The study's final part is a **general conclusion**, which provides an overview of what was done, learned, and proposed due to this research.

CHAPTER TWO

A LITERATURE REVIEW

2.1. Introduction

This chapter gives a literature review concentrating on models, estimating methodologies, datasets, and prior study findings. The following is how the chapter is organised: The effect of EG on democracy was discussed first, followed by the impact of democracy and political stability on growth. The last section contains a summary and conclusion.

2.2. The effect of economic growth on democracy

Lipset (1959) proposed a causal nexus between democracy and EG, stating that democracy is linked to the economic development stage. It indicates that the greater a nation's income, the better its likelihood of sustaining democracy. In his study, Lipset proposed many historical and sociological factors “political culture, class structure, state-society interactions, and civil society” that increased the likelihood of democracy.

Using cross-sectional data, (Jackman, 1973) demonstrated that the curved relationship among economic development and democracy is more important than the linear relation. This outcome suggests that as economic development increases, democracy improves; yet, once a certain threshold is reached, democracy starts to degrade.

Bollen (1983) and Barro (1999) have shown a significant correlation between EG and democracy.

In their research covering 1972–1990, (Glasure et al., 1999) concluded that EG significantly impacts democratic performance. As a result, they hypothesised the existence of some exchange between EG and democracy.

(Przeworski & Limongi, 1997) performed a study on 135 countries between 1950 and 1990, concluding that EG does not lead to increasing democracy but does avoid democratic collapse.

The work (Helliwell, 1994) also illustrates a mainly beneficial impact of GDPC on the extent of democracy; however, his analysis reveals that even though EG is favourable to OECD countries and Latin America, it is detrimental to countries in Africa and the Middle East. This pattern may be traced back to the prevalence of ongoing coups and authoritarian governance in many parts of the globe.

(Jaunky, 2013) conducted research utilising the FHI definition as a measure of democracy in 28 different nations throughout Sub-Saharan Africa between the years 1980 and 2005 investigating the link between democracy and EG. It was determined that the variables were co-integrated after conducting several different unit root and cointegration tests using panel data. In the short term, it was shown that the chain of causation shifted from EG to democracy. Meanwhile, estimations of the

long-term relationships between the two variables indicated that democracy positively impacted GDP and vice versa. The researchers said that "these data provide more support for the concept of a virtuous cycle".

2.3. The effect of democracy on economic growth:

Dick (1974) examined the correlation between democracy and EG in 72 countries between 1959 and 1968. The empirical research analysed the relationship between GDP growth, which served as the dependent variable, and democracy, which served as the explanatory variable, using descriptive statistics. Authoritarian, semi-competitive, and competitive were the three classifications assigned to democracy. The author found no relationship between variables.

(Huntington & Domingez, 1975) conducted research in 35 different nations using descriptive statistics. One-party communists, one-party non-comm, competitive, and unstable democracies were the criteria for measuring democracy. The study reveals an adverse impact of democracy on growth.

(Weede, 1983) delivered research using a cross-sectional approach to explore the impact of democracy on EG in about 90 countries (84-94) between 1960 and 1979. The cross-sectional regression incorporated two growth components, EG, with two alternatives, GNPC and GDPC. This method was chosen since the author could not find any assumption that political democracy affects just one of the growth factors but not the other. The independent variable political democracy was chosen (Bollen, 1980). The model consists of GNPC, GDPC, school enrollment ratios and the military engagement ratio as control variables. The findings of the study are as follows:

1. Negative imapct for the whole sample;
2. Absence of relationship for low-income countries alone
3. Countries with a government revenue to GDP ratio of less than 20 percent show a negative impact.

(Kormendi & Meguire, 1985) aimed to investigate the cross-sectional association between the average rate of growth of real products (growth) and variables suggested in the literature in 47 nations between 1950 and 1977. “The explanatory variables are GDPC, the mean population growth

rate, the standard deviation of real growth, the standard deviation of money stocks, the mean growth of the ratio of government spending to output, the mean growth of exports as a proportion to output, the mean growth in the rate of inflation and civil liberties". The dependent variable is the mean growth of the real aggregate in a country. The data of the civil liberties index was collected from the Gastil index. Using an OLS approach, the authors demonstrated that the score of civil liberties reflects growth in only a minimal manner.

In examining the linkage between EG and government expenditure, (Landau.D, 1986) carried out an empirical investigation in 65 different nations between the years 1960 and 1980. First, GDPC was used to measure EG. Then regression analysis was performed on the following variables: "private investment, GDP, growth world GDP, government expenditure (different categories), change in the money supply, population, life expectancy, time trend, transfers, real exchange rate, coup d'etat, dummies for oil and war, real interest rate and democracy". This latter is measured by dummies, coded as 1 if the country has been a democracy continuously since it declared independence and a score of zero otherwise.Based on OLS estimator, it was shown that democracy slows down EG yearly but has no link with EG when looking at averages over periods of 4, 7, and 10 years.

Marsh (1988) investigated the determinants of EG in 55 countries throughout two periods (1970–1978 and 1965–1984). The author constructed his theoretical model by taking EG rate as the model-dependent variable and using the following casuals: GDP, direct foreign investment, primary school enrollment ratio, literacy, ethnolinguistic heterogeneity, export concentration, the proportion of the population that serves in the military, public investment, the mass media of communication, democracy, and human rights, income inequality, state-centric, Gini index, civil liberties and political rights. *Democracy* was defined as the average number of civil freedoms and political rights (Gastil index). Based on an OLS method, it is concluded that factors such as communication in mass media, ethnolinguistic heterogeneity, democracy, human rights, wealth inequality and state-centricity have not substantially impacted EG rates.

(Pourgerami, 1988) conducted a study in 62 countries between 1965 and 1984 to delve into the impact of democracy on EG. The dependent variable in the causal model is EG rate, while the explanatory variables are: the percentage of the labour force represented by unions, the proportion of welfare expenditures to total public expenditure and democratic participation. Democracy was scored using five dimensions of the rule of law, with each point's value ranging from one to five

based on the frequency of human rights violations (5 being no violation). The use of the OLS estimator concludes that democracy nurteres EG.

(Scully, 1988) aimed to investigate the institutional structure of EG to determine whether or not it impacts nations' productivity and expansion rate. The study covers 115 different market economies during the years 1960 to 1980. The author's model utilised GDPC to measure economic development. Additionally, the model includes a variety of causative factors, “including politically open societies, politically closed societies, individual rights, state rights, free markets and command economies”. Based on the data obtained from the Gastil dataset, political factors were coded as dummies as follows: politically closed = 1 if political rights were 2, 0 otherwise; politically open = 1 if political rights were 5, 0 otherwise; individual rights = 1 if civil liberties were 2, 0 otherwise; state rights = 1 if civil liberties were > 5, 0 otherwise; Individual rights = 1 if political rights were 5, 0 otherwise. The author used an OLS estimator and found the following findings:

1. For each dummy, a positive impat;
2. All the dummies, with the exception of the free market and individual rights, have a negative relationship.

(Grier & Tullock, 1989) investigated empirical patterns in expanding wartime economies in 89 countries between 1961 and 1980. The author general's model included EG as a dependent variable that was regressed on the following causal variables: population growth, inflation, change in inflation, the standard deviation for growth, the standard deviation of inflation, government consumption, OPEC members and a lack of civil liberties collected from the Gastil dataset as a dummy variable that is 1 if civil liberties rank 6 or 7. Researchers concluded that democracy harmed economic development in Africa by using a pooled cross-section/time series. However, there was no association in America or Asia.

(Dasgupta, 1990) investigated how well-being was achieved in 50 emerging nations using Spearman Rank Correlation to assess the nexus of EG-democracy. Democracy represented the level of Gastil's political and civil rights. The research findings indicate that democratic governance is associated with increased economic activity.

A study undertaken in 1990 by the World Bank Group was relevant to this discussion since it was concerned with analysing essential development concerns, finding factors that promote well-being,

and eliminating poverty (World Bank, 1990). The author's general model included EG as a dependent variable and democracy as a causative variable. Gastil's political and civil rights defined the latter as independent variables. The empirical research showed a straightforward correlation, demonstrating no relationship between the variables of interest.

(Levine & Renelt, 1992) analysed whether the results of earlier research were resilient in the face of modest changes to the used datasets. The study spans data from 1974 to 1989 for 83 countries. The authors have performed this by addressing EBA modelling using the equation shown below:

$$Y = \beta_{i} I + \beta_{m} M + \beta_{z} Z + \mu$$

The following is an explanation of the components of the equation: “I is a set of variables that are always included in the regression, such as the initial level of real GDPC, the initial secondary-school enrollment rate, and the average annual rate of population growth; Y is either the growth of GDPC or the share of investment in GDP. M denoted the variable of interest; Z is made up of some different metrics, including the average rate of government consumption expenditures to GDP, the ratio of exports to GDP, the average inflation rate, the average growth rate of domestic credit, the standard deviation of inflation, the standard deviation of domestic credit growth and an index that measures the number of revolutions and coups". These are a group of factors that were selected from previous research because they have the potential to be essential in growth explanations.

In the framework of the empirical analysis, the authors adjust the subset of “Z-variables” used in the analysis to achieve the broadest possible range of estimated coefficients on the predictor M. This was done to get the best possible results. First, they focus on a variable that has been specifically investigated and carry out a "base" regression using just the “I-variables" and the variable of interest. After that, estimate the regression results for each potential set of up to three “Z-variables”, and determine the maximum and minimum values for the coefficient on the variable of interest taken from the Gastil dataset. Finally, a comprehensive sensitivity analysis was used in the research, and the results found a weak correlation.

(Barro & Lee, 1993) examined the role of human capital in EG in about 90 nations from 1973 to 1985. The researchers started by discussing specific statistical indicators of human capital, such as the ratio of students enrolled in schools, the literacy rate among adults and the level of education

attained. They focus on those over 25 because they believe this gives the most significant opportunity for coverage. The authors investigated many potential causes, including the pace of GDP expansion, the percentage of male and female secondary school students, life expectancy, investment, Black, government spending, market premium, revolution and democracy. The latter was evaluated based on Gastil's rights as a citizen and political participant. Using pooled cross-section time series to calculate decade averages, the authors pointed out no correlation between democratic government and EG.

(De Haan & Siermann, 1995) analysed the effects of the lack of civil and political liberties on EG in 110 countries from 1961 to 1992. This study contributes to determining whether or not earlier research is reliable. Data about the attribute of democracy were taken from Gasiorowski's dataset. The most important takeaway from using a sensitivity analysis is that the impact of democracy on EG is not solid.

In the same context, a year later (De Haan & Siermann, 1996) studied the robustness of the study using a new measure of democracy that considers the number of years that a nation may be considered a democracy. The data spans 110 nations from 1961 to 1992. The authors built their model as follows:

$$\Delta Y_i = \alpha M_i + \beta P_i + \gamma Z_i + \upsilon_i$$

The average increase in real GDPC is the regressed variable, and the variables that are being considered as potential causative factors are as follows: “Pi is an indicator of the level of democracy in a country; According to research, Zi is a vector of up to three substantial economic predictors (that may be associated with EG) and Ui is an error term”.

Mi is a vector of essential economic descriptive variables strongly linked to EG in the prior studies. Zi is a vector of up to three substantial economic predictors.

The authors first conduct a regression analysis with GDPC growth as the response variable, and four indicators of democracy (democratic, semi-democratic, authoritarian, and transitional) serve as the dependent variables. The results showed no impact of democracy on EG. A second sensitivity test, which focused on the stability of the political system as a proxy for democracy, came to the

same conclusion as the first. Finally, they explored whether the model regime variables were related to the investment and school enrollment rates, which are explanatory factors in the foundation model. They found no significant association between the two sets of variables.

In conclusion, the authors have employed novel metrics to investigate both the direct and indirect impact of democracy on EG compared to prior research that concentrated on Gasti's index. Furthermore, they took into consideration the consequences of regime transitions. Therefore, the findings substantiate their earlier conclusions, which stated no impact of democracy on growth.

(Van de Walle, 1999) analysed the nexus of democracy-EG in 28 sub-Saharan African countries from 1986 to 1998 using descriptive statistics with GDP growth is the regressed variable and democracy as a causal variable. Both old democracy and conflict had a role in developing the model as control variables. Consequently, the study demonstrates that democracy does not affect EG. The study also discloses that the growth rate in certain nations is due to IMF reforms safeguarding the new democratic system.

In the same context, (Heo & Tan, 2001) used modernisation and democratisation theories to investigate the nexus in 34 nations from 1950 to 1982. The authors used Arat's index to assess democracy, which "... includes the notion of popular sovereignty or public control of the government, which is composed of four factors: participation, inclusivity, competitiveness, and civil liberties..."(Heo & Tan, 2001, 466). They implement the pace of EG by employing the constant value of GDP. The study used a direct Granger causality test to find two-way Granger causation between democracy and EG.

(Tavares & Wacziarg, 2001) established a novel method to explore the empirical nexus between democracy and EG in 65 nations between 1970 and 1989. The authors focused on the theory that democracy influences EG via channels. The proposed model included the following explanatory variables: “democracy, initial log income, investment rate, human capital, Gini coefficient, political instability, black market premium, trade share and government consumption”. *Democracy* was defined as the freedom to choose politicians with the presence of real opposition. Based on Gastil's index, scores ranged from 0 (complete autocracy) to 1 (a nation with fully established democratic institutions), with 0 representing complete autocracy and one representing established democratic institutions. As a consequence of the inclusion of four-time periods that each equates to a five-year

average in the model, the possibility of measurement error has been reduced. The research findings, which included a 3SLS and sensitivity test, found a detrimental effect of democracy on EG.

(Nkurunziza and Bates, 2003) carried out a study to examine the effect that democracy has on EG by including various variables, including political stability, GDPC, investment, population growth, education and half-decade. The study covers data from 22 countries in sub-Saharan Africa from 1970 to 1990. Polity's definition of democracy was used to measure democracy, while GDPC growth was used as a measure for EG. Based on GMM, the authors show that democracy contributes positively to EG.

(Plumper & Martin, 2003) aimed to fill the theoretical gap and offered a model to clarify how democracy affects EG. The research included a sample of 83 nations from 1975 to 1997. Regarding causative variables, the authors used the following exploratories to adjust for regional changes: "investment share of GDP, population growth, human capital delayed, institutional openness, democracy, democracy squared and Southeast Asia dummy". In prior studies, democracy was quantified using Gastil's and Gasiorowski's Index. However, the Polity index was used in this study. An OLS estimator indicated an inverse U-shaped association between democracy and EG, which was impacted by the quantity of government expenditure. In addition, government expenditure was found to have an inverse U-shaped linkage with democracy as the government's principal instrument to gain political support.

(Giavazzi & Tabellini, 2005) investigated the effects of economic and political liberalisations in around 140 countries between 1960 and 2000. The authors looked at economic and political liberalisations regarding structural policies, macroeconomic policies and economic performance. The paper then moves on to a microeconomic analysis in which market expansion reforms are used as a proxy for economic liberalisation and deregulation. Furthermore, political liberalisations are associated with the emergence of democracy. The author general's model included:

$$Y_{it} = a_i + b_t + yx_{it} + \delta\, reform_{it} + e_{it}$$

$reform_{it}$ is a dummy variable that has a value of 1 in the years after reform in the affected nations and a value of 0 otherwise. Using the difference-in-differences method, economic liberalisation has

been shown to accelerate growth by around 1% of total GDP. In contrast, political liberalisation has minimal influence on growth and investment.

(Rodrik & Wacziarg, 2005) conducted research on the influence of democracy on EG in 154 nations from their independence year to 2000. For democracy, the Polity definition is used, while GDPC is used for EG. As controls, the author's model incorporated GDPC and ethnic fractionalization. According to the Within-country effects methodology, democratic transitions have a beneficial effect on the response variable.

(Drury et al., 2006) examined the effects of democracy and corruption on EG, employing time-series cross-section data for over a hundred nations between 1982 and 1997. The authors incorporated GDP growth as the response variable. At the same time, the model included "corruption level, life expectancy, trade openness, population growth, logged GDPC, tropical climate and government expenditure as explanatory factors". Polity IV, Gastil, and ACLP datasets were used to determine the country's degree of democracy and autocracy. The research uncovered the following:

1. Positive impact when using in Polity IV and FHI,
2. Given the lack of data, the democracy index has a negative impact.

(Ferree & Singh, 2006) aimed to explore the impact of democracy on EG in 43 sub-Saharan African countries from 1982 to 2012. The authors highlight why this research subject grabbed the attention of African nations in the early 1990s (wave of democracy and reforms), which coincided with the beginning of a new period of robust EG. Polity 2 variable quantifies the amount and duration of democracy, which is the definition of democracy. The model provided is as follows:

$$G_{i,t} = \rho Democracy_{i,t-1} + \gamma Duration_{i,t-1} + \phi Democracy_{i,t-1} * \chi Duration_{i,t-1}$$

Because political regimes are well-known to be causative to national EG, the authors delay all endogenous political and economic factors in their regression estimate to remove the influence of EG on endogenous regressors. GDPC, government consumption, real investment, life expectancy, workforce and decades are controlled by X. The findings of an OLS pooled time-series cross-sectional indicate no impact of democracy on EG; however, longevity has a beneficial effect.

(Kriekhaus, 2006) explored the impact of democracy on EG in 70 nations from various regions. "Life expectancy, initial GDP, education, population growth, climate, institutions and democracy" were chosen as causative factors. The Polity index from Polity IV was used to measure democracy, "which offers a 21-point scale that combines multiple aspects of democracy: competitiveness of political participation, regulation of political participation, competitiveness of executive recruitment, openness of recruitment and constraints on the chief executive"[2]. The author disagreed with earlier research that used investment as a control variable because "...First, investment is endogenous, with rapid rates of growth leading to higher levels of investment. Secondly, and even more pertinent, investment is an intervening variable rather than an independent variable and it is, therefore, inappropriate to control for its effects…"(Kriekhaus, 2006, 326). Hence, the examination of the overall effect of democracy should be followed by excluding investment from the analysis. Based on an OLS estimator, the study showed a positive effect of the variable of interest on EG, and the results suggests the following:

1. In Latin America, where socioeconomic groups demand redistribution, populism and bad economic performance may result from democracy;
2. Democratic forces may inhibit efficient economic policy in places where state elites are often devoted to pushing fast industrialization, such as portions of Asia;
3. In regions where patrimonialism is dominant, democracy may be an effective means of eradicating corruption, hence enabling rapid EG.

(Tiruneh, 2006) investigated the nexus between political regimes and EG. Specifically, the economic performance of authoritarian versus democracies in 44 African countries between 1991 and 2001. "Economic development, domestic investment, education, economic openness, privatisation, external debt, foreign assistance, population increase and political instability" were accounted for in the study's overall model. Using a cross-sectional OLS, the key results indicate that democracy fosters EG, although the effect is weak.

(Aghion et al., 2007) aimed to explore the debate on how democracy affects EG in the context of the conflicting existing literature. Regarding causal factors, democracy and technical frontier distance are the most important independent variables. Based on aggregate indicators from the Polity IV database (2005) and the FHI assessments of civil liberties and political rights, democracy indicators were developed. The primary findings of this study are that democracies have fewer

[2] See: https://www.systemicpeace.org/

regulatory burdens than autocratic regimes and that access leads to more significant growth improvement in domains close to technical boundaries.

Using descriptive statistics, (Lewis, 2008) explored the role of democracy on EG in 36 sub-Saharan African nations between 1986 and 2006. The study demonstrates that democracy promotes EG.

In the regard of electoral competitiveness and its impact on EG, (Fosu, 2008) considered a simple Cobb–Douglas production function to explore the effect of electoral competitiveness on growth, the model proposed is the following:

$$Q = AL^{b}K^{c}$$

and its growth function is: $q = a + bl + ck$

"... the parameter a, as the Hicks-neutral technical change measuring increase in total factor productivity (TFP), may be especially vulnerable to political intervention…" (Fosu, 2008, 443). Hence, the model becomes:

$$q_{it} = a_3 + a_1 P_{it} + a_2 P_{it}^{2} + bl_{it} + ck_{it} + e_{it}, \quad i = 1, 2,.., n; \; t = 1, 2,.., T$$

where P: a legislative indicator of electoral competitiveness, and q, l, and k: output, labour, and capital growth rates, respectively. The panel regression analysis shows a U-shaped effect of democracy with GDP, a negative impact in relatively low democracies and a beneficial impact in higher-level democracies.

(Cuberes & Jerzmanowski, 2009) examined the linkage between democratisation and diversification. As the overall study's dependent variable, EG regressed on average per-worker production and democracy (Polity IV). Using the pooled OLS and GMM approach in 116 countries from 1950 to 2000, the authors found that more minor democratic nations have more strong growth fluctuations over the medium term; namely, there is a positive relationship between democracy and economic diversification.

(Patti & Navarra, 2009) conducted an analysis to determine if and how the interaction between FDI and democracy influences EG in a sample of 66 countries from 1980 to 2003. To do this the authors address the following two models:

$$FDI = f(\ political\ competition\ , X)$$

$$EG = f\ (Invest, (n +^{*}+ g), FDI, democracy, group\ dummies, time\ dummies)$$

FDI is regressed in the first equation on a collection of variables characterising the degree of democracy (Polity IV) as well as a list of controls X. Using a simultaneous equations technique and the 2SLS estimator, this study demonstrates that political institutions have a significant impact on EG through their ability to attract FDI.

(Narayan et al., 2011) performed a study to address the question: Does EG assist democracy, or does democracy promote EG? in 30 Sub-Saharan African countries from 1972 to 2001. In the context of modelling, the authors first utilise the FHI to define democracy and then test the sensitivity of results using the LIEC as an alternate proxy for the variable of interest. Using a Granger causality test, the findings show a linkage between democracy and EG that differs in terms of causality direction and impact based on countries and democracy proxies. Overall, the research reveals no effect of democracy but a beneficial effect of time.

