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# Institutional Environment, Entrepreneurial Activities and Economic Growth across Selected Arab Countries

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***Abstract:***

***Purpose:*** *This paper explores the institutional factors that promote entrepreneurship and contributes with other factors in achieving higher economic growth in the context of Arab Countries.*
***Design/Methodology/Approach:*** *A panel-data analysis for eleven Arab countries covering the period (2006 – 2017) are undertaken. Simultaneous equation models for economic growth and entrepreneurial activity are applied to the dataset using three stages least estimators (3SLS) to gauge the strength of the relationship between institutions, entrepreneurship, and economic growth rates.*
***Findings:*** *The results indicate that entrepreneurship indicators (NBD) are highly positively associated with economic growth rates (at 1% level of significance) in the sampled Arab countries. These results are confirmed by robustness analysis conducted using different types of estimators for the sampled Arab countries. The positive coefficients indicate that an increase in entrepreneurship level encourages economic growth in sampled Arab countries. Further, institutional indicators proxied by the regulation quality and government efficiency are highly associated with economic growth. Similarly, economic growth is affected by human capital indicators significantly. Other variables such as financial freedom and cost of starting a business are not significant for economic growth performance in the sampled Arab countries.*
***Practical Implications:*** *The Arab countries have their special political and economic environment and institutional setting that require special attention by researchers from different deciplines. These institutions and environment are created by specific cultural, language, religious and geographical factors.*
***Originality/Value:*** *The investigation would hope to identify the institutional factors that encourage entrepreneurial activity and contribute to boosting the process of economic development across the sampled Arab countries.*

***Keywords:*** *Entrepreneurship, institutions, economic growth, Arab countries, empirical evidence.*

***JEL Classification:*** *O31, O32.*

***Paper type:*** *Research article.*

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## 1. Introduction

Institutions play a critical role in determining entrepreneurial intentions, entrepreneurship development and economic performance (North, 1994; Dana, 1993; Mojica, 2010; Norrman and Bager-Sjogren, 2010; Menzies, 2012). Many authors have acknowledged the role played by institutions in enhancing entrepreneurial entry rates and ensuing development of entrepreneurship sector and promoting economic growth (Hayton *et al.,* 2002; Lee and Peterson, 2000; Thurik and Dejardin, 2011).

This literature is based on an assumption that both formal and informal institutions are as important to entrepreneurial activity as are entrepreneurs' personal traits and economic resources available to them (Baumol, 1996). Owing to their importance, the European Union and other developed countries have exerted great effort to create an institutional environment that is more conducive to entrepreneurship development (European Commission, 2016).

Many studies have investigated the role of institutional environment on entrepreneurial activity and economic growth (Bowen and De Clercq, 2008; Djankov *et al.,* 2002; Van Stel *et al.,* 2007). However, most of them have been undertaken within developed country context.

In contract, there is a dearth of studies in this area of investigation within developing country context, particularly Arab countries. Surprisingly, little work systematically links the antecedents of entrepreneurship, the entrepreneurial activity itself, and the aggregate consequences thereof in a unified framework (Bjørnskov and Foss, 2008, 2013; Holcombe, 1998).

Therefore, there is a need to explore entrepreneurial activity in developing economies and perform an international comparison (Bruton, Ahlstrom, and Li, 2010). The novelty of this study comes from investigation of the effects of unique institutional environment of Arab region on entrepreneurship and economic growth. The Arab countries have their special political and economic environment and institutional setting that require special attention by researchers from different decipline. These institutions and environment are created by specific cultural, language, religious and geographical factors (Alkurdi 2021; Sisaye 2021).

The present study investigates the impact of institutional factors on entrepreneurship development and economic growth in a selected group of Arab countries. The study is based on a panel data of 11 countries that participated in the Global Entrepreneurship Monitor, which included, in addition to the six GCC countries, Jordan, Morocco, Algeria, Tunisia, and Mauritania.

The selected Arab countries have many things in common, culture, political system, geographic location, climate, history, language, religion and institutions. Among the

Arab countries, these countries are selected due to availability of data and stability of political and economic conditions. The investigation would hope to identify the institutional factors that encourage entrepreneurial activity and contribute to boosting the process of economic development across the sampled Arab countries.