(Knutsen, 2013) studied the nexus of regime type-state capacity and EG. Theoretically, the author stated that democracy might nurture EG by protecting property rights, providing public education and restricting the transfer of private commodities to a few supporters. On the other hand, "...also dictatorial regimes with small winning coalitions whose future political and economic prospects are not entirely in the leaders' hands may produce good economic outcomes…" (Knutsen, 2013, 3). Moreover, the author highlighted the three bad policies dictators may seek in governments with weak institutions: First. At the same time, insufficient property rights enforcement has a detrimental impact on the broader economy, and dictators can profit economically and politically from it. Second, tyrants in low-capacity countries may be tempted to implement growth-stifling fiscal policies. Thirdly, political and private-economic incentives may encourage dictators to pursue ineffective industrial and other microeconomic policies. Using data from 1972 to 2004, the author empirically performed a regression analysis on a sample of 45 Sub-Saharan African nations. The study general's model is constructed as follows:

$$GRO_{i,t} = \beta_0 + B_{FHI} FHI_{i,t} + \beta_{GDP} GDP_{i,t} + \beta_{POP} POP_{i,t} + \beta_{DUR} DUR_{i,t} + \beta_{EFI} EFI_{i,t} + \\ + \Sigma(\beta_{REL} REL_{i,t}) + \Sigma(\beta_{COL} COL_{k,i,t}) + \Sigma(\beta_{DEM} DEM_{1,i,t}) + \varepsilon_{i,t}$$

The empirical evidence demonstrates a considerable beneficial effect of democracy on EG in Sub-Saharan Africa, as well as substantial potential interactions between democracy and state

capacity on growth in Africa and worldwide. As governmental capacity declines, the influence of democracy on EG grows. In conclusion, it has been shown that democracy promotes development in limited capacity nations but not in high capacity.

(Jaunky, 2013) presented a report in 28 Sub-Saharan African nations between 1980 and 2005. The FHI was used to evaluate democracy, while the real GDP was used to evaluate EG. Based on many unit-root analyses of time series data, it was determined that the variables were co-integrated. Causation was seen as shifting from economic development to democracy shortly. The long-term connection analysis indicated that democracy positively affects GDP and vice versa. According to the authors, this data validates the concept of the virtuous cycle.

(Rachdi & Saidi, 2015) is considered the first contribution to this research area in the MENA region. An investigation of the impact of democracy on EG was conducted in 17 MENA countries from 1983 to 2012. Democracy is defined by the polity index components: "institutionalised democracy score, institutionalised autocracy score, competitiveness of executive recruitment, openness of executive recruitment, and executive constraints". The general study model proposed is as follows:

$$GROWTH_{it} = \beta_1 INF_{it} + \beta_2 TRADE_{it} + \beta_3 GOVSIZE_{it} + \beta_4 POP_{it} + \beta_5 Democracy_{it} + \varepsilon_{it}$$

Based on fixed effect, random effect and within GMM estimators, they pointed out that democracy cripples growth.

(Song et al., 2017) attempted to determine if democracy is a cause or result of EG. The analysis model included GDPC growth as a dependent variable and a list of causative factors, including "democracy, school enrolment, population over 65, population growth, foreign direct investment (net inflows), general government final consumption expenditure, inflation and GDP deflator". The model provided is as follows:

$$GDP_{gpc} = A + \beta_1 * Democ + \beta_2 * edu + \beta_3 * pop\,65 + \beta_4 * popgrw$$

$$+ \beta_5 * FDIgdp + \beta_6 * govtConsump + \beta_7 * inflation + \varepsilon$$

Democracy was assessed using the Polity index and the DD index. The Polity index takes into account political engagement in executive enrollment if it is elective and constraints on the chief executive if they are substantial. However, the DD index takes into account the classification of democracies as parliamentary, semi-presidential (mixed), or presidential. The DD index is a dummy variable where 0 represents a dictatorship and 1 represents a democracy. On the basis of OLS random-effects regression and robust regression for panel data, the findings indicate that democracy and EG have no significant relationship. Thus, governments may become prosperous underneath a variety of regimes.

(Nayebyazdi, 2017) aimed to examine the effect of democracy on EG using panel data from 18 Muslim MENA nations between 2008 and 2014. The study uses a standard Cobb-Douglas total factor productivity model with fixed returns as follows:

$$Y_{it} = A_{it} + K_{it}^{\alpha} + L^{\beta} + H^{\delta}$$

The Democracy Index, which is composed of five factors including "selection method, pluralism, government effectiveness, political participation, political culture, and civil liberties", defines democracy. The use of spatial econometric approach showed a geographical linkage between democracy and economic development, as well as a negative effect of democracy on EG.

(Nosier & El-karamani, 2018) analysed the indirect relationship in 17 MENA countries, covering the period to 2015. The research hypotheses that democracy affects EG via many mechanisms. The model consists of six equations, including an EG equation and the five-channel equations. Important channels include "mortality, secondary school enrollment, gross capital creation per labour force, government size, and trade openness". The authors classified the MENA countries into two broad categories: democratic and autocratic countries based th electoral democracy index score during the study period, and rich and poor nations based on financial level "rich countries with more than $4000 per capita yearly and poor countries with less than $4000 per capita yearly". The proposed model is based on an enlarged Solow model, with channel variables as causative factors. The equation's expression is as follows:

$$ln\ GDPP_{it} = \gamma_0 + \gamma_1 lnMR_{it} + \gamma_2 lnEDUS_{it} + \gamma_3 lnGCFL_{it} + \gamma_4 lnGZ_{it} + \gamma_5 lnTR_{it} + \mu_{it}$$

First equation; health channel:

$$lnMR_{it} = \beta_0 + \beta_1 EDEM_{it} + \beta_2 lnGDPP_{it} + \beta_3 lnEDUPF_{it} + \mu_{it}$$

Second equation; primary school education channel:

$$lnEDUS_{it} = \beta_0 + \beta_1 EDEM_{it} + \beta_2 lnGDPP_{it} + \beta_3 lnEDUPF_{it} + \beta_4 lnMR_{it} + \mu_{it}$$

Third equation; physical investment per labour channel:

$$lnGCFL_{it} = \beta_0 + \beta_1 EDEM_{it} + \beta_2 lnGDP_{it} + \beta_3 lnEDUS_{it} + \beta_4 EX_{it} + \beta_5 UPOP_{it} + \beta_6 lnUM_{it} + \mu_{it}$$

Fourth equation; unemployment rate:

$$lnGZ_{it} = \beta_0 + \beta_1 EDEM_{it} + \beta_2 lnGDP_{it} + \beta_3 lnCO_{it} + \beta_4 lnPOPG_{it} + \beta_5 lnTR_{it} + \mu_{it}$$

Fifth equation; government size channel:

$$lnTR_{it} = \beta_0 + \beta_1 EDEM_{it} + \beta_2 lnGDP_{it} + \beta_3 lnLA_{i} + \beta_4 lnUPOP_{it} + \beta_5 lnINF_{it} + \mu_{it}$$

Where : GDPP: per capita income, CZ: government size, UM: unemployment rate , CO: Corruption index , MR: mortality rate, GCFL: gross capital formation per labour, TR: trade openness, UPOP: urban population, IMF: inflation, LA: country area, POPG: population growth, EDUPF: Female education, EDUP: Primary school education, EX: exchange rate, EDUS: secondary school enrollment rate, EDEM: electoral democracy index, Oil producing countries (Dummy).Through a system of simultaneous equations using 3SLS, they concluded that the effect of democracy on growth is non-monotonic in MENA nations.

(Acemoglu et al., 2019) assessed the effects of democracy on EG in 175 nations between 1960 and 2010 using propensity score reweighting methods and an instrumental-variables approach. Explanatory variables include “investment, trade, enrolment in secondary and primary schools, infant mortality, financial flows, TFP, tax revenues, an indicator of economic reforms, and a dichotomous measure of social unrest that shows the prevalence of riots and revolts”. Using fixed-effects OLS and GMM analyses, it was shown that democracy had a statistically and economically significant positive influence on future GDPC.

Using panel data from 167 countries, the linkage between democracy and EG was examined by (Rita et al., 2019). The EIU index was applied to evaluate democracy, while GDP growth served as

a measure of EG. According to the analysis, democracy has an indirect, considerable, and temporary detrimental impact on EG.

Table 3

Summary of democracy-economic growth studies

Source: Author's construction.

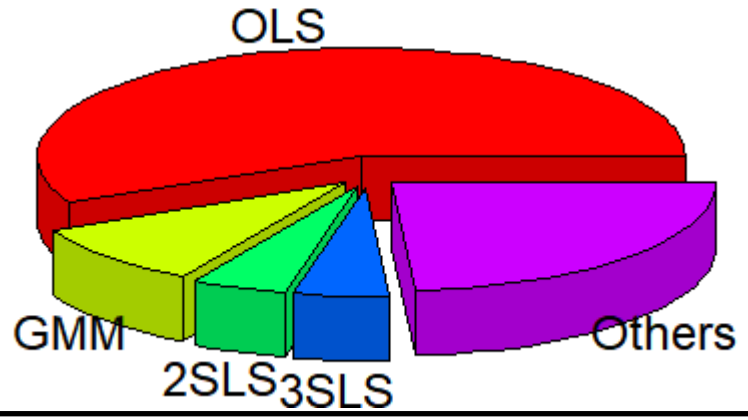
Study	Methodology	Main findings
CROSS-SECTIONAL STUDIES		

Grier and Tullock (1989)	OLS	1. Negative for Africa; 2. Non impact for other regions.
Barro (1989)	OLS	Positive impact.
Dasgupta (1990)	Spearman Correlation	Democracy nurtures EG..
World Bank (1990)	Simple correlation	No relationship.
Levine and Renelt (1992)	OLS, formal sensitivity test	No robust relationship.
Barro & Lee (1993)	Pooled OLS	No relationship.
Helliwell (1994)	Pooled OLS	Insignificant effect of income on democracy.
De Haan and Siermann (1995)	Sensitivity analysis	No robust relationship.
Alesina et al. (1996)	OLS	No relationship.
De Haan & Siermann (1996)	OLS	1. For all countries, no relationship found; 2. Negative for Africa and Latin America; 3. Positive for others.
Tavares and Wacziarg (2001)	3SLS, sensitivity test	Adverse relationship.
Plumper and Martin (2003)	OLS	1. Democracy variable reveal positive effect; 2. Square democracy shows a negative impact.
Drury, Krieckhaus, and Lusztig (2006)		The use of Polity IV and FHI show a positive impact; however, a negative impact in the DD due to limited data.

Cuberes and Jerzmanowski (2009)	Pooled OLS and GMM	Low level democracies experience growth volatility in the short term.
Patti and Navarra (2009)	2SLS	Democracy fosters EG.
Song et al. (2017)	OLS	EG can be achieved under any system.
Acemoglu et al. (2019)	OLS / 2SLS	Positive impact.
Rita et al. (2019)	OLS	Indirect effect.
AFRICAN STUDIES		
Van de Walle (1999)	Descriptive statistics	No effect.
Nkunrunziza Bates (2003)	GMM	Positive effect.
Rodnik wacziarg (2005)	Within-country effects	Democratic transitions reveal a positive effect.
Ferree & Singh (2006)	OLS	A positive effect of time, but not for democracy.
krieckhaus (2006)	OLS	Positive effect.
Tiruneh (2006)	OLS	Some positive effects, not strong.
Lewis (2008)	Descriptive statistics	Positive effect.
Fosu (2008)	OLS	Negative in low democracies positive in higher-level democracies.
Narayan et al.(2011)	Granger causality test	Effect of duration.

Jaunky (2013)	GMM	Positive impact.
Knutsen (2013)	OLS	Positive relationship.
MENA STUDIES		
Rachdi & Saidi (2015)	OLS GMM	Negative impact.
Nayebyazdi (2017)	Spatial econometric approach	Negative impact.
Nosier and El-karamani(2018)	3SLS	Non-monotonic relationship.

Democracy-economic growth econometric methods



Dick (1974)	Descriptive statistics	No relationship.
Huntington and Dominguez (1975)	Descriptive statistics	Negative impact.
Weede (1983)	OLS	1. Negative correlation for the whole selected countries; 2. No correlation for poor countries; 3. Negative association for countries with a government revenue to GDP ratio of less than 20%.
Kormendi and Meguire (1985)	OLS	Positive impact (only marginally).
Landau (1986)	OLS	Negative impact for annual data, no relationship for 4 and 7-year

		averages.
Marsh (1988)	OLS	No impact.
Pourgerami (1988)	OLS	Positive impact.
Scully (1988)	OLS	For each dummy, the study found a positive impact, but the opposite for all dummies except free market and individual rights.

Figure 3 Democracy-economic growth econometric methods

Source: Author's construction (R software).

2.4. The effect of political stability on economic growth

Political stability has been identified as one of the causes of the presence of solid institutions alongside democracy, enabling nations throughout the world to achieve economic progress. It is vital for EG in both theoretical and empirical investigations. Therefore, this section discusses the existing literature regarding the impact of political stability on EG.

(Barro, 1991) conducted a study for 98 countries from 1960 to 1985 to explore the real GDPC determinants, and political instability was included as a regressor in the model. Political instability is measured using a proxy for price distortions, such as figures on revolutions, coups, and political assassinations. The results show an adverse impact of political instability on EG. Hence, political stability is needed.

(Alesina et al., 1996) aimed to explore the effect of political instability on EG in 113 countries from 1950 to 1982. The model proposed by the author included GDPC as a proxy for EG and a list of exogenous variables: enrollment in primary school, deviation of investment deflator, Latin America, Africa and the propensity of a government collapse. Moreover, region-specific factors such as Latin American and African regional dummies, temporal variation in growth as the lagged growth and world rate. Through an OLS estimator, the authors find that political instability cripples growth.

(Feng, 1997) examined the impact of political stability on EG in 96 countries from 1960 to 1980. Data for political stability was collected from Taylor and Banks dataset. Applying a 3SLS method, the study reveals:

1. A beneficial linkage with significant and small changes in governance on a regular basis;
2. An unfavourable relationship with irregular government transition.

(Kirmanolu, 2003) evaluated the nexus political freedom-EG for 19 less developed nations from 1971 to 2001. This study follows previous studies (Heo & Tan, 2001). The model consists of two variables: GDPC as a measure of economic well-being and an index of political freedom as a measure of political freedom. The author conducted a Granger causal analysis for each country due to data limitations on political freedom from 1972 to 2001. Using Granger causality tests (augmented error-term), the results show no solid empirical evidence of a causal linkage between

variables. However, in some countries such as Bolivia and Malaysia, the analysis finds that the more political freedom, the more EG. On the other hand, In countries like Korea, Panama, and Turkey, the causal effect moved from EG to political freedom.

Based on power-ARCH and time series data for Argentina between 1896 and 2000, (Campos & Karanasos, 2008) attempted to examine the effect of political instability on EG directly, indirectly, or through volatility. Regarding factors of political instability, the authors utilise formal and informal measures: "formal political instability represents the number of legislative elections and the number of constitutional amendments". In contrast, informal political instability reflects assassinations and general strikes. The research demonstrates the following:

1. A negative impact with assassinations and general strikes;
2. An indirect impact when using the formal measure.

(Miljkovic & Rimal, 2008) analysed the impact of political stability on EG in 122 countries from 1960 to 1988. Based on an OLS method, the authors pointed out that political instability hinders growth.

(Tosun et al., 2008) examined the impact of political stability on investment profile and macroeconomic performance in 12 MENA countries from 1987 to 2003. The theoretical aspect is dedicated to examine the concept of political instability and existing contributions. An MPI index was first theoretically generated, defined in the study as "...measures the productivity change of each country between two adjacent periods by calculating the ratio of the distances of each period relative to common technology..." (Tosun et al., 2008, 33). The MPI was calculated and analysed in the empirical section based on predictions generated by theoretical models. The study finds that the MPI values in the MENA region fell 3.9% on average during the Gulf war. Thus, political risk harms economic performance.

(Younis et al., 2008) examined the impact of multiple aspects of political instability on EG in 10 Asian economies between 1990 and 2005. The authors suggested in the theoretical section that political stability impacts the variables that determine EG, such as FDI, stock market capitalisation, and private investment technology. Empirical simulations of this hypothesis were conducted by regressing proxies of political stability characteristics on EG drivers in chosen Asian nations. In the

framework of political stability measures, the research developed a proxy index known as the cumulative political stability index and an index for economic freedom.

The aggregate proxy for political stability was constructed using nine existing measures, including "the duration of the regime, election density ratio, increase in the number of political parties, the strength of the ruling party, military expenditure as a percentage of GDP, index of democratisation, composite of ICRG risk rating, the number of internally displaced persons, and the increase in the number of political parties in the national assembly". The economic freedom measure comprises variables that impact the economic drivers of production, including fiscal, monetary, exchange rate, and trade policy.

The authors employed four proxies to evaluate capital accumulation in economic development: "the average annual growth rate of gross domestic investment, gross domestic investment as a proportion of GDP, stock market capitalisation, and foreign direct investment". Using an OLS approach, the research indicates that an increase of 32.35 points in the political stability index corresponds to a one per cent rise in EG, indicating that political stability has a preeminent role in determining EG and capital accumulation sources.

(Jong-A-Pin, 2009) conducted a study to explore the impact of regime instability on EG in 90 countries from 1974 to 2003. The general model of the study consisted of the following variables: "GDP growth, lagged GDP Growth, mass civil protest, regime instability within instability, investment, politically motivated violence, population growth and secondary/primary school". Based on a GMM dynamic panel, the study shows a negative effect of regime instability on EG.

(Cebula, 2011) analysed the effect of economic freedom on GDPC among OECD countries over the 2002-2006 period. The general model of the study consisted of 10 economic freedoms causal variables and two control variables with the level of the purchasing-power-parity adjusted GDPC as a dependent variable. The ten economic freedoms span: "business freedom, fiscal freedom, financial freedom, investment freedom, freedom from corruption, labour freedom, monetary freedom, government size freedom, trade freedom, and property rights freedom". In the context of control variables, the author used the unemployment rate and real long-term interest rate. Based on fixed-effects PLS estimations, results show that real GDP is increased through freedom in business, corruption, monetary, investment, government size, trade and property rights. However, labour

freedom, financial and fiscal freedom have no statistical significance. Hence, political stability has a positive effect on EG.

(Polachek & Sevastianova, 2012) performed a study in 188 countries to explore different forms of political instability (conflict) on country growth rates. This latter is assessed by real GDP per worker as the dependent variable. The causal variables are "1970 initial GDP per economically active population, the fraction of territory in the tropics, trade openness, a central government balanced budget measure, a landlocked dummy, an institutional quality index, the growth of the economically active population, the share of primary product exports in GDP, a conflict variable measuring the duration or severity of international and civil wars and average life expectancy (and its square)". Using a fixed effect estimation, the analysis showed that civil war decreases annual growth by (0.01 to 0.13 %) and high-intensity interstate conflict by (0.18 to 2.77) %.

(Aisen & Veiga, 2013) examined the impact of political instability on 169 nations' growth between 1960 and 2004. The authors proposed the following growth model:

$$ln\,Y_{it} = \alpha\, ln\, Y_{i,t} + \beta\, X_{it} + \delta PI_{i,t} + \lambda\, W_{i,t} + v_i + \mu_t + \varepsilon_{it}$$

where, "Y_{it}, X_{it}, PI_{it} and W_{it} are : GDPC of a country, a vector of economic drivers of EG, a proxy for political instability, and a vector of institutional and policy determinants of EG". The authors conduct three regressions to examine the influence of political instability:

1. Political instability and EG: GDPC growth is regressed on a list of causal variables such as "initial log GDPC, primary school enrollment, investment, population growth, inflation, trade (percent of GDP), government, cabinet changes (a proxy for political instability), index of economic freedom and legal structure and security of property rights". Using a system-GMM estimation, this regression shows that political instability has a negative impact on EG in all estimators;
2. Authors have mentioned that political instability is not well captured by cabinet changes, therefore, they apply a PCA with five alternative indexes of political instability (violence index, regime instability index, index of economic freedom , political instability index, and Polity scale). The GMM estimations show a negative effect of political instability on real GDPC growth;

3. Finally, This article examines the mechanisms through which political instability influences EG., and that political instability adversely affects TFP growth and physical-human capital accumulation .

(Zghidi, 2017) analysed whether democracy and political stability enhanced EG in 31 African nations between 1986 and 2014. To do this, the authors used the following models:

$$gr_{it} = \alpha + \beta_1 gdp_{i,t-1} + \beta_2 psa_{it} + \beta_3 cap_{it} + \beta_4 tedu_{it} + \beta_5 g_{it} + \beta_6 open_{it} + \varepsilon_{it}$$

$$gr_{it} = \alpha + \beta_1 gdp_{i,t-1} + \beta_2 dem_{it} + \beta_3 cap_{it} + \beta_4 tedu_{it} + \beta_5 g_{it} + \beta_6 open_{it} + \varepsilon_{it}$$

At first, the authors looked at the importance of political rest in promoting EG from a theoretical aspect. In the second stage, to determine how developing-country democratisation may affect EG, a GMM approach was applied to examine their impact on the growth of African nations. The study found a positive impact of the variable of interest on GDP growth. A 1% increase in political stability implies a rise in the GDPC growth by 0.058%.

(Diken et al., 2018) performed a study to investigate the long-term relationship between political stability and several macro-economic variables in Turkey from 2002 to 2016. According to the authors, the focus on the impact of political stability on EG has moved in some research to investigate the long-term relationship between political stability and other prominent macroeconomic indicators such as the inflation rate, short-term interest rate, and exchange rate. The Turkish case was chosen to assess this debate because of several political developments. The authors mentioned: The single-party government and the IMF reforms in 2002, the beginning of Turkey's formal candidacy process for European Union membership. in 2005 and the terrorist incidents between 2002 and 2010. In the methodological section, the nexus was examined in two stages: First, figure out whether macroeconomic variables have a relation with the political stability index by considering PSI as an independent variable for each macro-economic mentioned above; secondly, inflation, regressing GDP on PSI, short term interest rates and exchange rate. Empirically, an ARDL method was employed with some tests (the Bound test of Pesaran). The study finds a positive linkage between political stability and EG in the long run.

(Nedra & Boujelbene, 2018) analysed the impact of democracy on EG in 17 MENA countries from 1998 to 2011 while accounting for the influence of political stability using PSI. The study used a

2-way linkage dynamic simultaneous equation panel to delve into the analysis. The first linkage equations consisted of these variables: "GDP, democracy index, the term of interaction between democracy and political stability, corruption perception index, labour force, capital stock, human capital, government size, and FDI". The equations are modelled as follows:

$$GDP_{it} = \alpha GDP_{it-1} + \beta_1 lnH_{it} + \beta_2 lnL_{it} + \beta_3 lnk_{it} + \beta_4 CPI_{it} + \beta_5 lnSIZE_{it} + \beta_6 DEM_{it} + \beta_7 FDI + \mu_{it}$$

$$GDP_{it} = \alpha GDP_{it-1} + \beta_1 lnH_{it} + \beta_2 lnL_{it} + \beta_3 lnk_{it} + \beta_4 CPI_{it} + \beta_5 lnSIZE_{it} + \beta_6 DEM_{it} + \beta_7 FDI + \beta_8 PS + \beta_9 DEM * PS + \mu_{it}$$

The second linkage equation states that democracy is a function of EG, industrialization, energy ownership and life expectancy at birth.

$$DEM_{it} = \alpha DEM_{it-1} + \delta_1 GDP_{it} + \delta_2 lnINDUST_{it} + \delta_3 lnENERG_{it} + \delta_4 lnLIFE_{it} + \varepsilon_{it}$$

Applying a fixed effect estimation and a dynamic simultaneous-equation panel data estimation using GMM estimator, the findings revealed the existence of a bidirectional causal link between democracy and EG. Furthermore, it was shown that the influence of democracy on EG is dependent on political stability which is a major predictor of EG.

(Abdel-Latif et al., 2019) empirically investigated the nexus between corruption, political instability, and EG in 140 countries from 1990 to 2017. Through panel VAR, bidirectional causation between variables was first tested, and then the Arab Spring shock was studied on the three variables. The Polity dataset was used to quantify political instability, the variable of interest. The findings demonstrate a bidirectional relationship between the three variables, with corruption detrimental to EG institutions. The quality of institutions would enhance growth while discouraging corrupt behaviour among officials. Furthermore, EG promotes institutional quality and aids in the fight against corruption. The second analysis found that political unrest negatively influences EG.

(Kazerooni et al., 2020) performed an article to explore the impact of political stability and democracy on EG in OIC countries from 1986 to 2014. Using the PCA method, the study generated a proxy for political stability that consisted of external conflict, internal conflict, religious tensions

and military politics and ethnicity. The authors found that political stability has a favourable influence on EG using a GMM panel approach.

(Çela & Hysa, 2021) sought to determine if political instability substantially impacted EG in 13 CEE nations from 2006 to 2016. The model proposed included real growth GDPC as the dependent variable and political instability as the interest causal variable with a list of control variables such as "trade openness, gross capital formation, inflation, secondary school enrollment, population growth, economic freedom index and government expenditure". Political instability is assessed by the PSI and the length of the chief executive's duration in office. According to the authors, the PSI spans from -2.5 to +2.5, with -2.5 being the worst level of instability and +2.5 representing the highest level of stability. Furthermore, the second measure, the chief executive's tenure in office, is measured in years. The study was performed using a fixed-effect model, eliminating the unobserved fixed effect (within transformation). The model proposed is the following:

$$Y_{it} - \overline{Y_{it}} = \beta_1 X_{1\,it} - \beta_1 \overline{X_{1\,it}} + \mu_i - \overline{\mu_i}$$

The study reveals that the PSI has a positive effect on EG. However, the indicator of the years the chief executive has demonstrated a negative effect with a weak significance, suggesting that a chief executive's lengthy time in power office might lead to power abuse.

Table 4

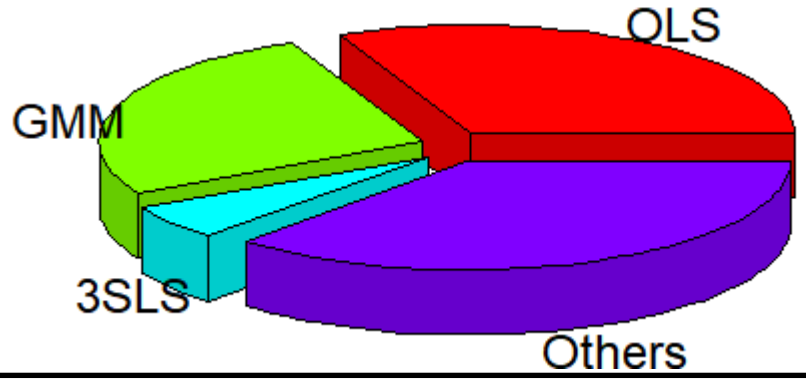
Summary of political stability-economic growth studies

Source: Author's construction.

Study	Methodology	Main findings
CROSS-SECTIONAL STUDIES		

OTHER REGIONS		
Younis et al. (2008)	OLS	Political stability determines economic development and capital accumulation sources.
Cebula (2011)	PLS and P2SLS	Positive effect of political stability.
Çela & Hysa (2021)	Fixed effect (within transformation)	Political stability fosters EG.
ONE COUNTRY STUDIES		
Campos and Karanasos (2008)	Power-ARCH	1. An unfavourable relationship with irregular government transition; 2. An indirect impact when using the formal and informal measures.
Diken et al. (2018)	ARDL approach	Positive relationship between political stability and EG in the long run.
MENA STUDIES		
Tosun et al.(2008)	Malmquist index (MI)	Political risk hinders economic performance.
Zghidi (2017)	GMM approach	Political stability fosters EG.
Nedra and Boujelbene (2018)	OLS/GMM	Negative relationship.

Political stability-economic growth econometric methods



Barro (1991)	OLS	Negative impact for political instability.
Alesina et al. (1996)	Pooled OLS	Negative impact for political instability.
Feng (1997)	3SLS	1. Positive impact for regular government changes; 2. Negative impact for irregular government changes.
Kirmanoğlu (2003)	Granger causality	Bidirectional causal link between political freedom and well-being.
Miljkovic and Rimal (2008)	OLS	Negative impact for political instability.
Jong-A-Pin (2009)	GMM	Regime instability cripples EG.

Polachek and Sevastianova (2012)	OLS	Conflicts hinders GDP growth.
Aisen and Veiga (2013)	GMM	Negative relationship.
Abdel-Latif et al. (2019)	Panel VAR (DiD) framework	Political instability reduces EG.

Figure 4 Political stability-economic growth econometric methods

Source: Author's construction (R software).

2.5. Summary

This chapter was dedicated to presenting and discussing the current literature on the impact of democracy and political stability on EG in cross-section countries, MENA countries, and other countries due to the usage of the output of particular research in different other studies. Literature analysis helps us understand the main issues in this research area and choose the appropriate model specification by focusing on case studies, model specification, methodologies, conceptualisation, and main findings. Findings revealed that the impact of democracy on EG is complicated, with a high proportion of adverse outcomes; yet, every study that was examined found a positive effect of political stability on EG. This chapter shows that OLS is the most popular econometrics estimator utilised in research, followed by GMM and other techniques. Although studies vary in datasets and methods, GDPC growth is used to measure EG in most studies. This surge in the corpus of studies reveals conflicting conclusions due to conceptualisation and empirical issues discussed in the third chapter.

CHAPTER THREE

RESEARCH ISSUES

3.1. Introduction

This research area's conceptual and empirical issues provide different views on the path a country should pursue to maximise its EG potential. Democracy was measured in various ways due to the fierce discussion over measuring democracy, especially whether a binary assessment of states as democracies or dictatorships is sufficient or whether a more appropriate distinction should be permitted. Meanwhile, political stability was measured in several ways due to coding issues. On the other hand, there are empirical challenges concerning datasets and robustness analysis. This chapter is divided into two main sections: A first segment discusses conceptual concerns, while a second section discusses empirical issues.

3.2. Conceptual issues

3.2.1. Conceptual issues for democracy

In research, democracy has been measured in various ways, including political, economic and social dimensions. It is defined broadly as a political system that makes efforts to develop rules that improve people's well-being (El-Rufa'i, 2003). (Beetham, 1999) defines *democracy* in the political dimension as a political regime having a high level of public influence over policy decisions and a high level of political justice. Rachdi and Saidi define social democracy as"... guarantees, freedom of the press, and the absence of censorship..." (Rachdi & Saidi, 2015, 617). Finally, an economic definition is seen in literature that assesses the impact of democracy on physical capital accumulation per worker, trade openness and government spending (Nosier & El-karamani, 2018).

These conceptual variations lead to variation metrics and datasets, hence, output variations. (Vanhanen & Tatu, 2003) assessed democratisation in terms of competition and participation, and argues that"... competition and participation do not consider all aspects of democracy, and many local and institutional factors that affect the nature of political systems are excluded..." (Vanhanen & Tatu, 2003, 119). Tables 5 and 6 present an overview of the conceptualisation of existing democracy datasets in research.

Table 5

Overview of democracy datasets

Source: Author's construction based on literature and datasets resources.

No	Index	Attributes	Components of Attributes	Measurement Levels
1	(Bollen, 1980)	Political freedoms	Press freedom Freedom from group opposition Government sanctions	Interval
		Popular authority	Impartiality of elections Executive selection Legislative selection and effectiveness	
2	Freedom House (Gastil, 1990)	Political rights	*Electoral process:* Executive elections Legislative elections Electoral framework *Political pluralism and participation:* Party systems Political opposition and competition Political choices are dominated by powerful groups Minority voting rights *Functioning of government:* Corruption Transparency	Ordinal

		The ability of elected officials to govern in practice	
	Civil liberties	*Freedom of expression and belief:* Media Religious Academic freedom Free private discussion *Associational and organisational rights:* Free assembly Civic groups Labour union rights *Rule of law:* Independent judges and prosecutors Due process Crime and disorder Legal equality for minorities and other groups *Personal autonomy and individual rights:* Freedom of movement: Business and property rights Women's and family rights Freedom from economic exploitation	
3	Arat (1991)	P a r	t i c i

participation

Executive selection

Executive selection Legislative effect

i v e n e s s	Ordinal
Com petiti vene ss of the nomi natio n proce ss	

		Competitiveness	Party legitimacy Party competitiveness	
		Inclusiveness	-	
		Coerciveness	-	Interval
3	Gasiorowski (1996)	Competitiveness	Election executive Election legislature	Ordinal with residual category
		Inclusiveness	-	
		Civil and political liberties	-	
4	Polity (Marshall & Gurr 2013)	Competitiveness of participation	Refers to the extent to which alternate leadership and policy choices may be pursued in the political arena.	Ordinal
		Regulation of participation	Defined in the sense that there are regulations dictating when, if, and how political preferences may be expressed.	
		Competitiveness of executive recruitment	Describes the extent to which current modalities of progression provide equal possibilities for subordinates to become superordinates.	
		Openness of executive	Indicates the degree to which all politically active persons have the opportunity to achieve a post via	

CHAPTER THREE : RESEARCH ISSUES

		recruitment	a formal procedure.	
		Regulation of Chief Executive Recruitment	Refers to the degree to which a government has institutionalised transitional arrangements for executive power.	
5	V-DEM (Coppedge et al. 2017 d)	The electoral dimension		The significance of making rulers more receptive to civilians via periodic competition for the favour of a large electorate.
		The participatory dimension	It promotes direct rule and active public participation in all political processes, such as via civil society organisations and directly democratic procedures.	
		The egalitarian dimension	Considers tangible and immaterial distinctions to constitute obstacles to the actual enjoyment of formal rights and freedoms.	

The deliberative dimension	Enshrines the fundamental notion that political choices made for the public interest should be affected at all levels by courteous and logical discourse.
The liberal dimension	Represents the fundamental significance of preserving individual and minority rights against the possible "tyranny of the majority."

6	Economic Intelligence Unit	Electoral process and pluralism	Composed of 12 variables that evaluate elections, suffrage, opposition, municipal and individual freedom to create political parties. It varies from 0 for nations with a weak election process to 10 for those with a robust democracy.
		Functioning of government	Assesses the performance of a government across many areas.
		Political participation	Composed of nine variables that evaluate the level of ethnic and religious representation in politics, the presence of women in parliament, citizen participation in politics, adult literacy.
		Political culture	Composed of eight political culture evaluation indicators. It goes from 0 for low political culture rates to 10 for strong political culture rates.
		Civil liberties	17 factors evaluate the free press, freedom of speech, human rights, the law, and discrimination. It assigns a score of 0 to poor democracies and a

score of 10 to high democracies.

Table 6

Overview of democracy aspect used in research

Source: Author's construction.

Study	Democracy aspect	Attributes / Index
CROSS-SECTIONAL STUDIES		

Levine and Renelt (1992)	Social aspect	FHI
Helliwell (1994)	Social and Political aspect	FHI
De Haan and Siermann (1995)	Social and Political aspect	Gasiorowski's dataset
Alesina et al. (1996)	Political aspect	Own (elections)
De Haan & Siermann (1996)	Political aspect	FHI
Tavares and Wacziarg (2001)	Political aspect	FHI
Plumper and Martin (2003)	Political aspect	Polity IV
Drury, Krieckhaus, and Lusztig (2006)	Political and social aspect	Polity IV FHI ACLP Database (Alvarez et al.)
Cuberes and Jerzmanowski (2009)	Political aspect	Polity IV
Patti and Navarra (2009)	Political aspect	Polity IV
Song et al. (2017)	Political aspect	Polity IV DD
Acemoglu et al. (2019)	Political aspect	Polity IV FHI
Rita et al. (2019)	Political and social aspect	Economist Intelligence Unit

AFRICAN STUDIES		
Van de Walle (1999)	Political aspect	Own classification
Nkunrunziza Bates (2003)	Political aspect	Polity IV
Rodnik wacziarg (2005)	Political aspect	Polity IV
Ferree and Singh (2006)	Political aspect	Own classification quantified from Polity IV
krieckhaus (2006)	Political aspect	Polity IV
Tiruneh (2006)	Political aspect	FHI
Fosu (2008)	Political aspect	LIEC /EIEC
Narayan et al. (2011)	Political aspect	LIEC FHI
Jaunky (2013)	Political aspect	FHI
Knutsen (2013)	Political aspect	Polity IV
MENA STUDIES		
Rachdi & Saidi (2015)	Political aspect	Polity IV
Nayebyazdi (2017)	Political, social, economic aspects	Democracy index (Economist magazine)
Nosier and El-karamani (2018)	Political, social, economic aspects	FHI and V-Dem

3.2.2. Conceptual issues for political stability

Political stability is defined in politics as the regularity with which political transactions occur, "...so any deviation from this line is considered political instability…"(Ake, 1975, 273). On the other hand, in terms of economics, the duration of regimes rather than the nature of the regimes are more important.. Obtaining additive data from the idea of political exchanges is challenging in terms of quantitative coding. As a result, it is computed as the proportion of political leaders to the total number of political leaders who diverge from the usual pattern of political exchanges. This concept explains the use of political instability as a proxy for political stability in empirical research. According to (Araee, 2016, 23), in one study, political instability is defined by four dimensions: stable political systems, stable government, external stability and internal law and order. However, a high focus on state stability is noticed in most studies. In addition, political instability was measured through six indicators: "lack of structural change, lack of violence, lack of control, indicators and correlations, state functionality, and patterns of political behaviours".

(Mădălina, 2015) mentioned that most scholars concluded that political instability has a destructive influence on EG in at least two ways: First, it interrupts market operations and labour relations, which directly negatively impacts productivity. Second, the investment will be reduced during insecurity in the political climate. Tables 7 and 8 present the main indications of political instability used in literature.

Table 7

Overview of existing political instability indicators

Source: (Araee, 2016, 25).

Indicator	Coercive behaviours	Government change	Political protests
Attributes terrorism,	assassinations, armed attacks, civil wars, civil strife, conflicts, domestic violence, and strikes.	whether regular or irregular, such as illegal elections, revolutions, and coups.	mass arrests, anti-foreign demonstrations and fractionalization.

Table 8

Overview of existing political instability indicators in research

Source: Author's construction.

Study	Political stability approach
CROSS-SECTIONAL STUDIES	
Barro (1991)	Government Change Coercive Behaviours
Alesina et al. (1996)	Government Change Coercive Behaviours
Feng (1997)	Government Change
Kirmanoğlu (2003)	Government Change Coercive Behaviours
Miljkovic and Rima (2008)	Government Change
Jong-A-Pin (2009)	Government Change
Polachek and Sevastianova (2012)	Coercive Behaviours
Aisen and Veiga (2013)	Government Change
Kazerooni et al. (2020)	Coercive Behaviours
OTHER REGIONS	
Younis et al. (2008)	Government Change Coercive Behaviours
Cebula (2011)	Coercive Behaviours
Abdel-Latif et al. (2019)	Coercive Behaviours
Çela & Hysa (2021)	Government Change Coercive Behaviours
ONE COUNTRY STUDIES	
Campos and Karanasos (2008)	Government Change

	Coercive Behaviours
Diken et al. (2018)	Government Change Coercive Behaviours

MENA STUDIES	
Tosun et al.(2008)	Government Change
Zghidi (2017)	Coercive Behaviours
Nedra and Boujelbene (2018)	Coercive Behaviours

3.3. Empirical issues

3.3.1. Data and variables

As indicated in the second chapter, differences in findings in this research area reflect changes in dataset selection, variable selection, modelling and econometric methodologies. As a result, no agreement was reached. Scholars acknowledged selection bias and modelling loopholes in earlier studies; thus, results may change if different factors and proxies are used (Brunetti, 1997; Przeworski & Limongi, 1993). For instance, the variable of political instability has been employed as a proxy or dummy in most situations due to the subjectivity of assessing the conditions (Boese, 2019). Furthermore, due to differences in the definition of democracy, this variable has been assessed in various ways and occasionally using dummies. On the other hand, issues concerning econometric methodologies and approaches, such as causality and robustness analysis, are critical in this study area (Knutsen, 2012). The contradictory findings are the consequence of poor econometric analysis and statistical flaws.

(Boix et al., 2012) conducted a study to update and substantiate a commonly used dataset on democracy that included the years 1800–2007 and 219 nations. Initially, the authors allude to three well-known debates in assessing democracy:

1. Components that contribute to participation and competition;
2. Numerical that analyses whether democracy measurement is dichotomous, polychotomous, continuous, or conditional;
3. Measurement that analyses aggregation and scale methods.

The authors have developed a dichotomous index based on both contestation and participation in the second section. Furthermore, it was compared to other typical democratic policies. As a result, the data demonstrates how the predictors of democracy have changed since 1800.

(Wahman et al., 2013) published an updated article presenting a modified version of Hadenius and Teorell's authoritarian government type dataset. Furthermore, the authors claimed that dataset selection is likely to influence the findings of empirical studies significantly.

According to (Boese, 2019), in applied political and economic research, the issue of properly measuring a state's governance system for statistical studies has been fiercely debated. As a result, the study was carried out to analyse the setup, strength and limits of three of the most well-known democracy datasets: Polity 2, FHI, and V-Dem. This paper's contribution follows the debate on the merits and shortcomings of democracy, which was the main topic of numerous papers. The author states that before conducting an analysis, academics should first understand the unique setup of current indices and validity and reliability, which are dependent on respect to the underlying concept, measurement level, data collection, and aggregate. Based on the central criticism that some indices acknowledge only one dimension (electoral) while ignoring other components of democracy, a conceptual and statistical analysis was performed to assess the validity of these three indices in empirical research. The results are summarised in Table 9. The authors highlighted the significance of the V-Dem dataset in empirical research for several reasons:

1. V-Dem was launched following the publication of Polity and FHI data, and it was developed by researchers who profited from the limitations, caveats and pitfalls of previous datasets;
2. The Bayesian item response models of the Varieties of Democracy dataset are flexible to new information, enabling it to become the new benchmark for evaluating democracy and adapt to future difficulties;
3. Polity 2 index is better ideal for studies that examine the endurance of institutional frameworks (de jure), while V-Dem takes into consideration potential de facto and de jure implications, and FHI was created as a measure of civil freedoms and political rights (de facto).

Table 9

Conceptual analysis of the FHI, Polity 2 and V-Dem

Source: (Boese, 2019, 108-117).

Index	Coverage and Range	Aggregation rule	Strength	Weaknesses
FHI	1972-2016 1 (highest) to 7 (lowest)	Addition	-Covers a variety of democratic features (civil liberties and political rights).	-Subjective definition -Concept changed over time; -Absence of justification in Aggregation; -Measurement problems; -Data availability; -Unclear separation between de facto and de jure features of a political system and their impact on democracy measurements.
Polity 2	1800-2016 -10 (lowest) to 10 (highest)	Combination of weighting and addition	-Broad temporal and spatial scope; -Detailed coding rules; -Disaggregated data is publicly available.	-No theory behind aggregation rule; -Definition: omission of suffrage/any participation; -Factionalism categorization; -Interregnum takes 0; -Missing data for the foreign interruption.
V-Dem	1900-2016 0 (lowest) to 1 (highest)	Mixture of Bayesian item response theory measurement models,	-Broad temporal & spatial scope;	-Uncleat differences between a polity's de facto and de jure components and how they affect democratic measures.

addition,	and multiplication.	-Weakest link argument included in aggregation procedure; -Theoretical justification of aggregation rules; -Bridge and lateral coding -Disaggregated data is publicly available; -Discussion of measurement error; -All variables are offered in addition to the ordinal version.

In the MENA empirical studies, this dilemma prompted researchers to define democracy using a variety of aspects and, as a result, diverse datasets. For example, (Rachdi & Saidi, 2015) utilised Polity 2, (Nayebyazdi, 2017) used the Economist for Nations dataset and (Nosier & El-karamani, 2018) used the V-Dem dataset. Still, the results are equal in this region, which strenghten the adverse role of democracy in MENA countries' EG.

On the other hand, the same problem has been identified in research that has examined the impact of political stability on EG. For example, (Barro, 1991; Campos & Karanasos, 2008; Jong-A-Pin, 2009) viewed social unrest and regime instability as political instability; they utilised banks (CNTS) as their primary data source. (Miljkovic & Rimal, 2008) took data from Siermann's (1998) dataset and utilised disputes as a proxy for political instability. (Cebula, 2011) defines *political stability* as 10 economic freedoms and political rights. Hence the World Bank dataset was utilised.

Tables 10 and Figure 5 demonstrate that the polity dataset has been extensively used to study the impact of democracy on EG due to the availability of data for many nations over an extended period. CNTS seems to be the primary data source for WGI's political stability research because of its objective methodology, which gathers governance attitudes from survey respondents and expert views from throughout the globe.

Table 10

Datasets for democracy and political instability in research

Source: Author's construction.