The methodology used in the present study is quantitative. Specifically, regression analysis is conducted using panel datasets from the sampled countries for the period 2006-2017. Data for dependent variable (i.e., entrepreneurial activity) are collected from the Global Entrepreneurship Monitor (GEM). On the other hand, data for independent variables such as institutional factors, are collected from Worldwide Governance Indicators (WGI) and doing business reports of the World Banks.

The present study results suggest a significant causal relationship between institutional factors and entrepreneurial activity based on analysing the interrelationships between institutions, entrepreneurial activity and economic growth across countries. It examines how the country's institutional context influences entrepreneurial activity and thereafter affects economic progress when analysing policy aspects of those institutions affecting entrepreneurial activity.

The novelty of the study comes from selecting a region with countries that share similar institutional environment due to prevalence of common cultural, language, religious and geographical factors. Economically, most of these countries depends on oil sector performance directly through exporting oil or indirectly through workers' remittance, exports for oil producing countries, FDI, loans and financial support.

The results of the study will enrich the empirical literature on the relationship between institutional factors and entrepreneurial activity. It contributes to this growing area of research by examining how dynamics of institutional variables may explain variations in the level of entrepreneurial activity. Doing so should help policymakers across Arab countries design suitable policy packages promoting entrepreneurship development in their countries.

## 2. An Overview of Entrepreneurship, Institutional Quality and Economic Growth performance in Arab Countries

This section provides general background on entrepreneurship and institutional environment in selected Arab countries. It identifies the socioeconomic conditions that stimulate entrepreneurship and economic growth in Arab countries. It analyses institutional environment in Arab countries and their impact on levels of entrepreneurial activities and economic growth rates.

In addition, it highlights entrepreneurship policies underlining the important role of institutions in entrepreneurship development and economic growth. The analysis

would help present an overview of the current status of entrepreneurial activities and institutional quality in Arab countries.

## 2.1 The Status of Entrepreneurial Institutions and Business Dynamism in Arab Countries

This sub-section provides a general assessment of the institutional environment in Arab countries. To serve this purpose, institutional profiles for Arab countries are analysed using descriptive statistics for the data available from the World Bank. Kostova (1997) stated that a "country's institutional profile reflects the institutional environment in that country defined as the set of all relevant institutions that have been established over time, operate in that country, and get transmitted through individuals".

Prior work in this area has revealed heterogeneity in institutional profiles of different developing countries. Such differences are attributed to cultural, religious, historical backgrounds, as well as to difference types and political structures and government systems.

Before analysing data on institutional environment in Arab countries, it is worth providing data analysis of competitiveness of overall ecosystem in Arab countries. Table 1 shows Arab countries scores and ranking in Global Competitiveness Index (CGI) for the 11 sample countries for the period (2013-2018). The Table indicates that only two countries scored higher than 5 points and ranked among the top 20 countries internationally.

These two countries (Qatar and the United Arab Emirates) have succeeded in attaining high status among Arab countries for the period 2013-2018, compared to the other throughout countries. Saudi Arabia succeeded in attaining a high score exceeding 5 from 2013 to 2016, but its score dropped to an overage of 4.8 for 2016 to 2018. Five of the selected Arab countries maintained scores above 4 points, which put them among the top 50% internationally.

Surprisingly, three of those are GCC countries (Bahrain, Kuwait and Oman), which are relatively rich in oil and gas. Tunisia attained a score above 4 in 2013 and 4 in 2014, but its score dropped to an average of 3.9 for the rest of the period. The scores for the remaining countries ranged between 3.6 and 3.9, which put them at the bottom of the list of countries.