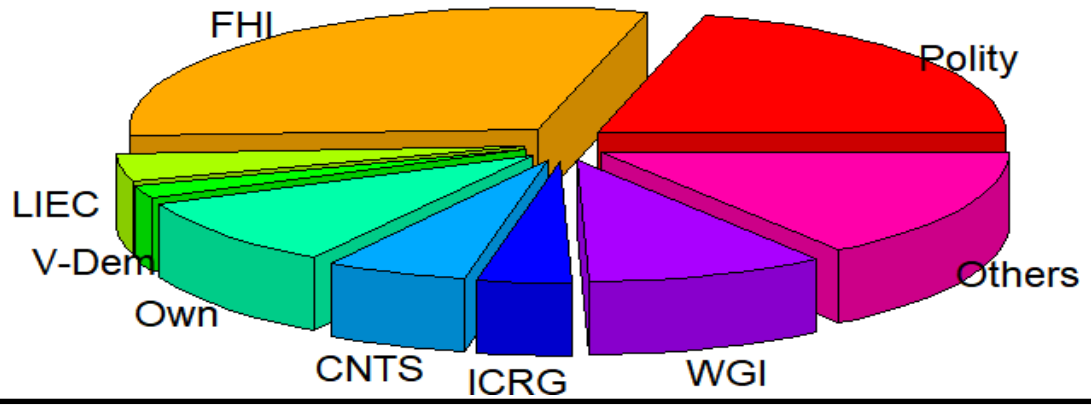
Dataset	Democracy	Political stability	Studies
Banks		*	Barro (1991)
Bollen (1960 & 1965)	*		Weede (1983)
CNTS		*	Campos & Karanasos (2008) Jong-A-Pin (2009) Aisen & Veiga (2013)
Economist Intelligence Unit	*		Rita et al. (2019)
Economist magazine	*		Nayebyazdi (2017)
FHI	*	*	Kormendi and Meguire (1985) Marsh (1988) Scully (1988) Grier and Tullock (1989) Barro (1989) Dasgupta (1990) World Bank (1990) Levine and Renelt (1992) Helliwell (1994)

			De Haan and Siermann(1996) Tavares and Wacziarg (2001) Kirmanoğlu (2003) Tiruneh (2006) Narayan et al. (2011) Jaunky (2013) (Baklouti & Boujelbene, 2020
ICRG		*	Tosun et al.(2008) Zghidi (2017)
Gasiorowski's dataset	*		De Haan and Siermann (1995)
LIEC	*		Fosu (2008) Nosier and El-karamani (2018)
Pennsylvania State University (2000, 2005) COW data[3]		*	Polachek & Sevastianova (2012)
Polity	*	*	Nkunrunziza and Bates (2003) Plumper and Martin (2003) Rodnik and wacziarg (2005) Drury, Krieckhaus and Lusztig (2006) krieckhaus (2006) Cuberes and Jerzmanowski (2009)

[3] http://www.correlatesofwar.org/

			Patti and Navarra (2009) Knutsen (2013) Rachdi & Saidi (2015) Song et al.(2017) Acemoglu et al. (2019)
Siermann (1998)		*	Miljkovic & Rimal (2008)
WDI		*	Kazerooni et al. (2020)
WGI	*	*	Cebula (2011) Nedra and Boujelbene (2018) Diken et al. (2018) Abdel-Latif et al. (2019) Çela & Hysa (2021)

Democracy_political stability datasets used in research



Dick (1974)	Political aspect	Authoritarian, semi-competitive, competitive
Huntington and Dominguez (1975)	Political aspect	Party-communist, party non-comb, competitive, unstable
Weede (1983)	Political aspect	Bollen (1960 and 1965)
Kormendi and Meguire (1985)	Social aspect	FHI
Landau (1986)	Political aspect	Dummy variable
Marsh (1988)	Social and Political aspect	FHI
Pourgerami (1988)	Political aspect	Own (5 categories rule of law)

Scully (1988)	Social and Political aspect	FHI
Grier and Tullock (1989)	Social aspect	FHI
Barro (1989)	Political aspect	FHI
Dasgupta (1990)	Social and Political aspect	FHI
World Bank (1990)	Social and Political aspect	FHI

Figure 5 Democracy-political stability datasets used in research

Source: Author's construction (R software).

3.3.2. Robustness analysis

The robustness of econometric models is another critical issue in this field, such as validity and how responsive its outcomes are to changes in variables and specifications, especially when multiple growth models are utilised. Previous cross-country growth regression studies evaluating the relationship between EG and political factors were reviewed for robustness (Levine & Renelt, 1992), and the results are weak. The existing literature in this research area shows very few studies that performed sensitive tests; hence, using its outcomes may lead to conflicting views, as discussed previously. On the other hand, according to (Araee, 2016, p. 40), the majority of research that conducted robustness analysis relied on two methodologies. First, the EBA method determines whether independent variables strongly correlate with the dependent variable across many model regressions. Second, Robustness and Sensitivity Analysis is a crucial phase for testing the validity of a model. Hence, it is essential to have diagnostic tools that can evaluate the model robustness and guarantee that its specifications are a valid and, therefore, accurate estimate. The techniques of robustness analysis used in the previous studies are summarised in Table 11.

Table 11

Robustness analysis methods used in research

Source: Author's construction.

Study	Robustness Analysis method	Comments
Weede (1983)	-	By employing Bollen's 1960 ideals for political democracy rather than those of 1965, the model is robust across a variety of equations and historical periods.
Levine and Renelt (1992)	EBA	Political stability and economic conditions are not consistently associated with EG, as is shown by looking at how robust the calculated coefficients are.
Barro & Lee (1993)	Sensitivity analysis	Utilise the benchmark from 1960 to estimate achievement in 1970, and the benchmark from 1970 to estimate achievement in 1980. In addition, apply benchmarks from 1970 and 1980 to assess 1960 and 1970 attainment.
De Haan and Siermann (1995)	EBA	EG and democracy (political and civil rights) are incompatible. The GDP is really not much impacted by democracy, either directly or indirectly.
Alesina et al. (1996)	Sensitivity Analysis	By changing the model's specification, adding additional variables, and deleting a few nations, the robustness of this conclusion has been statistically and ostensibly assessed.
De Haan & Siermann (1996)	EBA	They came to the conclusion that there is no meaningful connection between economic development and democracy (in its four

		manifestations). Furthermore, neither the direct nor the indirect impacts of democracy on EG are very significant.
Tavares and Wacziarg (2001)	Sensitivity Analysis	1. Sensitivity to system model specification by means of empirical specification search, exclusion of GDPC channel equations, time and area effects and SUR estimations; 2. sensitivity to sampling via spatial and temporal coverage.
Plumper and Martin (2003)	Sensitivity Analysis	Through the incorporation of regional dummies for Asian countries and unique political constraints, the robustness is shown.
Drury, Krieckhaus, and Lusztig (2006)	Sensitivity Analysis	The findings robustness has been assessed using the index of democracy for cross-sectional analysis, it is also analysed using the other six control variables.
Song et al. (2017)	Sensitivity Analysis	By employing robust regression techniques as an alternative to OLS regression when the data is polluted by outliers or influential observations, it may also be used to identify influential observations.
Acemoglu et al. (2019)	Sensitivity Analysis	By many techniques: 1. Adjusting for possible trends due to variations in GDP levels at the start of the sample; 2. Interactions between a dummy for Soviet countries during 1989, 1990, 1991, and post-1992; 3. Lags for trade exposure and external financial flows; 4. Lags for the population log and the population share.

		5. Examined how sensitive our baseline results are to outliers. By removing nations having a standardised residual, we may estimate our chosen specification; 6. Alternative GMM estimators; 7. Examined the impact of democratisation and reversals independently (transitions from democracy to nondemocracy).
Rita et al. (2019)	Sensitivity Analysis	Introduced PCA, a data clustering technique that produces lower dimensional data.
Nkunrunziza Bates (2003)	Robustness Analysis	The robustness has been tested through : 1. Serial correlation tests; 2. Validity of the instruments tests; 3. Regression of the residuals.
Rodnik wacziarg (2005)	Sensitivity Analysis	By evaluating the influence of democratic transition relative to the alternative of regime stability at all by controlling for other sorts of regime changes. Also, examine the patterns that alter in different subsamples, particularly in low-income nations.
Narayan et al. (2011)	-	OLS
Jaunky (2013)	Robustness Analysis	Through using multiple tests: 1. Hansen (1982); 2. Sargan (1958); 3. Difference-in-Hansen test ; 4. DOLS method and FMOLS.

CHAPTER THREE : RESEARCH ISSUES

Nosier and El-karamani (2018)	Sensitivity Analysis	1. Divided sample into 3 groups; 2. Examined the sensitivity of the estimated coefficients; 3. Estimated the effect of democracy on the channel variables and the effects of the channel variables on EG; 4. Examined the indirect effect using three different estimators; 2SLS, SUR, and OLS for six models.
Kirmanoğlu (2003)	Robustness Analysis	Tested the time series for stationarity AIC and SBC Johansen procedure.
Miljkovic and Rimal (2008)	EBA	The influence of economic and political factors on political stability is individually and jointly assessed using three distinct models..
Jong-A-Pin (2009)	Robustness Analysis	The robustness of the findings may be attributed to the construction of the model, the coverage of the samples, the exclusion of variables and the modification of time spans.
Polachek and Sevastianova (2012)	Robustness Analysis	This was accomplished through the use of the following five methods: data on both inter- and intra-state conflicts, data from the year 2000, the influence of wars measured in terms of the length of time ranging from one to thirty years, polity, the categorization of area, national income and finally the utilisation of an alternative statistical model specification.
Aisen and Veiga (2013)	-	Through institutional factors, limited samples, or other time periods.
Abdel-Latif et al. (2019)	-	Given the differences across nations, PSM was used to maximise the observable similarity between treatment and control groups.

CHAPTER THREE : RESEARCH ISSUES

Diken et al. (2018)	Robustness Analysis	Several robustness tests.
Baklouti & Boujelbene (2020)	Robustness Analysis	Through using multiple tests: 1.The Sargan test 2.Durbin-Wu-Hausman test 3.Time series Tests

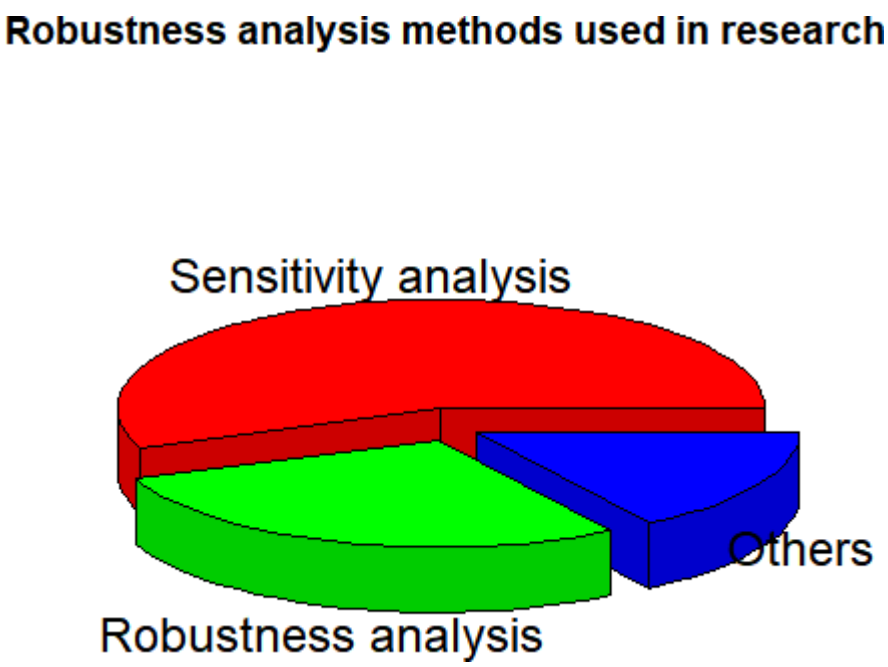


Figure 6 Robustness analysis methods used in research

Source: Author's construction (R software).

3.4. Summary

This chapter aimed to examine the conceptual and empirical issues presented in the literature on political-EG. First, we demonstrated that political factors such as democracy and political stability were defined based on different aspects and assessed using several datasets, with Polity, FHI, V-Dem, CNTS, and WGI being the most well-known in research on democracy and political stability. Second, empirical issues related to the robustness of models were discussed to demonstrate the significance of this step in this study field. As a result, after presenting the most often utilised datasets, variables, and techniques employed by researchers and the challenges they faced, the next chapter investigates the impact of democracy and political stability on EG in MENA nations.

CHAPTER FOUR

THE IMPACT OF DEMOCRACY AND POLITICAL STABILITY ON ECONOMIC GROWTH IN THE MENA REGION

CHAPTER FOUR: THE IMPACT OF DEMOCRACY AND POLITICAL STABILITY ON ECONOMIC GROWTH IN MENA REGION

4.1. Introduction

As indicated in the introductory chapters, previous studies have revealed controversial conclusions when assessing the impact of political factors on EG. This debate has primarily been linked to conceptualisation and empirical issues. The fourth chapter is composed of two parts, the first part describes the emperical study methodology and findings based on a broader definition of political variables, notably democracy and political stability. Secondly, we perform a comparative analysis between countries to analyse existing findings. Section 2 provides the theoretical framework within which the empirical study is conducted, a description of all variables and expected outcomes, the study's data source and collected data analysis. Section 3 involves descriptive statistics for the dependent and explanotory variables, estimated results and robustness analysis, while Section 4 includes a discussion of findings. Section 5 is dedicated for the comparative analysis in terms of regime type, oil production and rich-poor countries classifications. Finally, section 6 concludes this chapter with a summary.

4.2. Theoretical framework and Data overview

This study assumes that democracy and political stability are regressors for EG following (Acemoglu et al., 2008). However, according to (Baklouti & Boujelbene, 2020), political stability is not consistently related to democracy, which is a significant concern that appears in the empirical research and that can be learned from nations without democracy yet with consistent prosperity and political stability. Therefore, the impact of these variables on EG is examined using a Gauss–Markov theorem and modelled as follows:

$$Y = X\beta + \varepsilon$$

The baseline model is derived from (Rachdi & Saidi, 2015) that considered as the first contribution study in the MENA region in this research area:

$$GROWTH_{it} = \beta_1 INF_{it} + \beta_2 TRADE_{it} + \beta_3 GOVTSIZE_{it} + \beta_4 POP_{it} + \beta_5 DEMOCRACY_{it} + \beta_6 autoc_{it} + \beta_7 pst_{it} + \varepsilon_{it}$$

Our econometric model incorporates the explanatory variables similair to most growth regressions found in the literature:

- GDPC growth (GROWTH): the annual growth rate of real GDPC is computed as the percentage change in real GDPC between two consecutive years;
- TRADE (TRADE): import plus export divided to GDP, given the advantageous of international trade on EG to economic development, a positive score is expected;
- Population growth (POP): is the population's overall growth rate.. Lower GDPC growth results from higher population increases. As a result, a negative coefficient is predicted;

Following (Aisen & Veiga, 2013), two more variables were added to the model :

- Inflation rate (INF): illustrates the yearly change in the consumer price index (CPI). High inflation has been shown to have a detrimental effect on EG, therefore a negative coefficient is predicted;
- Government to GDP (GOVTSIZE): is the proportion of final public consumption to GDP. A negative coefficient is expected.

The model interest variables are

- Political stability index (pst): a measure of political instability that includes violence and terrorism. A negative coefficient is anticipated because increased instability makes future economic policies more unpredictable and, as a consequence, results in less EG;
- Democracy (DEMOCRACY): democracy is described by the following 3 macro-level indices: "deliberative democracy index, egalitarian democracy index, and participatory democracy index." These three indicators are included in the research because they best depict democracy in these countries. According to previous literature in the MENA region, a negative impact is expected.

Due to differences in regime type, a third variable was as follows:

- Institutionalised Autocracy (autoc) : denotes the chief executives' chosen process. A positive impact is expected.

(Kriekhaus, 2006) disagreed with prior research including investment in their model, because "...first, investment is endogenous, with rapid rates of growth leading to higher levels of investment. Second, and perhaps more importantly, investment is an intervening variable rather than an independent variable, and so controlling for its impacts is incorrect…" (Kriekhaus, 2006, 326). As a result, the investment variable is not employed in the model.

4.2.1. Data description[4]

Due to the wave of democratisation that began in the 1980s, the research encompasses panel data from 15 MENA nations from 1983 to 2019: "Algeria, Bahrain, Egypt, Arab Republic, Iraq, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, and Tunisia". The Penn World Table, the World Bank's World Development Indicators, and the Country's economy are the sources of the economic statistics. The V-Dem, Systematic Peace, and World Bank's Worldwide Governance Indicators were used to gather political data. The resources and data description are summarised in Table 12.

[4] All statistical inference in this research was conducted using Rstudio; the precise R-script and pertinent data sets are accessible upon request.

Table 12

Data description

Source: Author's construction.

Variable	Label	Definition	Source
Economic growth	GROWTH	GDPC annual growth.	WDI/Country economy
Trade	TRADE	The total of goods and services imported and exported, divided by GDP.	WDI
Government final consumption to GDP	GOVTSIZE	The revenue that reflects government spending on goods and services.	WDI
Population growth	POP	The annual total growth of population.	WDI
pst	Political stability index	Takes values from -2.5 to +2.5 depict a conventional normal distribution, with -2.5 being the most unstable scenario and +2.5 indicating the most stable.	WGI
Participatory democracy index	partipdem	The citizens' active engagement in all political processes, including electoral and	non-electoral.

V-Dem

Deliberative democracy index	delibdem	The democratic deliberative principle is concerned with how decisions are made in a society.	V-Dem
Egalitarian democracy index	egaldem	The degree to which social groups have equal access to resources, authority, and guaranteed rights and freedoms.	V-Dem
Institutionalised Autocracy	autoc	The restricted competitive political participation and regularised the chief executive selection process.	Polity5

4.2.2. Data overview and analysis

As per the case of the existing literature in this research area, missing values for variables may challenge the empirical analysis and exacerbate the study's output. According to (Yiran & Peng, 2013), missing data may substantially impact quantitative research, leading to erroneous parameter estimates, information loss, lost statistical power, increased standard errors, and reduced generalizability. Therefore, it is agreed that a dataset with less than 5% of missing values is acceptable for research. However, a percentage of more than 5% requires a "Fill in" process based on the data pattern. In this context, several studies have used the interpolation technique to impute missing values, and others used variable means (or medians) to fill missing values. Therefore, as a first step, a diagnostic analysis was performed to explore the collected data and check the readiness of variables for the study using R software. Political stability and final government consumption to GDP show missing data (Figure 7). For GOVTSIZE, Bahrain, Iraq, Kuwait, and Saudi Arabia have the most missing data, whereas pst has missing values in all nations. Figure 8 shows the percentages of missing values, with 93.3% as present values and 6.7% as missing, indicating that imputation is required to fill missing data and ensure a robust analysis, especially given the current conflicting views on the impact of democracy and political stability on EG. Figures 9 and 10 show the distribution pattern and mechanism of missing data in GOVTSIZE and pst, which is crucial in imputation.

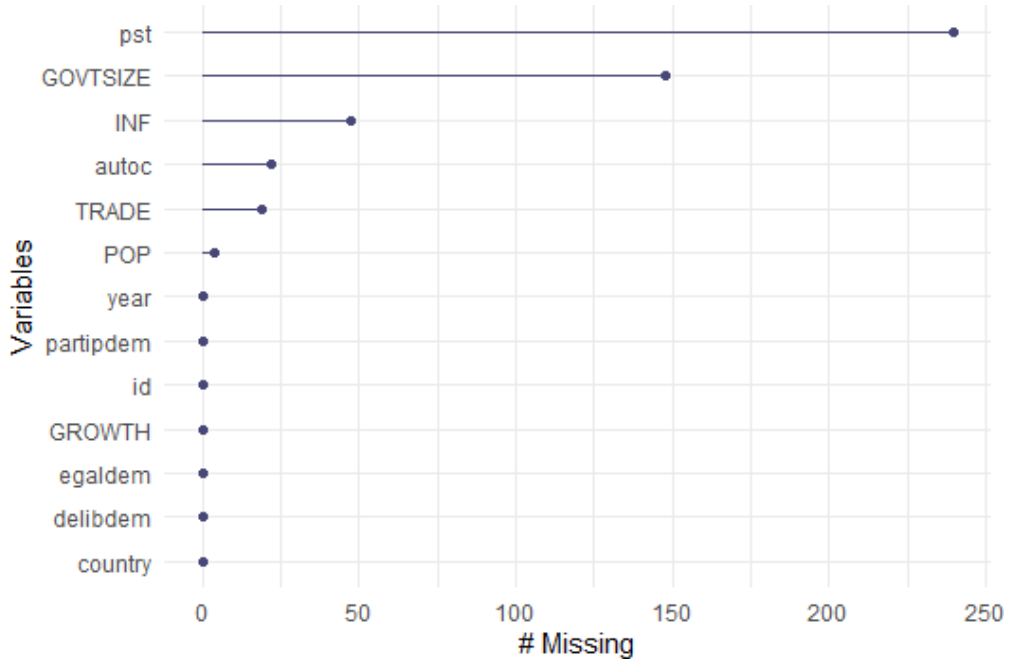


Figure 7 Missing data general overview

Source: Author's construction (R software).

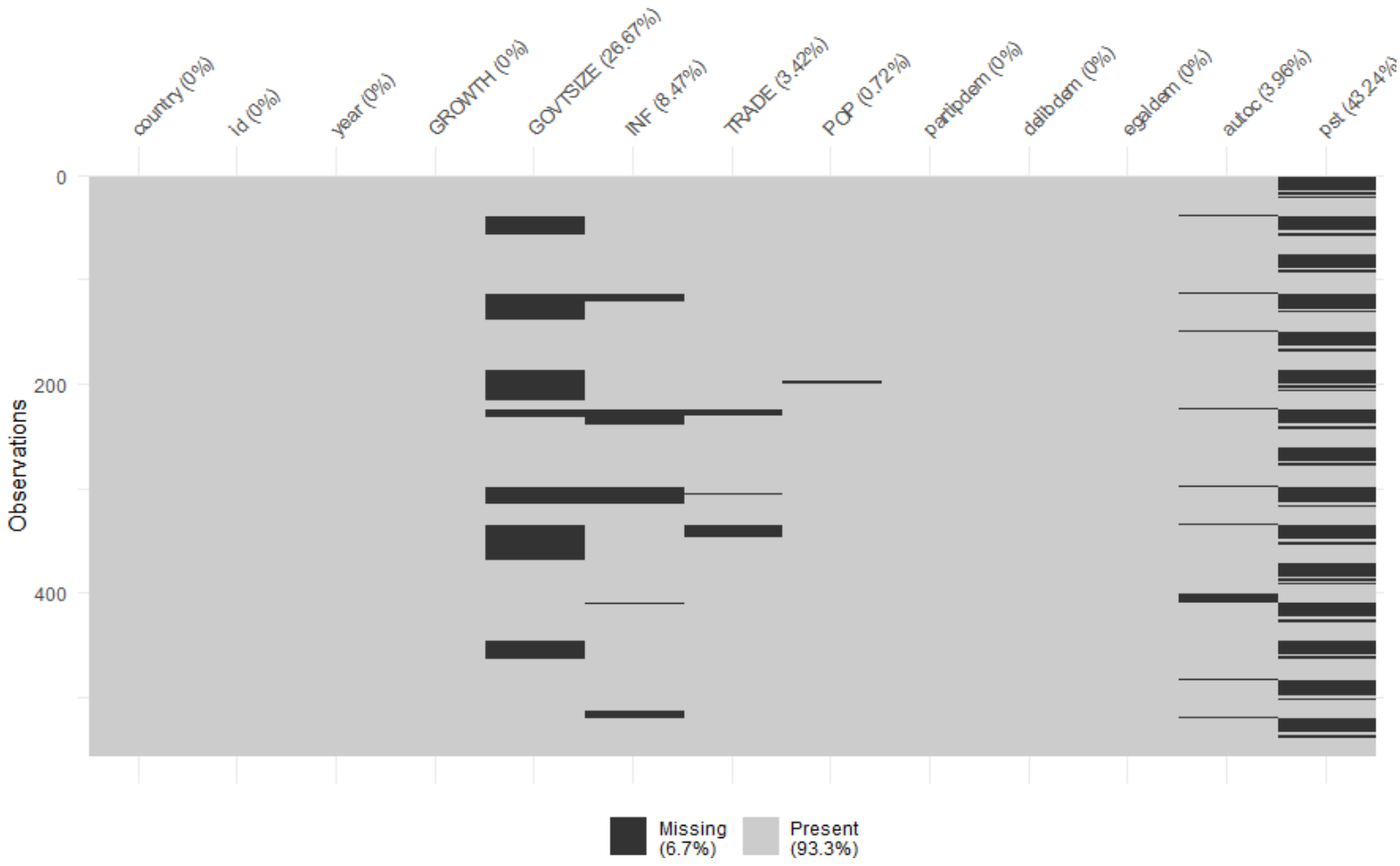


Figure 8 Percentage of missing values for each variable

Source: Author's construction (R software).

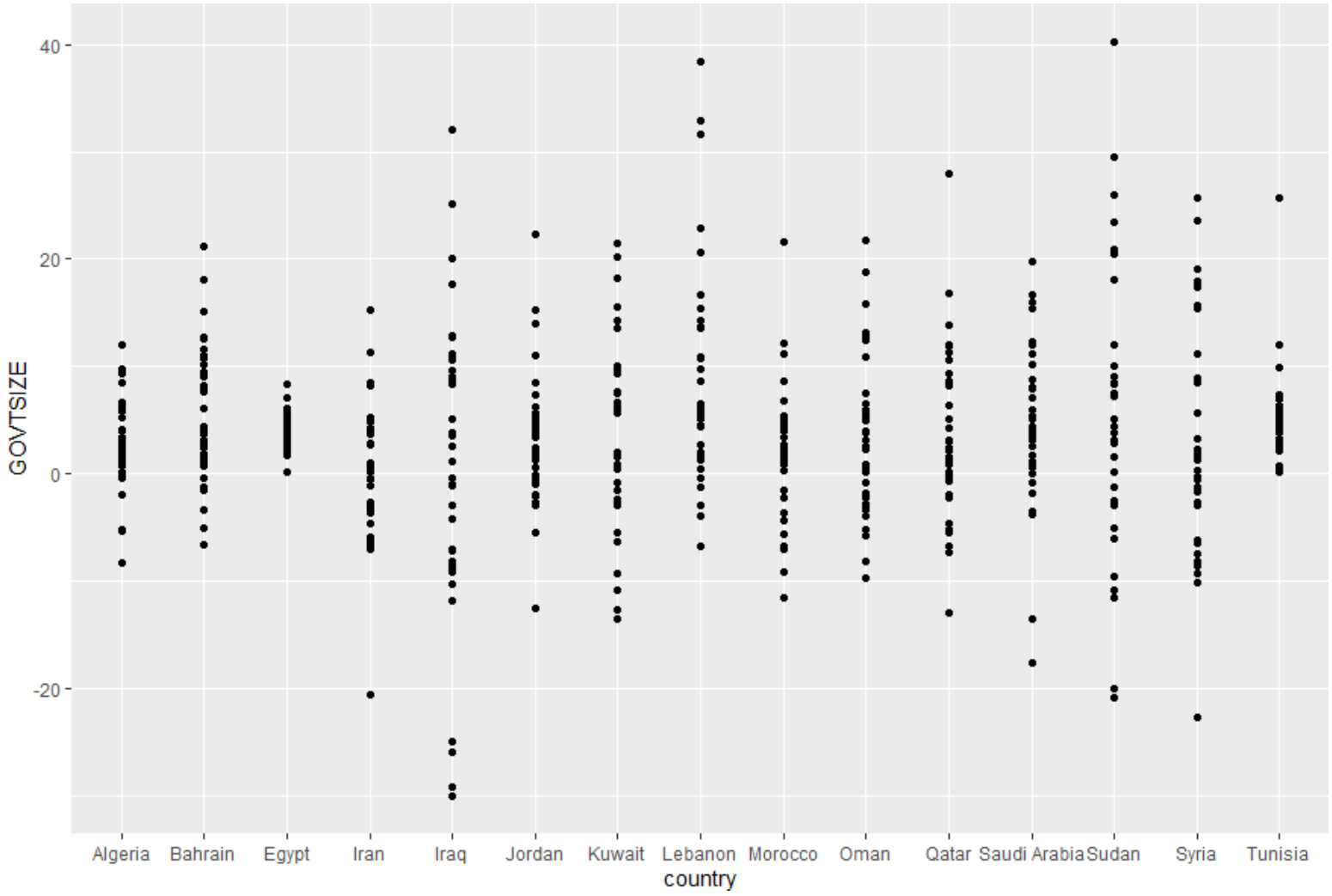


Figure 9 The mechanism of missing values in GOVTSIZE

Source: Author's construction (R software).

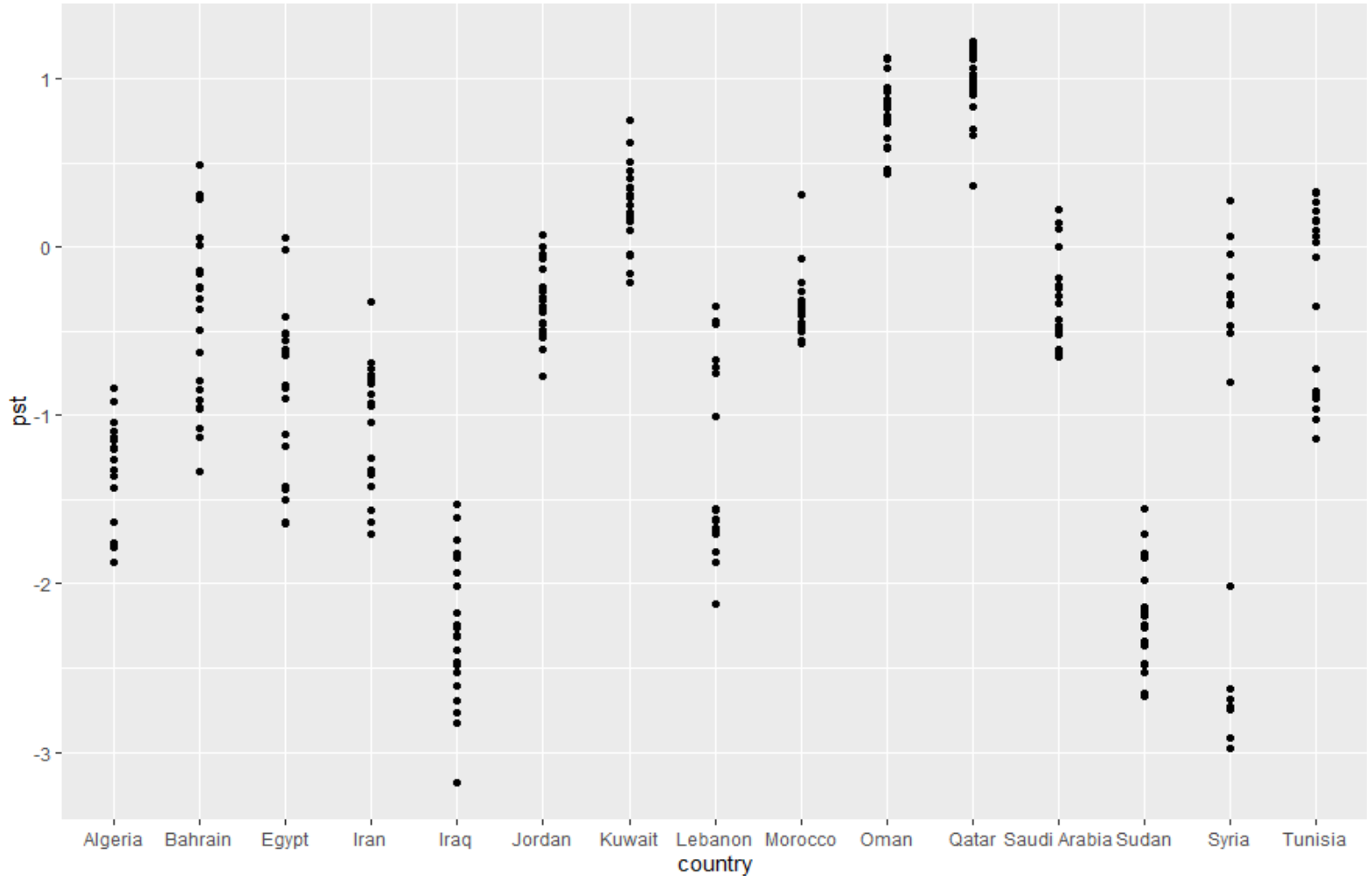


Figure 10 The mechanism of missing values in pst

Source: Author's construction (R software).

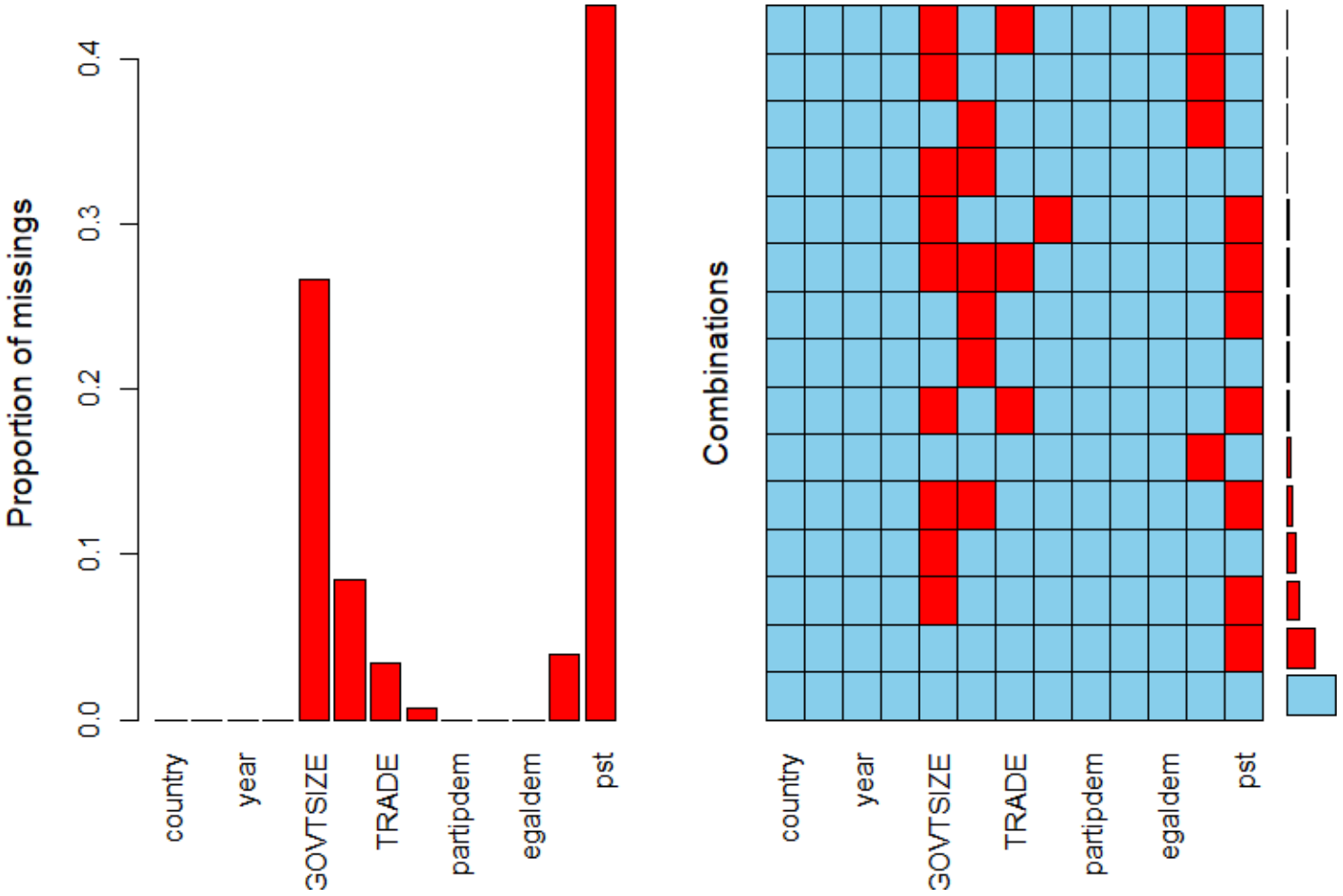


Figure 11 Missing values pattern

Source: Author's construction (R software).

The missing values pattern (Figure 11) assists researchers in identifying the types of missing data and, as a result, the best imputation method. There are two categories of missing data: monotone and non-monotone patterns, and each pattern has recommended imputation strategies for both (see Appendix 12). Our data exhibits a monotone trend, with many missing values for pst. As a result, the "mice" package in the R program was used to impute missing data using a regression approach "monotone REG" (Results shown in Figure 14). Outliers analysis for pst is a final step before running the empirical analysis due to the significant imputation values compared to the rest of the casuals, as shown in Figures 12 and 13.

Figure 12 Boxplot of pst before control for outliers

Source: Author's construction (R software).

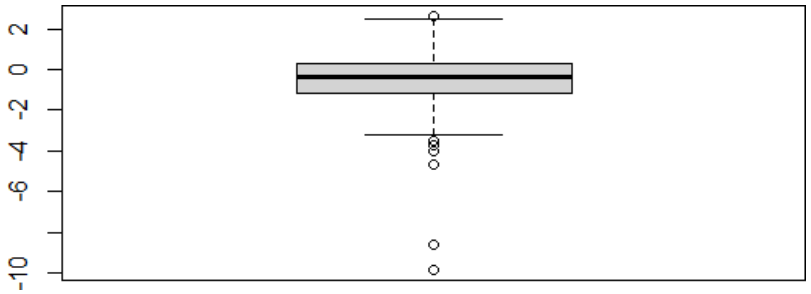
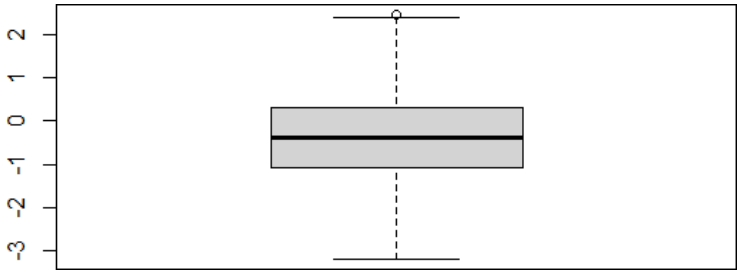


Figure 13 Boxplot of pst after control for outliers

Source: Author's construction (R software).



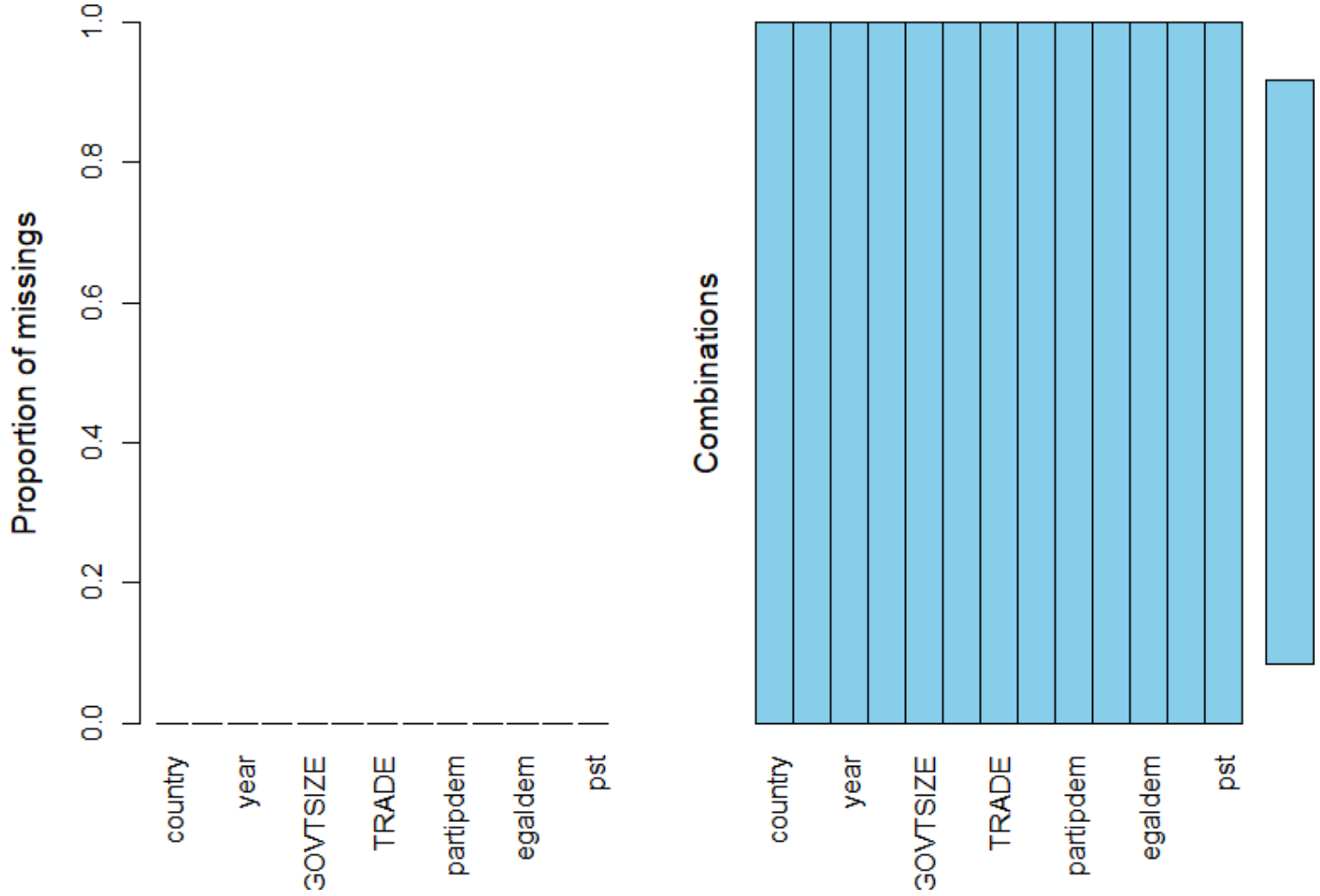


Figure 14 Missing data pattern using monotone REG imputation method

Source: Author's construction (R software).

4.3. Empirical result

4.3.1. Exploring panel data

Figure 15 depicts GDPC growth in the 15 MENA nations. It is notable that from 1985 to 1995, various nations had significant fluctuations in GDP growth, including Iraq, Kuwait and Lebanon. These economic events are the consequence of political effects, such as Iraq and Kuwait due to the Gulf War in 1990 and Lebanon as a result of the Lebanon elections in 1992, demonstrating the region's sensitivity to political events. Thus, it is critical to investigate the influence of political stability and democracy on EG in MENA nations. Table 13 presents a summary of variables.

Table 13

Summary of variables

Source: Author's construction.

Variables	Mean	Median	Max	Min	Obs.
GDP	4.078	3.833	82.800	-64.047	555
GOVTSIZE	3.6903	3.1512	40.2676	-30.0162	555
INF	13.372	4.515	448.500	-43.819	555
TRADE	76.629	74.699	210.161	0.021	555
POP	2.869	2.508	17.512	-4.533	555
PST*	-0.4153	-0.3830	2.4683	-3.1974	555
partipdem	0.09159	0.08000	0.49200	0.01200	555
delibdem	0.1486	0.1440	0.7150	0.0080	555
egaldem	0.1670	0.1570	0.6330	0.0440	555
autoc	1.441	7.000	19.539	-88.000	555

* pst variable named as PST after data analysis phase.

4.3.2. Multicollinearity test

Due to the cross-sectional and time-series data, panel data is significant in this study field. According to (Kennedy, 2008, 281), Longitudinal data comprise "...observations on the same units throughout many periods...". Furthermore, panel data offers "...more useful data, more variability, less collinearity across variables, a greater degree of freedom, and greater efficiency…" (Baltagi, 2001, 6). Our study's requirement for panel data analysis is evident since there is country heterogeneity. Table 14 shows the results of a multicollinearity test to assess the association between independent variables, particularly political factors.

Table 14

Multicollinearity test

Source: Author's construction.