***Table 1.*** *Scores and Rankings of Arab countries in Global Competitiveness Index (2013-2018).*

| Economy | 2013/2014 out of 148 | | 2014/2015 out of 144 | | 2015/2016 out of 140 | | 2016/2017 out of 138 | | 2017/2018 out of 137 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Score | Rank | Score | Rank | Score | Rank | Score | Rank | score | rank |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| United Arab Emirates | 5.1 | 19 | 5.3 | 12 | 5.2 | 12 | 5.3 | 16 | 5.3 | 17 |
| Qatar | 5.2 | 13 | 5.2 | 16 | 5.3 | 14 | 5.2 | 18 | 5.1 | 25 |
| Saudi Arabia | 5.1 | 20 | 5.1 | 24 | 5.1 | 25 | 4.8 | 29 | 4.8 | 30 |
| Bahrain | 4.5 | 43 | 4.5 | 44 | 4.5 | 39 | 4.5 | 48 | 4.5 | 44 |
| Kuwait | 4.6 | 36 | 4.5 | 40 | 4.6 | 34 | 4.5 | 38 | 4.4 | 52 |
| Oman | 4.6 | 33 | 4.5 | 46 | 4.2 | 62 | 4.3 | 66 | 4.3 | 62 |
| Jordan | 4.2 | 68 | 4.3 | 64 | 4.2 | 64 | 4.3 | 63 | 4.3 | 65 |
| Morocco | 4.1 | 77 | 4.2 | 72 | 4.2 | 72 | 4.2 | 70 | 4.2 | 71 |
| Algeria | 3.8 | 100 | 4.1 | 79 | 4.0 | 87 | 4.0 | 87 | 4.1 | 86 |
| Tunisia | 4.1 | 83 | 4.0 | 87 | 3.9 | 92 | 3.9 | 95 | 3.9 | 95 |
| Egypt | 3.6 | 118 | 3.6 | 119 | 3.7 | 116 | 3.7 | 115 | 3.9 | 100 |
| Lebanon | 3.8 | 103 | 3.7 | 113 | 3.8 | 101 | 3.8 | 101 | 3.8 | 105 |

***Source:*** *The Arab World Competitiveness Report 2018, The World Economic Forum*.

Table 1 provides a general background about competitiveness states in the Arab economies. The overall competitiveness level in these economies has not changed significantly over the last five years. Most of the countries maintained a low rank throughout the selected period. Overall, these economies are less competitive than East Asia and Europe and more competitive than most of Latin America and sub-Saharan Africa countries.

Scholars have used several classifications and standards to measure institutional environment of different countries. The World Bank and the World Economic Forum (WEF) are actively involved in measuring the quality of institutional environment across countries and over time. The paper focuses on data from two pillars of Global competitiveness report which are institutions and business dynamism.

Table 2 presents the scores and rankings of the 12 Arab countries that participated in the GCI reports for the pillars of institutions and business dynamism.

***Table 2.*** *Scores and Rankings of Arab Countries in Institutions and Business Dynamism pillars of the GCI for 2018-2019.*

| | 2019 | | | | 2018 | | | |
|---|---|---|---|---|---|---|---|---|
| Economy | Institutions | | Business Dynamism | | Institutions | | Business Dynamism | |
| | Score | Rank | Score | Rank | Score | Rank | Score | Rank |
| United Arab Emirates | 73.3 | 15 | 69.3 | 31 | 71.8 | 19 | 67.4 | 33 |
| Qatar | 63.2 | 35 | 66.0 | 39 | 63.8 | 31 | 65.7 | 40 |
| Saudi Arabia | 63.2 | 37 | 53.1 | 109 | 62.2 | 39 | 51.2 | 114 |
| Bahrain | 62.9 | 38 | 64.3 | 48 | 60.9 | 42 | 61.9 | 54 |
| Kuwait | 55.6 | 65 | 56.1 | 94 | 56 | 57 | 54.2 | 96 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Oman | 62.3 | 39 | 62.8 | 56 | 63.1 | 36 | 62.7 | 52 |
| Jordan | 59.8 | 46 | 56.6 | 88 | 57.7 | 50 | 54.4 | 94 |
| Morocco | 60.0 | 45 | 59.8 | 71 | 56.6 | 54 | 53.9 | 99 |
| Algeria | 45.5 | 111 | 56.2 | 93 | 44.4 | 120 | 51.3 | 113 |
| Tunisia | 53.0 | 73 | 59.0 | 74 | 52.0 | 75 | 57.8 | 73 |
| Egypt | 51.3 | 82 | 56.1 | 95 | 48.1 | 102 | 54.1 | 97 |
| Lebanon | 44.4 | 113 | 53.0 | 110 | 45.2 | 113 | 52.4 | 109 |

***Source:*** *World Economic Forum: Annual Report 2019.*

Table 2 shows that in 2018 and 2019, eight out of the twelfth sampled Arab countries appeared in the top half of the global rankings on the institutions' pillar with score values of more than 50. The United Arab Emirates tops the institutions pillar in 2018 and 2019, followed by Qatar. Contrary, Lebanon and Algeria appear in the lowest quarter of the rankings.