Variables	Tolerance	VIF
GOVTSIZE	0.8417786	1.187961
INF	0.7626273	1.311256
TRADE	0.7104264	1.407605
POP	0.8678537	1.152268
PST	0.7746703	1.290872
partipdemoc	0.2754055	3.631009
autoc	0.7885298	1.268183
delibdemoc	0.1437975	6.954222
egaldemoc	0.1527524	6.546542

All of the VIFs presented in Table 14 are less than 10 and move in a range between 1 and 6, hence we accept the null hypothesis of no multicollinearity.

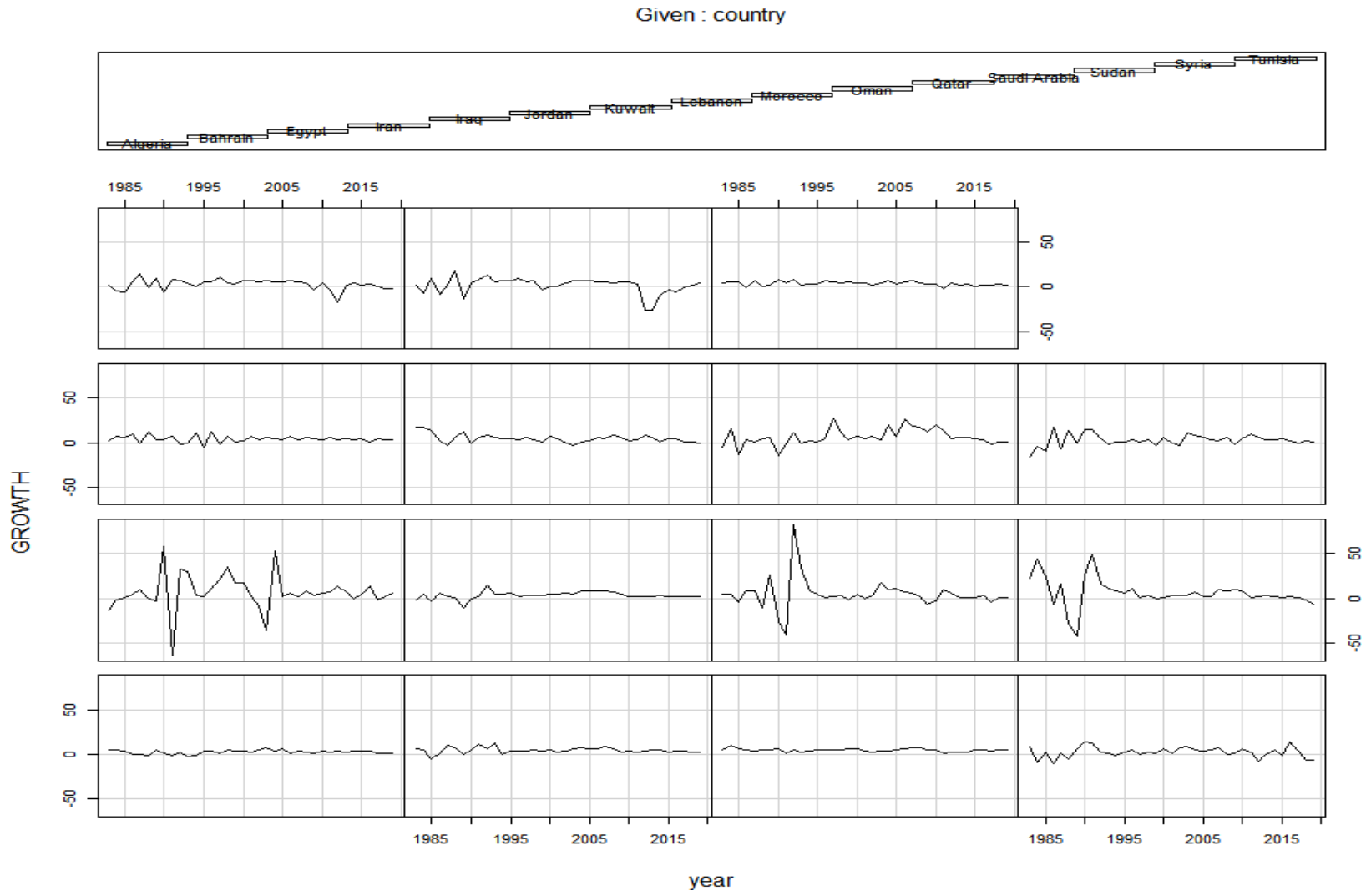


Figure 15 GDPC growth in 15 MENA countries

Source: Author's construction based on World Bank data (R software).

4.3.3. Fixed effect, random effect and pooled OLS estimation

Table 15 displays the estimate findings of the pooled OLS regressions and fixed/random effect regressions, which include the following:

Table 15

Fixed effect, random effect and pooled OLS results

Source: Author's construction.

Regressor	Pooled OLS	Fixed Effect	Random Effect
(Intercept)	0.41 (1.49)		0.41 (1.49)
GOVTSIZE	0.29 *** (0.05)	0.32 *** (0.05)	0.29 *** (0.05)
INF	-0.00157312 (0.01)	-0.02 (0.01)	-0.00157312 (0.01)
TRADE	-0.01 (0.01)	-0.05 * (0.02)	-0.01 (0.01)
POP	0.86 *** (0.19)	0.87 *** (0.21)	0.86 *** (0.19)
PST	-0.82 * (0.39)	-1.17 * (0.46)	-1.82 * (0.39)
partipdemoc	-8.66 (10.03)	-68.14 ** (23.00)	-8.66 (10.03)
autoc	0.00024141 (0.02)	0.05 (0.03)	0.00024141 (0.02)
delibdemoc	1.18 (8.50)	24.44 (20.16)	1.18 (8.50)
egaldemoc	5.78 (12.00)	26.57 (23.47)	5.78 (12.00)
N	555	555	555
p-value	9.0579e-12	4.9422e-14	1.2635e-12

*** p < 0.001; ** p < 0.01; * p < 0.05, .p<0.1

Because it is irrelevant to our investigation how much dummy variables diverge from the reference group and the real group, a within estimate rather than LSDV was used for the fixed-effect model.

4.3.4. Model Selection: fixed/random or pooled OLS

☐ **fixed vs pooled OLS**

The F-test evaluates the goodness-of-fit between the data and the following hypothesis by comparing the pooled OLS model with the fixed effect model.

H_0: $\mu_0=\mu_1=$……..μ_{-1}

H_1: At least one dummy is not zero

And F-test is calculated as follows:

$$F = (n-1, nT-n-k) \quad \frac{(R^2_{LDSV} - R^2_{pooled})/n-1}{(1-R_{LDSV})/nTn-K} =$$

If the alternative hypothesis is accepted, then we may deduce that the fixed effect model has a greater degree of goodness-of-fit, which indicates that it compares well to the pooled OLS model. The results of the test are grouped and summarised in Table 16.

☐ **fixed vs random**

The Hausman test is often used to simply examine whether or not the unique errors (ui) is associated with the regressors, with the assumption that they are not related serving as the null hypothesis when making a decision between a random effect and a fixed effect:

H_0: the preferred model is random effects

H_1: the preferred model is the alternative

Table 16

Restricted test of Fisher and Husman test

Source: Author's construction.

Tests	F-Test	Husman Test
P-value	0.01785	0.0003068

We reject the null hypothesis because the probability value (Prob>F =0.0003) indicates that there are substantial variations across nations. Running a fixed effect model is thus preferable.

4.3.5. Robustness analysis (Diagnostic tests)

Our estimation relies heavily on robustness analysis since, according to the findings of other studies, this was one of the most significant issues of interest. Therefore, these statistical hypotheses—including time-fixed effects, unit root stationarity, heteroskedasticity, serial correlation, and cross-sectional dependence—were investigated. The outputs of these tests help to understand what estimate is necessary to generate strong results; consequently, the credible analysis adds to the continuing debate. Table 17 displays the results of the robustness study that was performed.

Table 17

Robustness analysis (Diagnostic tests)

Source: Author's construction.

Diagnostics	Time-fixed effects	Unit-root stationarity	Heteroskedasticity Cross-sectional	Serial correlation
			dependence	
Test	F test for individual effects	The Dickey-Fuller test to check for stochastic trends	Breusch-Pagan test Wooldridge test	Pesaran CD test Breusch-Godfrey and

e
l
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Hypotheses	The null is that no time-fixed effects needed	The null hypothesis is that the series has a unit root (i.e. non-stationary). If the unit root is present, the variable's initial difference may be calculated.	The null hypothesis for the Breusch-Pagan test is homoscedasticity.	The null hypothesis in the B-P/LM and Pasaran CD tests of independence is that residuals across entities are not correlated. Cross-sectional dependency might result in erroneous test findings.	The null is that there is no serial correlation.
P-value	0.9898	0.01	2.2e-16 .	0.1453	0.0005308
Comment	No need to use time-fixed effect.	No unit-roots present.	Presence of heteroskedasticity		No cross-sectional dependence	There is a serial correlation

The results demonstrate two fundamental estimate problems: heteroskedasticity and serial correlation. A large corpus of studies has focused on these issues (Baltagi & Griffin, 1988), (Baltagi, 2005) but (Baltagi, 2008) mentioned that in the panel data literature when handling heteroskedasticity issues, serial correlation is ignored. On the other hand, heteroskedasticity is neglected when dealing with serial correlation. (Drukker, 2003) stated that serial correlation in the mistakes in the data component of panel-data model biases the standard errors and reduces the efficiency of the results; researchers must identify serial correlation in the errors. Heteroscedasticity arises when the residual variance is not consistent over a range of measured values. The hypothesis of the Breusch-Pagan test to check heteroskedasticity and the Breusch-Godfrey and Wooldridge test for serial correlation can be described as the following:

- Breusch-Pagan test:

H0: there is homoscedasticity
H1: there is heteroskedasticity

- Breusch-Godfrey and Wooldridge test for serial correlation

H0: there is homoscedasticity
H1: there is heteroskedasticity

The Arellano approach was used to make the standard error resilient in order to manage autocorrelation and heteroscedasticity of panel data. The findings of the Arellano approach for controlling autocorrelation and heteroscedasticity are shown in Table 18.

Table 18

Controlling autocorrelation and heteroscedasticity (arellano)

Source: Author's construction.

Regressor	Robust Fixed Effect
(Intercept)	
GOVTSIZE	0.32 *** (0.09)
INF	-0.02 *** (0.01)
TRADE	-0.05 . (0.02)
POP	0.87 *** (0.18)
PST	-1.17 ** (0.43)
partipdemoc	-68.14 ** (21.76)
autoc	0.05 * (0.02)
delibdemoc	24.44 (21.57)
egaldemoc	26.57 (22.04)
N	555

*** p < 0.001; ** p < 0.01; * p < 0.05, .p<0.1

4.4. Discussion of results

The empirical analysis comprises four different proxies for democracy and a proxy for political stability to explore the effect of these two variables on EG in the region. The Hausman test verifies the suitability of the fixed-effect estimating approach utilised in this research (the P-value is lower than 5%).

In the context of economic factors, final government consumption and population growth are catalysts, with an increase of one unit in final government consumption and population growth resulting in a EG spurt of 0.32 and 0.87 units, respectively. However, inflation and trade have a negative influence on EG. It is reduced by trade by 0.05 units and by 0.02 units for every unit increase in inflation.

Our results confirm the predicted impact of the explanotory varibles but not for population growth and trade where we predicted a negative sign for population growth and positive for trade. For the positive impact of population growth, (Wesley & Peterson, 2017) noted that due to the high proportion of dependent children, rapid population expansion is likely to be harmful in the near and medium terms. Long-term demographic benefits are anticipated for these nations as these young people mature into productive adults.. On the other hand, the negative impact of trade is shown in the indirect negative impact of the purchase of imported goods and services on GDP (Were, 2015).

In terms of political factors, the coefficient of the participatory democracy index is negative and statistically significant. A rise of one unit in this index is predicted to reduce EG by 68.14 units. The institutionalised autocracy index coefficient, on the other hand, is positive, and each unit rise boosts EG by 0.05 units. However, both the deliberative and egalitarian indices were statistically insignificant. Finally, for political instability, the WGI political stability index shows a substantial negative impact on the EG of 1.17 units.

Our findings provide convincing evidence that democracy and political instability have a detrimental influence on MENA EG. These results are in line with earlier studies (Narayan et al., 2011; Aisen & Veiga, 2013; Rachdi & Saidi, 2015; Nayebyazdi, 2017; Zghidi, 2017; Abdel-Latif et al., 2019; Baklouti & Boujelbene, 2020).

Several factors can explain democracy's detrimental influence on growth: (Rachdi & Saidi, 2015) indicated that the amount of democracy varies amongst nations impact results, with Lebanon and Turkey having the most significant level of democracy, Egypt, Morocco and Tunisia are mainly being democratic, and the remaining countries classified as authoritarian regimes. A second argument revealed by (Nayebyazdi, 2017) said that the adverse impact of democracy is due to reliance on oil revenue as one of the primary drivers of these nations' poor democracy scores. Governments that get their wealth from oil do not need democracy, while non-oil exporting countries rely on taxes to fund their spending. Thus, they must communicate with their citizens in more democratic ways. A third argument is that democracy is perceived as a consumption regime rather than an investment regime (Ghardallou & Sridi, 2019). Due to the elected party's fear of losing power, four or five years in power is inadequate to generate solid investments, resulting in increased government expenditure on short-term reforms to assure a second mandate. Moreover, it develops weak democratic institutions in these fledgling democracies. Finally, the EG level and the fact that democracy performs better in wealthy nations also impact the quality of democratic institutions (Nosier & El-karamani, 2018).

The use of V-Dem, the most relevant dataset in empirical studies, reveals that in addition to the arguments mentioned earlier, the negative impact of democracy in these countries is due to the regime's weaknesses, notably in the chief executive selection process. Elections and citizens' engagement in all political processes have harmed many nations' EG. However, there is a high degree of growth and stability in countries where the government is led by the king (Islmaic regime), such as Saudi Arabia and Bahrain. For instance, the region's democratic wave in 2010 aimed to solve all issues and assure progress; nevertheless, the new governments continued to function slowly and far from the promised life that people were hoping for, despite the increased degree of democracy.

The positive effect of political stability on EG is explained by the negative effect of political instability. Investment is the most variable that is impacted by political instability in the region, for instance, after the events of the Arab Spring, several nations in the MENA area experienced low rate of investment, hence, low EG. For example, Libya experienced a decrease in GDP by more than 60 %in 2011. In addition, political instability impedes EG by influencing the inflation rate and exchange rate, as stated in (Diken et al., 2018).

The impact of political stability on EG is positive and scholars have a consensus on this debate. However, the impact of democracy on EG is still revealing different outputs, which is negative in the MENA region despite the use of different models, datasets and methods. Our study shed light on an important variable (autoc) that helps to understand the negative impact of democracy. Thus, we performed a comparative study aims to:

1. Analyse the negative impact of democracy found in this study and previous ones;
2. Contribute to determine what factors affect EG in the MENA countries in this research area moddeling, to help future scholars in investigating this debate.

4.5. The Comparative study

As mentioned earlier, according to previous literature in the MENA region, the negative impact of democracy is due to the poor quality of institutions, oil production and executive selection process. Therefore, to have a clear view of this study's findings and previous studies, we performed a comparative analysis where we classified MENA countries into three categories following the (Nosier & El-karamani, 2018) approach.

The first classification is based on regime type. We divide the sample into Islamic regime governments where the King is selected based on Islamic rules and a democratic government where the president is selected based on elections. This classification came from (Barro & McCleary, 2003), who conducted that religion is a determinant of EG, and from (Rachdi & Saidi, 2015) findings as they stated that Islamic regime governments have high GDP growth in addition to the positive impact of Islamic executive selection process found in our study. A second classification is based on oil production Global Economy data (low oil production if a country produces less than 1000 barrels per day, high oil production if a country produces more than 1000 barrels per day, and non-oil production, Figure 16), which allows us to delve into the quality of communication between citizens and governments in oil-producing and non-oil producing countries as (Nayebyazdi, 2017) have mentioned. Finally, a categorisation based on GDPC separates nations into affluent nations with yearly incomes of at least $4,000 and poor nations with annual incomes of at least $4,000 (Nosier & El-karamani, 2018). Table 19 presents the classified categories.

Table 19

Classification of MENA countries

Source: Author's construction.

Classification						
Regime type		**Oil production**			**GDPC**	
Islamic regime governments	Democratic regime governments	High	Low	Non	Rich	Poor
Bahrain Iran	Algeria Egypt	Algeria Iran	Bahrain Oman	Egypt Jordan	Bahrain Iran	Algeria Egypt
Jordan Kuwait Morocco Oman Qatar Saudi Arabia	Iraq Lebanon Sudan Syria Tunisia	Iraq Kuwait Qatar Saudi Arabia	Morocco Sudan Syria Tunisia		Kuwait Lebanon Oman Qatar Saudi Arabia	Iraq Jordan Morocco Sudan Syria Tunisia

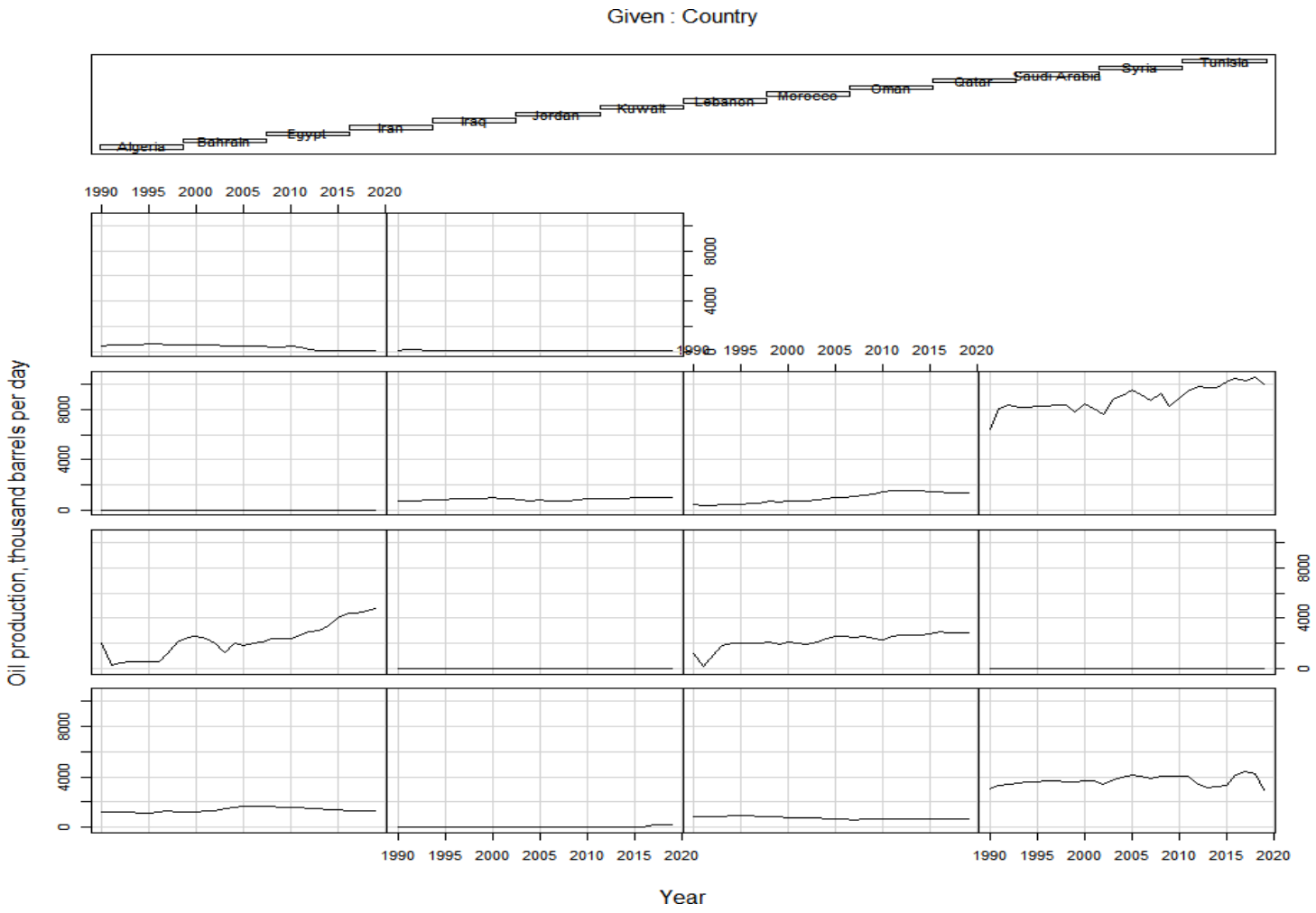

Figure 16 Oil production thousand barrels per day in MENA, 1990 to 2019

Source: Author's construction based on Global Economy data (R software).

4.5.1. Regime type and Oil production analysis :

The study's sample included eight Islamic regime governments and seven democratic governments, as shown in Table 19. First, we compare these three regimes in terms of political stability, which is crucial for investment, hence, EG. Figure 17 shows that Islamic regime governments have low scores in terms of political instability compared to democratic countries; however, from 1985 to 1990, Iraq, Iran, and Oman experienced high levels of political instability due to the war. The stability in Islamic regime countries is due to several reasons: First, the genuine and stable selection of the King because the reign is successive where these countries can benefit from the continuous performance and low political conflicts. Moreover, high trust and respect for the King. Second, the stability in rules such that all Muslims accept Sharia rules. Thirdly, the regime's long period helps provide more long-term investments and reforms that lead to more stability. Moreover, it is noticeable that scholars in Islamic regime countries, especially Islamic scholars, have an important role in building the country and guiding both the King and citizens, which is absent in democratic countries.

Political stability is essential for investment; thus, greater stability leads to more investment opportunities. As a result, we analyse Greenfield investments data, which accounted for the region's 4.86 per cent of MENA GDP, particularly from 2003 to 2013. This period was chosen because it clearly explains the impact of democratisation due to the wave countries experienced during these years. Data (Appendix 13) shows that Algeria, Bahrain, Egypt, Morocco, Qatar, Saudi Arabia, Tunisia, and the UAE benefited from many projects nurturing EG and decreasing unemployment. However, the wave of democratisation that began in 2010 has resulted in a sharp decrease in FDI, particularly in democratic countries such as Tunisia, Egypt, and Algeria.

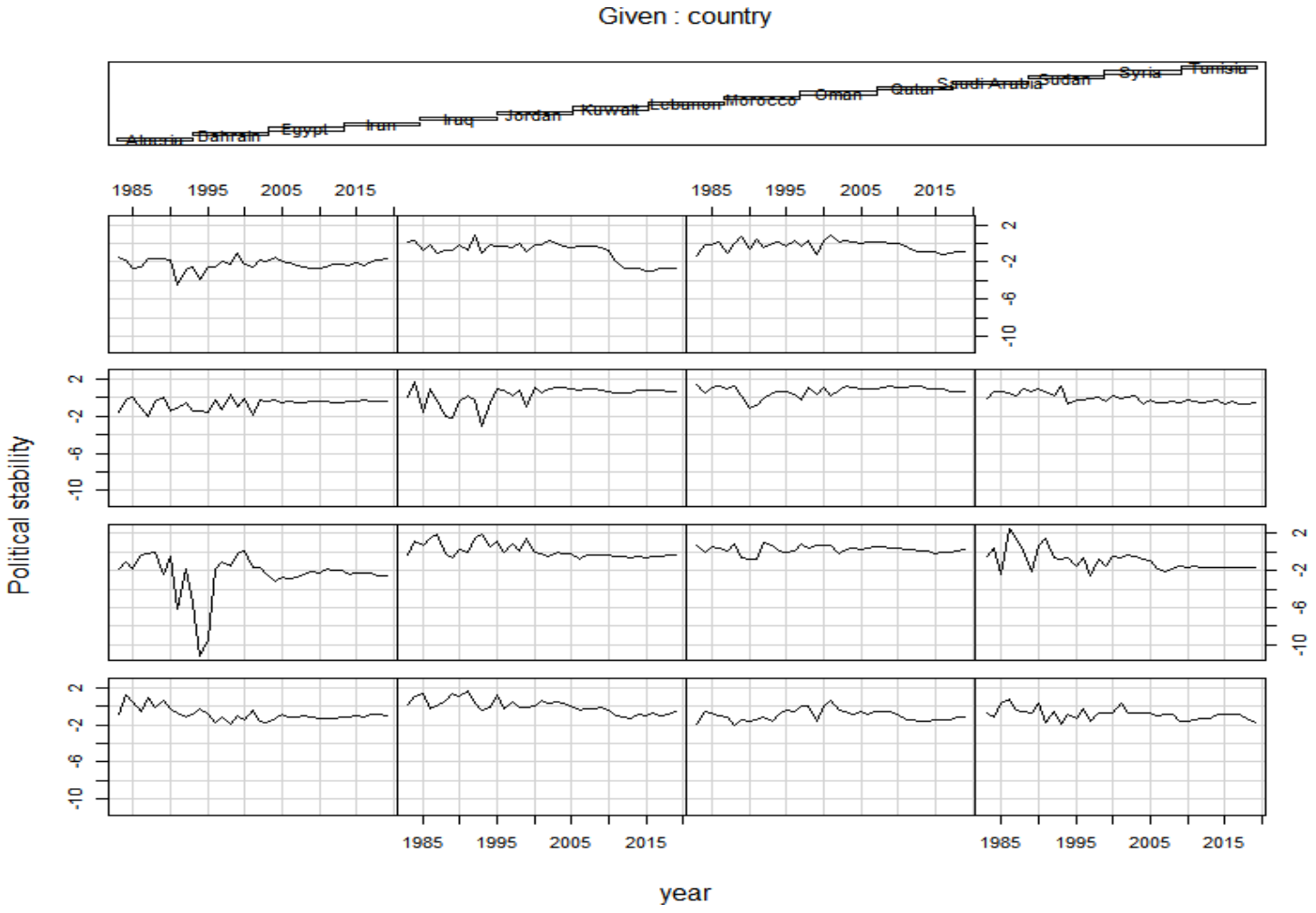

Figure 17 Political stability in MENA, 1990 to 2017

Source: Author's construction based on World Bank data (R software).

These findings raise the question of whether political stability is the only factor that spurs Islamic regime countries to the top of the list regarding FDI flows and EG or if there are other factors involved. Moreover, since the top five countries are oil-producing, oil production may be perceived as a determinant of EG in the region.

This assumption is examined using two indices collected from the Global Economy datasets. The Economic Globalisation Index has two aspects: actual economic flows and restrictions on trade and capital. Furthermore, we employ the public service index to analyse the output that oil-producing countries communicate with their citizens worse than non-oil governments that provide good communication because of tax income (Nayebyazdi, 2017). The public service index includes basic state functions that benefit people, such as health care, education, water and sanitation, transportation infrastructure, electricity and power, and internet and connectivity. It ranges between 0 and 10, with 0 indicating high quality and 10 indicating low quality.

According to (Nayebyazdi, 2017), we hypothesise that oil-producing countries are expected to have lower public services quality, whereas non-oil-producing countries are expected to have higher public services quality. Figure 18 shows that Algeria, Egypt, Iran, Iraq, Lebanon, Morocco, Syria, and Tunisia have the lowest levels of public services quality. However, Bahrain, Jordan, Kuwait, Oman, Qatar, and Saudi Arabia are countries with the highest level of public service quality. This analysis shows that democratic countries rank at the bottom of the list, which contradicts the hypothesis; therefore, how can countries that rely on revenue taxation and citizens' participation provide such poor service?

The following is an answer to this question: First, as stated by (Ghardallou & Sridi, 2020), democracy is considered a negative factor for EG due to the short-term regime type in which election winners and parties focus only on the second mandate and give special privileges to their supporters in the future. As a result, high government expenditure will be spent on political events and short-term investments rather than long-term investments; besides, good public services will be available only for minorities. Second, while democracy was expected to reduce corruption and nepotism, which exacerbate public services quality, (Zirari & Souar, 2022) found that democracy fosters corruption.

Algeria and Iraq are democratic and oil-producing countries. However, citizens' access to good health care, education, transportation, and other amenities is limited, as it is in non-oil democratic

countries such as Lebanon, Tunisia, and Syria. On the other hand, Iran is an oil-producing Islamic regime government with poor public services quality, which may be the source of discrimination against Islam (Suni), ethnicity, language, and gender.

Islamic regime governments such as Bahrain, Kuwait, Oman, Qatar and Saudi Arabia provide good public services to their citizens, stressing the importance of Islamic rules and natural wealth, which indicates a relationship between Islam and well-being. Indeed, the Quran states that Allah has promised those who believe and do righteous deeds that He will grant them the inheritance of power in the land, as He granted it to those before them.

Secondly, the EGI is another index used to assess the sensitivity of the sample to the oil production factor; it measures the impact of oil on regional EG through trade openness and investment. According to previous research, oil-producing countries would be found at the top of the list due to trade and FDI flows on the one hand and low tariff rates and taxes on international trade on the other.

Figure 19 depicts the EGI from 1990 to 2019, indicating that Bahrain, Jordan, Kuwait, Lebanon, Oman, Qatar and Saudi Arabia rank highest in economic globalisation. Lebanon is a non-oil-producing country and has no Islamic regime. However, it has a high economic globalisation index for various reasons: Trade openness and the freedom of movement of money and goods. Second, due to regional conflicts and social unrest, Lebanon has attracted many immigrants from other countries. Third, the ability of Lebanese citizens to speak at least two languages makes it easy for foreign individuals or companies to come to the country to invest, resulting in greater globalisation.

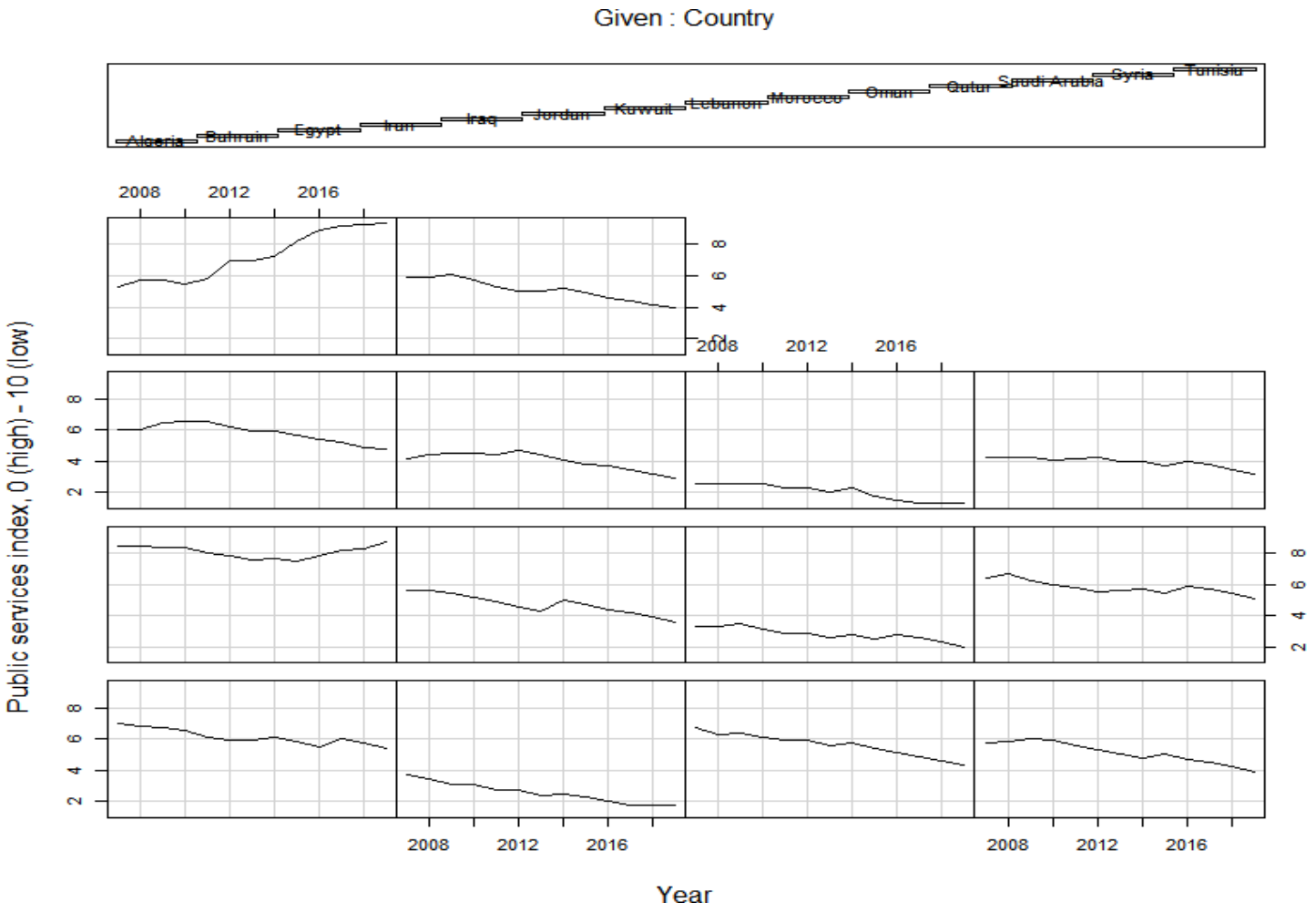

Figure 18 Public service index in MENA, 2006 to 2019

Source: Author's construction based on Global economy data (R software).

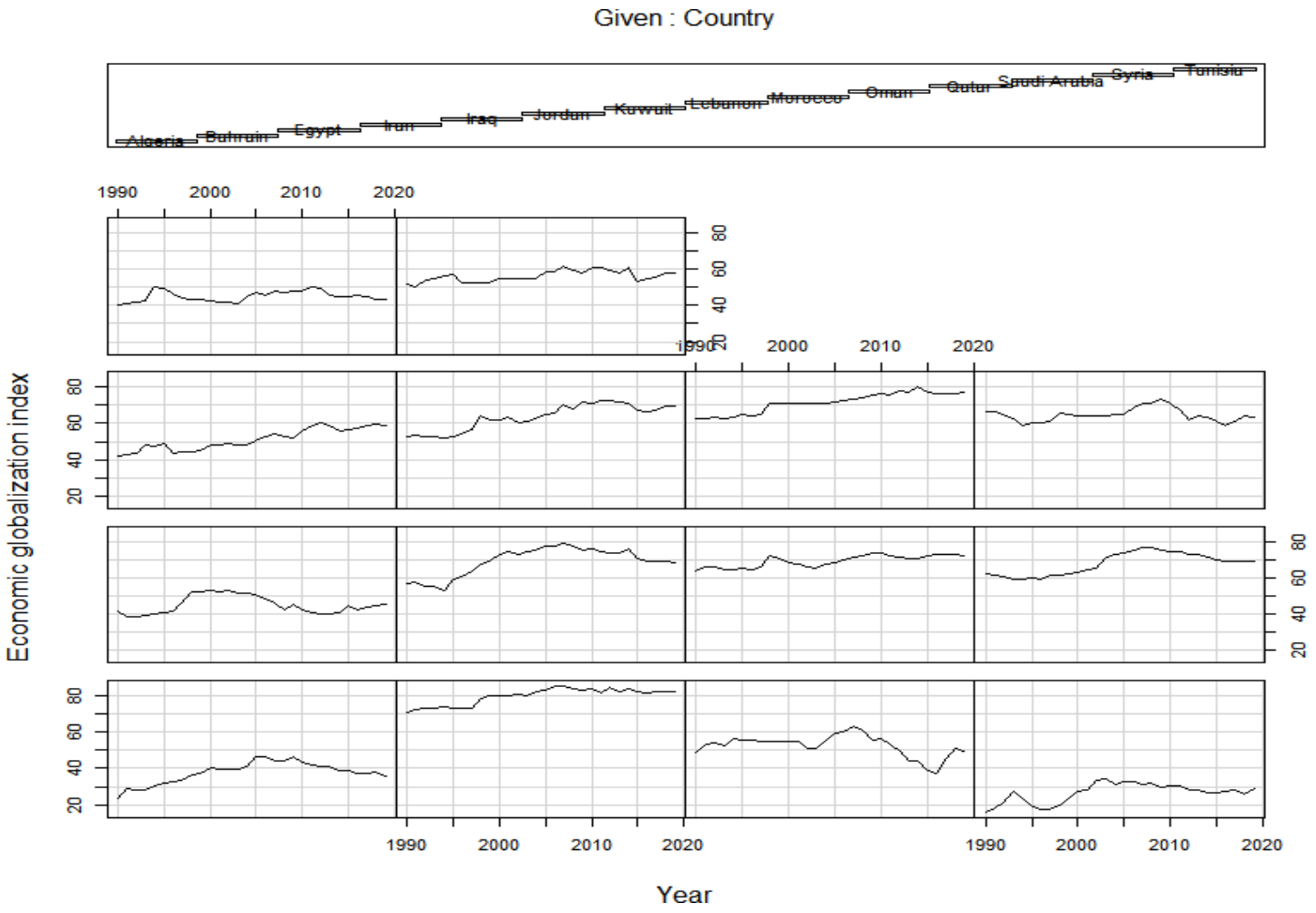

Figure 19 EGI in MENA, 1990 to 2019

Source: Author's construction based on Global economy data (R software).

4.5.2. Rich and poor countries analysis :

(Bagolin & Comim, 2008) mentioned that some researchers have utilised the Human Development Index as an alternative to GDPC, despite the fact that many studies have used GDPC to evaluate economic development in nations as a criterion for well-being. The HDI acts as a base for both social and EG. It serves as a broad indicator of how well a nation's average level of human development is progressing through time in three areas: leading a long and healthy life, having access to information, and having a respectable quality of living. In order to emphasise the value of people and their skills above EG in determining a country's progress, the HDI was established in the early 1990s. The first dimension of a healthy life is the life expectancy at birth; Figure 20 shows HDI dimensions and indicators. The anticipated and mean years of education are included under access to knowledge, and GNIC is used to illustrate a respectable quality of living.

Scholars who pointed out a positive impact of democracy on EG have emphasised that positive impact through channels such as education, health, high life expectancy, and equal income redistribution, which support HDI indicators, and thus the presence of high HDI levels in democratic countries is expected.

As (Nosier & El-karamani, 2018) indicated, the importance of classifying MENA countries in terms of GDPC to poor and rich countries, and that most rich countries in the region are not democratic, the HDI would provide a clear understanding of whether citizens benefit from high human development in democracies. As a result, we examine data from the United Nations Development Programme to shed light on this debate.

Figure 21 shows that Bahrain, Kuwait, Oman, Qatar and Saudi Arabia are high human development countries. Algeria, Egypt, Iran, Jordan, Lebanon and Tunisia are medium human development nations, with Iraq, Morocco, Sudan and Syria as low human development in the region. Bahrain, Kuwait, Oman, Qatar and Saudi Arabia surpass other countries as rich and high-development countries. These countries share the same regime type as Islamic governments and are considered high oil-producing countries. Moreover, ranked as the most autocratic country in the region based on democracy datasets. For instance, Polity gives 10 as a high value of autocracy for Saudi Arabia. The highest ranked democratic countries, such as Egypt and Tunisia, show low human development scores and are classified as poor despite maintaining democracy principles. Morocco shows low

scores in terms of HDI because of the practice of democratic principles in the country, regardless of the Islamic regime.

Based on the HDI and GDPC analysis, data shows that democratic countries in the MENA region failed to achieve either a high level of EG or human development. However, the Islamic regime's governments benefited from long-term regime type, low political crises and oil wealth that ensured a high level of human development, hence, high economic development.

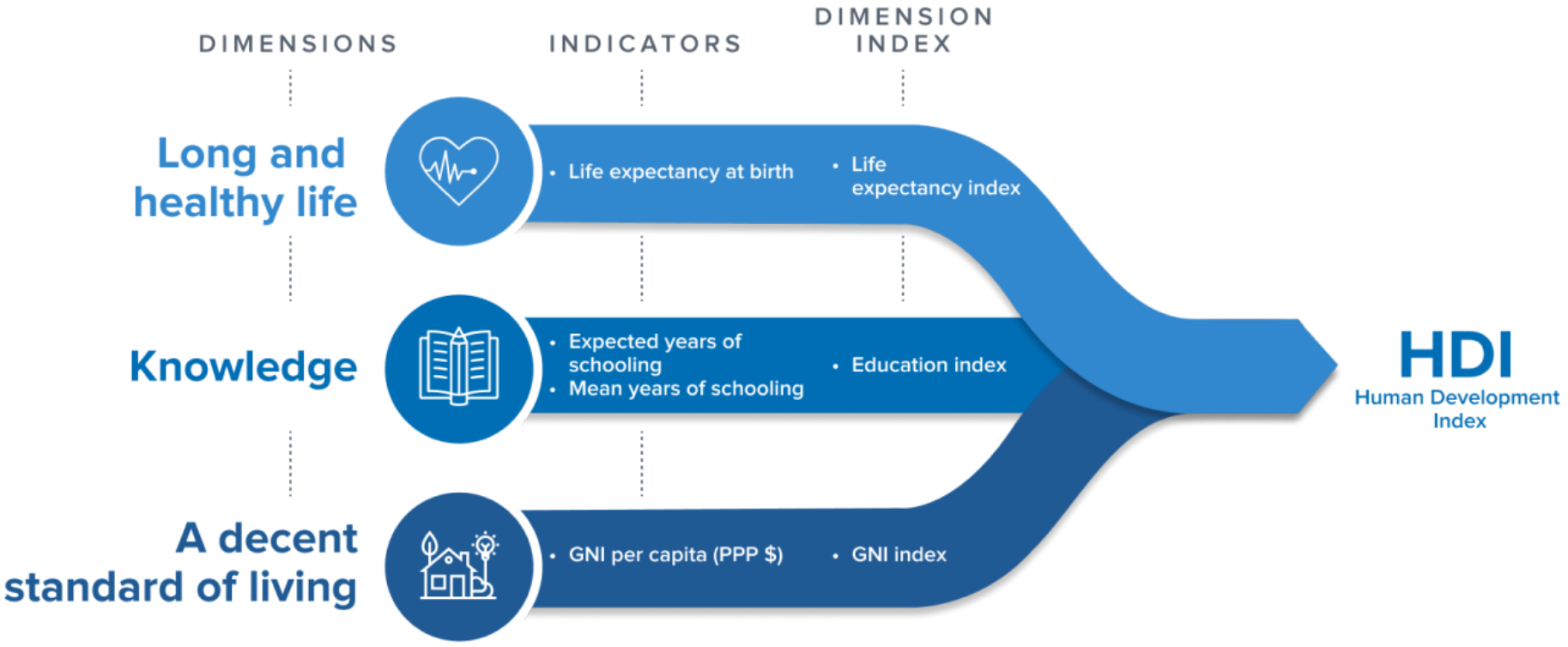

Figure 20 HDI dimensions and indicators

Source: United Nations Development Programme.