This indicates that Arab countries are not homogenous in their institutional environment. Thus, each group of countries have different institutions. The performance of Arab countries in the business dynamism pillar was worse than institutions. In both 2018 and 2019, only four of the 11 countries appeared in the top half of the international rankings.

The GCI reports provide valuable information for assessing cross-country differences and changes in each country's performance on institutions and business dynamism over time. However, simply looking at differences in the scores of these two pillars is often insufficient since some changes may be too small to be meaningful. Other sources of data and different measurements are employed to strengthen our assessment of the institutional environment in Arab countries.

The World Bank's "Doing Business Report", which provide a second option. Data from this source is used to measure the quality of institutional environment in the selected Arab countries. In this report, each country's economy is ranked according to the international distance to the frontier, representing the best performance observed on each indicator the years. Table 2 presents the score and ranking of Arab countries for 2018 and 2019.

***Table 3.*** *Scores and Rankings of Arab Countries in Doing Business Reports 2018-2019*

| Economy | 2018 | | 2019 | | Change in | |
|---|---|---|---|---|---|---|
| | Score | Rank | Score | Rank | Score | Rank |
| United Arab Emirates | 78.9 | 21 | 81.3 | 11 | +2.4 | +10 |
| Qatar | 65.3 | 83 | 65.9 | 83 | +0.6 | 0 |
| Saudi Arabia | 61.9 | 92 | 63.5 | 92 | +1.6 | 0 |
| Bahrain | 68.0 | 66 | 69.9 | 62 | +1.9 | +4 |
| Kuwait | 61.5 | 96 | 62.2 | 97 | +0.7 | -1 |
| Oman | 67.2 | 71 | 67.2 | 78 | 0 | -7 |
| Jordan | 59.6 | 103 | 61.0 | 104 | +1.4 | -1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Morocco | 68.6 | 69 | 71.0 | 60 | +2.4 | +9 |
| Algeria | 46.7 | 166 | 49.7 | 157 | +3.0 | +7 |
| Tunisia | 63.6 | 88 | 66.1 | 80 | +2.5 | +8 |
| Egypt | 56.2 | 128 | 58.6 | 120 | +2.4 | +8 |
| Lebanon | 54.0 | 133 | 54.7 | 142 | +0.7 | -9 |

***Source:*** *World Bank Doing Business Report: 2018, 2019.*

Table 3 shows that Arab countries have a relatively cross-country high variation in performance. In 2018, for example, the United Arab Emirates, Morocco and Bahrain have the nearest overall distance to frontier scores at 78.9, 68.6 and 68.0, respectively. Conversely, Algeria, Lebanon and Egypt have the lowest scores in this group, at 46.7, 54.0 and 56.2, respectively.

## 2.2 State of Entrepreneurship in Arab Countries

Entrepreneurship is a multi-dimensional concept that includes different aspects such as being innovative in developing business ideas and turning them into useful products, being a risk-taker to overcome the fair and start up a new business, being a leader to spot opportunities, convincing others to join him in starting up a new company. Entrepreneurship is also a process that can be measured by an individual's intentions or entrepreneurial activities.

Different international institutions produce reports that contain measurements for the level and the quality of entrepreneurship across different countries. The World Bank, the World Economic Forum (WEF), and the Global Entrepreneurship Monitor (GEM) are the most important institutions that produce secondary data on entrepreneurial activities.

For this paper, we will use the data produced by the GEM report to assess the state of entrepreneurship in Arab countries. This will help us assess the rate of entrepreneurial start-ups in Arab countries compared to others. One of the most important indicators of levels of entrepreneurial activities produced by GEM is "Total Early-Stage Entrepreneurial Activity" (TEA).

This indicator refers to the number of respondents who own and actively manage a new business less than 42 months old (GEM 2015). The indicator gives a good insight on entrepreneurship development in different countries. Although the GEM has been launched to measure entrepreneurial activities of working-age adults globally since 1998, it has started to cover the Arab countries only recently.