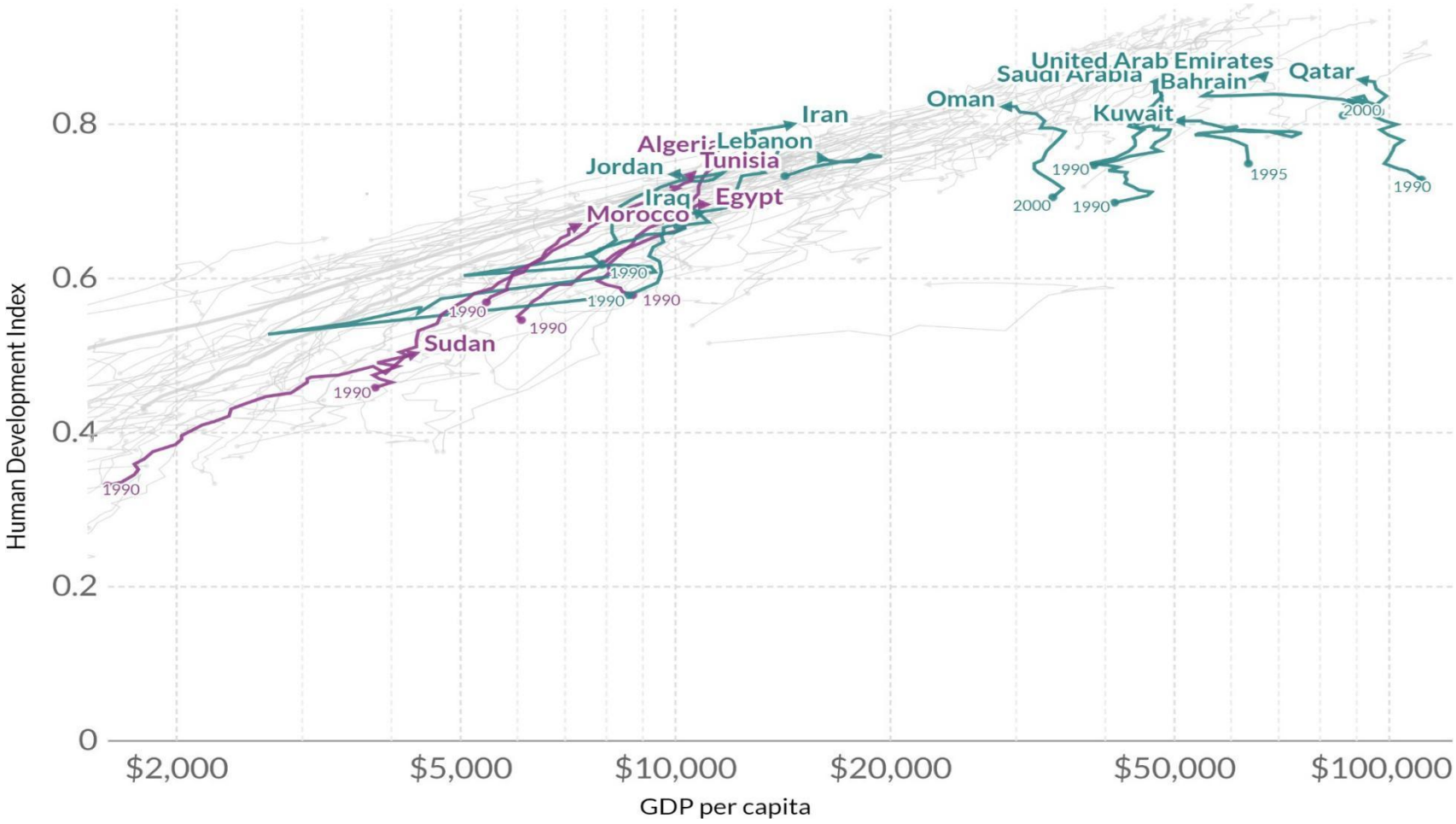

Figure 21 HDI vs GDPC, 1990 to 2019

Source: United Nation Development Programme.

4.6. Summary:

This chapter presents missing data analysis and a panel data fixed-effect estimation utilising the V-Dem dataset as the most appropriate dataset in empirical research and the Arellano method for robustness to investigate the effect of democracy and political stability on EG in 15 MENA countries. It reveals that democracy and political instability have a profoundly detrimental impact on the EG in these nations. Democracy hinders EG through the participatory index, while WGI shows that political stability nurtures regional EG. The study's results are compatible with prior MENA-region research. Therefore, a comparative analysis was performed between countries in terms of regime type, oil production, and GDPC to establish a clear understanding of the negative impact of democracy on EG in the MENA region and highlight the critical determinants of EG in should be included in measeauring this debate in this countries. Islamic regime governments are the best model in the region, with high levels of political stability, better public services, high EGI rates, high oil production and high HDI scores. However, democratic countries show low scores in all dimensions. Thus, the Islamic regime is considered a crucial determinant of EG in the region. Oil production is a second sensitive determinant for EG in MENA countries. Finally, countries with Islamic regimes and high oil production ranked at the top of the list in all dimensions.

GENERAL CONCLUSION

It is critical for economists, politicians, and socialists to investigate the impact of democracy and political stability on EG. For economists, analysing political factors' impact on EG is crucial to determining the best path for economic development; political scientists are interested in the main components of government stability and economic democratisation processes. Meanwhile, social scientists investigate approaches to strengthen interactions among individuals inside those communities, ensuring growth.

The extant research on the effects of democracy on EG reveals diverse views of the positive, negative, or non-effect of democracy on growth, which is the outcome of two fundamental conceptual and empirical concerns. First, the definition of democracy and the scope of the investigation demonstrate a conceptual challenge. An empirical problem is shown in the modelling datasets and empirical estimates' validity. On the other hand, these two concerns are prevalent in political stability research, yet there is a consensus on the findings. Moreover, the gap in outputs in this research area is due to previous studies' findings in future analysis.

Although measuring democracy and political stability in empirical research is crucial, few studies are delivered in this context. As major findings, the V-Dem dataset and WGI are most appropriate for empirical research to deliver robust estimates, hence, reliable results.

This dissertation aimed to examine the effect of democracy and political stability on EG by addressing conceptual and empirical challenges raised in earlier research. The empirical section of the study found that a one-unit increase in democracy and political instability reduces EG by 68.14 and 1.17 units, respectively.

The wave of democratisation and especially the Arab Spring process in 2011 gives a clear view of the destructive impact of democracy and political instability in the region, where countries have experienced an acute negative growth rate. For instance, Libya experienced a severe reduction in oil output to less than 0.5 million barrels per day, resulting in a 62 %drop in real GDP. Tunisia's real GDP fell by roughly 2% after growing at 4.5 % per year during the preceding decade. Yemen's real GDP shrank by about 12 %in 2011. Syrian real GDP fell by about -26.3 % in 2012. Unemployment was another outcome of these political events, with figures showing that rates had doubled.

The negative impact of democracy on EG in MENA countries was expected. According to some, it is the second-worst kind of governance after tyranny, arguing that "...in democracy, it is not safe to

trust the entire ruling power with the first offices in the state, both on account of their iniquity and their ignorance; from the one of which they will do what is wrong, from the other they will mistake..." (Acemoglu et al., 2019, 96). These determinations can be strengthened by previously mentioned results that showed the weaknesses of this regime.

In discussing the adverse negative impact of democracy on EG in the MENA region, we conducted a comparative study to analyse the findings revealed in our study and previous studies. The analysis consists of classifying the MENA region regarding religion, oil production and GDPC. Political stability, public service index, EGI and HDI are the variables used in the analysis. The analysis shows that countries with an Islamic regime type and high oil production are the best models in the region in all analysed dimensions. However, democratic countries showed low scores despite the high oil production in some democratic countries, which confirms the negative impact of democracy. Moreover, from Sharia's viewpoint, democracy is more than a negative factor for EG. It is seen as a kind of Shirk (polytheism) in legislation[5].

The MENA countries have implemented several political policies to promote EG to ensure suitable life quality for their populations. Democracy as a regime type remains the primary concern of policymakers and citizens. This study makes a significant contribution by focusing on the fundamental problems researchers have encountered to present a clear picture of whether democracy and political stability are required for growth. Meantime, contribute to deeply analysing the adverse impact of democracy and help to highlight what affects EG in these countries. The study answers the proposed hypotheses as follows:

- Our study confirms that the political aspect is the most used in empirical research, where Polity and HDI datasets were most used. V-Dem and WGI were used in order to have a full view of the concept of democracy and political stability, respectively;
- This study shed light on issues that led to conflicting views in this research area summarised in conceptualisation and emperical issues;
- Democrcy indeed cripples EG in MENA while political stability is crucial for EG;
- Regime type and oil production are sensitive factors that affect EG in these countries.

The following are the study's ultimate takeaways for scholars whose future work is relevant to this debate:

[5] https://ferkous.com/home/?q=en/fatwa-en-320

- To gain a more comprehensive understanding of political factors, all components should be included in the empirical study;
- Religion and oil variables should be included as a regressor in economic models especially in the MENA region;
- Because missing data exists in political-economic datasets, data reliability analysis is required;
- Sensitivity and robustness analysis is an important step in producing accurate estimates.

In conclusion, policymakers must consider the significance of these results while constructing their governments. Consequently, ignoring the notion and effect of these political issues may result in a persistent economic deterioration. Finally, the theoretical and empirical parts of this thesis demonstrate that if a regime were to encompass all facets of life, which democracy as a human-made regime does not, it would be possible to attain high rates of EG and higher living standards.

Appendices

Appendix 1

Multicollinearity

test Source: R

```
> rg = ols_regress(Y ~ X, data = pdata)
> model= lm(Y ~ X, data = data)
> ols_vif_tol(model)
     Variables Tolerance      VIF
1    XGOVTSIZE 0.8417786 1.187961
2         XINF 0.7626273 1.311256
3       XTrade 0.7104264 1.407605
4         XPOP 0.8678537 1.152268
5         XPST 0.7746703 1.290872
6 Xpartipdemoc 0.2754055 3.631009
7       Xautoc 0.7885298 1.268183
8  Xdelibdemoc 0.1437975 6.954222
9   Xegaldemoc 0.1527524 6.546542
```

software

Appendix 2

Pooled OLS

estimation Source: R

```
> #Pooled OLS estimator
> pooling = plm(Y ~ X, data = pdata, model = "pooling")
> summary(pooling)
Pooling Model

Call:
plm(formula = Y ~ X, data = pdata, model = "pooling")

Balanced Panel: n = 15, T = 37, N = 555

Residuals:
     Min.   1st Qu.    Median   3rd Qu.      Max.
-59.47740  -3.19269  -0.19712   2.72861  71.07583

Coefficients:
               Estimate  Std. Error t-value  Pr(>|t|)
(Intercept)   0.41121672  1.49349156  0.2753    0.7832
XGOVTSIZE     0.29197684  0.04912036  5.9441 4.965e-09 ***
XINF         -0.00157312  0.01325836 -0.1187    0.9056
XTrade       -0.00718936  0.01219665 -0.5895    0.5558
XPOP          0.86252679  0.18709463  4.6101 5.019e-06 ***
XPST         -0.81690735  0.38986218 -2.0954    0.0366 *
Xpartipdemoc -8.66180007 10.02903363 -0.8637    0.3881
Xautoc        0.00024141  0.02223361  0.0109    0.9913
Xdelibdemoc   1.17734788  8.50225636  0.1385    0.8899
Xegaldemoc    5.78004899 11.99874365  0.4817    0.6302
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Total Sum of Squares:    49810
Residual Sum of Squares: 43750
R-Squared:      0.12166
Adj. R-Squared: 0.10716
F-statistic: 8.388 on 9 and 545 DF, p-value: 9.0579e-12
>
```

software

Appendix PAGE [illegible]

Fixed effect OLS estimation

Source: R software

```
Call:
plm(formula = Y ~ X, data = pdata, model = "within")

Balanced Panel: n = 15, T = 37, N = 555

Residuals:
     Min.   1st Qu.    Median   3rd Qu.      Max.
-64.44077  -3.37965  -0.34054   2.96336  70.57974

Coefficients:
               Estimate Std. Error t-value  Pr(>|t|)
XGOVTSIZE      0.316754   0.049497  6.3994 3.430e-10 ***
XINF          -0.022925   0.014627 -1.5673  0.117642
XTrade        -0.047152   0.022492 -2.0964  0.036517 *
XPOP           0.874452   0.211947  4.1258 4.288e-05 ***
XPST          -1.169192   0.464093 -2.5193  0.012051 *
Xpartipdemoc -68.138691  22.998253 -2.9628  0.003185 **
Xautoc         0.045493   0.028496  1.5965  0.110971
Xdelibdemoc   24.438183  20.155142  1.2125  0.225859
Xegaldemoc    26.567590  23.474488  1.1318  0.258244
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Total Sum of Squares:    48534
Residual Sum of Squares: 41585
R-Squared:      0.14318
Adj. R-Squared: 0.10607
F-statistic: 9.85923 on 9 and 531 DF, p-value: 4.9422e-14
```

Fixed effect OLS estimation

Source: R software

```
Call:
plm(formula = Y ~ X, data = pdata, model = "random")

Balanced Panel: n = 15, T = 37, N = 555

Effects:
                 var std.dev share
idiosyncratic 78.31    8.85     1
individual     0.00    0.00     0
theta: 0

Residuals:
     Min.   1st Qu.    Median   3rd Qu.      Max.
-59.47740  -3.19269  -0.19712   2.72861  71.07583

Coefficients:
                Estimate  Std. Error z-value  Pr(>|z|)
(Intercept)   0.41121672  1.49349156  0.2753   0.78306
XGOVTSIZE     0.29197684  0.04912036  5.9441 2.780e-09 ***
XINF         -0.00157312  0.01325836 -0.1187   0.90555
XTrade       -0.00718936  0.01219665 -0.5895   0.55556
XPOP          0.86252679  0.18709463  4.6101 4.025e-06 ***
XPST         -0.81690735  0.38986218 -2.0954   0.03614 *
Xpartipdemoc -8.66180007 10.02903363 -0.8637   0.38777
Xautoc        0.00024141  0.02223361  0.0109   0.99134
Xdelibdemoc   1.17734788  8.50225636  0.1385   0.88987
Xegaldemoc    5.78004899 11.99874365  0.4817   0.63000
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    49810
Residual Sum of Squares: 43750
R-Squared:      0.12166
Adj. R-Squared: 0.10716
Chisq: 75.492 on 9 DF, p-value: 1.2635e-12
```

Appendix 5

Fisher test

Source: R software

```
> pFtest(fixed, pooling)

        F test for individual effects

data:  Y ~ X
F = 1.9747, df1 = 14, df2 = 531, p-value = 0.01785
alternative hypothesis: significant effects
```

Appendi
x 6

Hausman test

Source: R

```
> phtest(random, fixed)    #if inconsistent then fixed effect is choosen

        Hausman Test

data:  Y ~ X
chisq = 30.91, df = 9, p-value = 0.0003068
alternative hypothesis: one model is inconsistent
```

software

Appendix 7

Time effect test

Source: R

```
> fixed.time <- plm(GROWTH ~ GOVTSIZE + factor(year), data=pdata, index=c("country", "year"), model="within"
> pFtest(fixed.time, fixed) #fixed-time effect

        F test for individual effects

data:  GROWTH ~ GOVTSIZE + factor(year)
F = 0.48003, df1 = 28, df2 = 503, p-value = 0.9898
alternative hypothesis: significant effects
```

Appendix 8

Serial correlation test and unit root tests

Source: R software

```
> pbgtest(fixed) #serial correlation

        Breusch-Godfrey/Wooldridge test for serial correlation in panel models

data:  Y ~ X
chisq = 71.749, df = 37, p-value = 0.0005308
alternative hypothesis: serial correlation in idiosyncratic errors

> library(tseries)
> adf.test(pdata$y, k=2) #unit root test

        Augmented Dickey-Fuller Test

data:  pdata$y
Dickey-Fuller = -6.8325, Lag order = 2, p-value = 0.01
alternative hypothesis: stationary
```

Appendi
x 9

Cross-sectional test

Source: R software

```
> pcdtest(fixed, test = c("lm"))

        Breusch-Pagan LM test for cross-sectional dependence in panels

data:  Y ~ X
chisq = 120.42, df = 105, p-value = 0.1442
alternative hypothesis: cross-sectional dependence

> pcdtest(fixed, test = c("cd"))

        Pesaran CD test for cross-sectional dependence in panels

data:  Y ~ X
z = 1.4565, p-value = 0.1453
alternative hypothesis: cross-sectional dependence
```

Appendix 10

Heteroscedasticity test

Source: R software

```
        Breusch-Pagan test

data:  GROWTH ~ GOVTSIZE + INF + Trade + F
BP = 308.81, df = 9, p-value < 2.2e-16
```

Appendix 11

Arellano method

Source: R

```
> coeftest(fixed, vcovHC(fixed, method =  "arellano" ))

t test of coefficients:

                Estimate  Std. Error t value  Pr(>|t|)
XGOVTSIZE      0.3167541   0.0948472  3.3396 0.0008978 ***
XINF          -0.0229253   0.0061101 -3.7520 0.0001947 ***
XTrade        -0.0471524   0.0249152 -1.8925 0.0589664 .
XPOP           0.8744515   0.1776360  4.9227 1.141e-06 ***
XPST          -1.1691918   0.4280485 -2.7314 0.0065155 **
Xpartipdemoc -68.1386909  21.7552058 -3.1321 0.0018315 **
Xautoc         0.0454934   0.0216669  2.0997 0.0362293 *
Xdelibdemoc   24.4381825  21.5747975  1.1327 0.2578435
Xegaldemoc    26.5675903  22.0366144  1.2056 0.2285044
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

software

Pattern of Missingness	Type of Imputed Variable	Recommended Methods
Monotone	Continuous	• Parametric: - Regression method (MONOTONE REG) - Predictive mean matching (MONOTONE REGPI • Non-parametric: - Propensity score (MONOTONE PROPENSITY)
Monotone	Categorical (Binary/Ordinal)	Logistic regression (MONOTONE LOGISTIC)
Monotone	Categorical (Binary/Ordinal)	Discriminant function method (MONOTONE DISCRI
Non-monotone	Continuous	Markov Chain Monte Carlo (MCMC) - Full imputation - Partial - to obtain monotone pattern

Appendix 12 Missing Data Pattern

Source: https://www.lexjansen.com/phuse/2019/as/AS04_ppt.pdf

Appendix 13

Characteristics of Greenfield Projects in MENA, 2003-2012

Source: https://www.iemed.org/publication/fdi

Country	Code	Projects	Volume	Jobs	GI/GDP	GI/Total FDI
Algeria	DZA	203	32,659	58,581	3.10%	91.30%
Bahrain	BHR	228	18,033	30,899	9.70%	91.60%
Djibouti	DJI	6	1,658	2,988	6.80%	95.00%
Egypt	EGY	343	55,502	91,183	5.10%	76.30%
Iran	IRN	77	18,123	22,369	0.90%	87.10%
Iraq	IRQ	107	22,845	16,088	3.70%	89.50%
Jordan	JOR	121	8,622	23,198	5.90%	69.10%
Kuwait	KWT	64	4,242	6,251	0.50%	80.80%
Lebanon	LBN	76	3,921	12,187	1.60%	86.20%
Libya	LBY	90	32,965	21,264	7.00%	90.70%
Morocco	MAR	338	26,683	97,676	4.00%	87.00%
Oman	OMN	173	23,684	29,103	6.40%	90.30%
Qatar	QAT	297	71,780	42,920	13.10%	94.90%
Saudi Arabia	SAU	500	96,587	84,112	2.60%	89.50%
Syria	SYR	75	17,216	27,712	2.80%	92.60%
Tunisia	TUN	227	30,440	51,600	8.30%	89.20%
UAE	ARE	1,732	75,106	147,582	3.70%	92.20%
Yemen	YEM	18	4,039	2,414	2.30%	84.10%

Abstract

In recent decades, one of the most significant issues concerned and interested scholars, communities, organisations, and nations are democracy, political stability and EG, which mainly appear in some countries and nearly do not exist in others. Therefore, this study investigates the impact of democracy and political stability on EG in 15 MENA countries using panel data from 1983 to 2019 while addressing conceptual and empirical issues. The study employs a fixed effect estimation using V-Dem and WGI datasets to measure democracy and political stability, including missing data and robusteness analysis. In addition, performing a comparative study between MENA countries in terms of religion, oil production and rich-poor countries classification to analyse findings and contribute to identifying what regressors should be included to determine economic growth in this region.

The empirical study reveals three main significant results. First, democracy hinders economic growth in the region through the participatory democracy index, while the deliberative and egalitarian democracy indices are insignificant in the model. Second, political stability is a catalyst for EG, as political instability as a proxy reveals a negative impact. Third, this research points out that a democratic regime based on elections cripples growth in the chief executive selection process. On the other hand, the comparative study shows that religion and oil production are crucial determinants of the region's EG. Countries with an Islamic regime and high oil production rank at the top of the list in all dimensions.

This study contributes to the discipline of the impact of political factors on EG analysis by encouraging researchers to take both theoretical and empirical issues into account to prevent the possibility of inaccurate findings and conclusions. Moreover, it contributes to the discipline of policy implications to provide a deeper understanding of how these political factors impact economic growth.

Keywords: economic growth; democracy; political stability; panel data.

JEL classification : B22, D73, D74, C33

الملخص:

خلال العقود الأخيرة، أضحت كل من الديمقراطية، الاستقرار السياسي والنمو الاقتصادي محل اهتمام عند الباحثين، والمجتمعات، والمنظمات و كذلك الدول بحكم أنها توجد في بعض البلدان وتكاد تكون منعدمة في بلدان أخرى. لذلك، تهدف هذه الدراسة إلى دراسة أثر الديمقراطية والاستقرار السياسي على النمو الاقتصادي في 15 دولة في منطقة MENA باستخدام نماذج السلاسل الزمنية المقطعية في الفترة الممتدة بين 1983 إلى 2019، بحيث تم الإشارة إلى حدود البحث في الدراسات السابقة والتي تتعلق بالجانب المفاهيمي لهذه المتغيرات من جهة و كيفية قياسها من جهة أخرى. تعتمد الدراسة على نموذج التأثيرات الثابتة باستخدام قواعد البيانات V-Demو WGI لقياس متغيري الديمقراطية والاستقرار السياسي مع التطرق إلى اختبارات تحليل البيانات المفقودة وتحليل جودة النموذج. زيادة على هذا، قمنا بمقارنة هذه الدول من ناحية: الدين، حجم إنتاجية البترول و مؤشر الغنى و الفقر، و ذلك بغية تحليل النتائج المتوصل إليها و المساهمة في تحديد مصادر النمو الاقتصادي في هذه الدول.

تمثلت مخرجات الدراسة في ثلاث نتائج رئيسية: أولاً: الديمقراطية تعرقل النمو الاقتصادي في دول MENA من خلال مؤشر الديمقراطية التشاركية، بينما مؤشرات الديمقراطية الأخرى ليست لها دلالة إحصائية في النموذج. ثانيًا: يعد الاستقرار السياسي عاملاً محفزًا للنمو الاقتصادي، حيث إن عدم الاستقرار السياسي أبان عن تأثير سلبي. ثالثا: يُظهر هذا البحث أن النظام الديمقراطي الذي يعتمد على الانتخابات يشل النمو

تساهم هذه الدراسة في فهم مدى تأثير العوامل السياسية على النمو الاقتصادي و التي تحث بدورها الباحثين أن يأخذوا بعين الاعتبار حدود البحث التي تتعلق بالمفاهيم و النمذجة، أما فيما يتعلق بولاة الأمور فهذه الدراسة تساهم أيضا في إيضاح الطريقة التي تؤثر بها هذه العوامل السياسية على النمو الاقتصادي.

الكلمات المفتاحية : النمو الاقتصادي، الديمقراطية، الاستقرار السياسي، نماذج السلاسل الزمنية المقطعية.

تصنيف C33, D74, D73, B22:JEL