As can be observed from Table 4, not all Arab countries are covered by the GEM report. The table contains data for only 14 out of all 22 Arab countries. Even for the 14 countries included in the report, some data was incomplete. Consequently, only 11 countries are included in the research sample of countries for which data is complete.

***Table 4.*** *Total Early-Stage Entrepreneurial Activity (TEA) in selected Arab countries (2009 – 2017)*

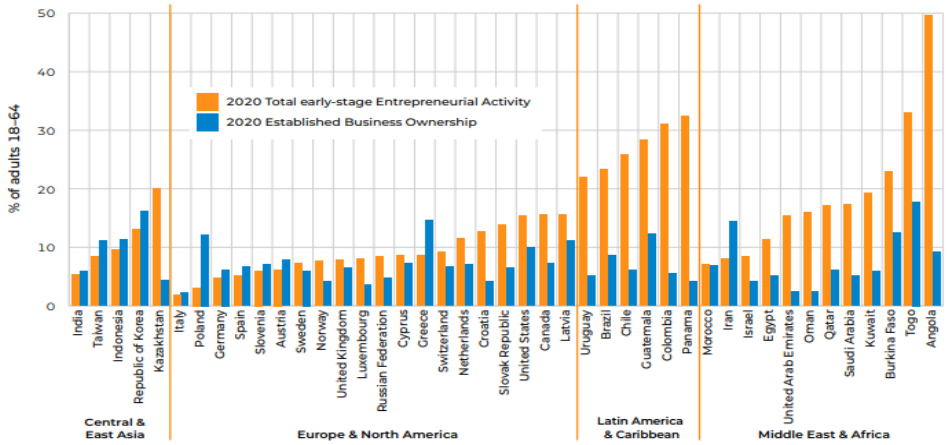
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| Algeria | 16.7 | 9.9 | 9.3 | 8.8 | 4.9 | 9.9 | 9.9 | 9.9 | 9.9 |
| Egypt | 9.7 | 7.0 | 9.7 | 7.8 | 9.7 | 9.7 | 7.4 | 14.3 | 13.3 |
| Jordan | 10.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 8.2 | 9.2 |
| Lebanon | 15.0 | 22.9 | 22.9 | 22.9 | 22.9 | 22.9 | 30.2 | 21.2 | 24.1 |
| Morocco | 15.7 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 4.4 | 5.6 | 8.8 |
| Qatar | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 16.4 | 12.0 | 7.9 | 7.4 |
| Saudi Arabia | 4.7 | 9.4 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.4 | 11.5 |
| Tunisia | 9.4 | 6.1 | 7.6 | 4.8 | 7.6 | 7.6 | 10.1 | 7.6 | 7.6 |
| UAE | 13.3 | 10.9 | 6.2 | 10.9 | 10.9 | 10.9 | 10.9 | 5.7 | 9.0 |

***Source:*** *GEM reports various issues.*

Entrepreneurial activities for most of the selected Arab countries has remained low during the selected period. The data in Table 4 shows considerable variation in the proportion of adults who see good opportunities to start a business in their area during the period (2009-2017). The TEA ranged from one in five in Lebanon to an average of one in ten in Saudi Arabia, UAE and Qatar, to one in 20 for the rest of the selected Arab countries.

This implies that only a few Arab countries have succeeded in achieving high levels of entrepreneurial activities. Lebanon is the only one of the selected Arab countries that has successfully maintained relatively high entrepreneurial activities from 2009 to 2017. Specifically, with the exception of 2009, the TEA rates in Lebanon had exceeded 20% for all years, which means more than are fifth of Lebanese adults are engaged in some sort of early-stage entrepreneurial activity during the period 2015-2017.

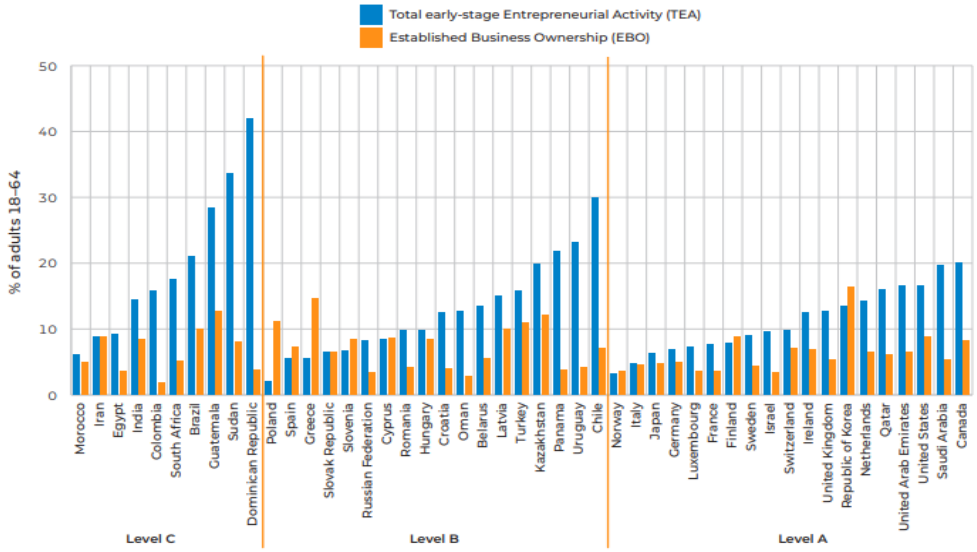
***Figure 1.*** *Total Early-Stage Entrepreneurial Activity 2020*




***Source:*** *GEM report 2020-2021.*

Figure 1 reveals that the seven Arab countries that participated in GEM 2021 reports in the Middle East and Africa have high entrepreneurial activities. Their entrepreneurial activities are relatively high in comparison to other participating economies. Five of the seven Arab economies participating in the current reports have at least one in five adults starting or running a new business. Only one economy has one in 20 adults or less starting or running a new business in 2020, signifying a relatively low level of entrepreneurial activity in those economies.

***Figure 2.*** *Total Early-Stage Entrepreneurial Activity 2021*




***Source:*** *GEM report 2021-2022.*

Figure 2 reveals the TEA in the 33 economies that participated in GEM 2022 reports. Of those 33, seven are Arab countries (Egypt, Morocco, Qatar, Saudi Arabia, UAE, Sudan and Oman). Five of those seven countries, consistently participated in the GEM reports in each of the three years 2019, 2020 and 2021.

When comparing TEA in the five economies in the two reports (2020 and 2021), there were no significant changes for each economy. There are just two economies whose TEA number increased. Saudi Arabia from 17.3 to 19.6 and UAE from 15.4 to 16.5. The TEA number in the other three economies slightly fell.

### 2.3 Economic Growth performance in Arab Countries

Economic growth is one of the most important macroeconomic goals that all countries try to achieve. Achieving high economic growth contributes positively to reducing poverty, unemployment and economic instability. In this respect, Keller and Nabil (2002) suggest that improving the labour market performance in the MENA region can be achieved by increasing the rates of economic growth in the

region. However, they argue that economic growth in the MENA region has been weak for most countries.

The economic performance in Arab countries is diverse, with countries showing very different economic growth rates during the last 20 years. Table 5 contains data that sheds light on the performance of the Arab countries in economic growth for the period 2010 – 2019.

***Table 5.*** *Economic Growth rates in Arab Countries (2010-2019)*

| Countries/years | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|
| Arab Countries | 4.8 | 3.8 | 5.0 | 3.0 | 2.6 | 3.0 | 3.2 | 0.9 | 2.4 | 2.1 |
| UAE | 1.6 | 6.9 | 4.5 | 5.1 | 4.4 | 5.1 | 3.0 | 2.4 | 1.2 | 3.4 |
| Bahrain | 4.3 | 2.0 | 3.7 | 5.4 | 4.4 | 2.5 | 3.6 | 4.3 | 2.1 | 2.1 |
| Algeria | 3.6 | 2.9 | 3.4 | 2.8 | 3.8 | 3.7 | 3.2 | 1.3 | 1.1 | 1.0 |
| Iraq | 6.4 | 7.5 | 13.9 | 7.6 | 0.2 | 4.7 | 13.8 | -1.8 | 2.6 | 6.0 |
| Jordan | 2.3 | 2.7 | 2.4 | 2.6 | 3.4 | 2.5 | 2.0 | 2.1 | 1.9 | 2.0 |
| Egypt | 5.1 | 1.8 | 2.2 | 2.2 | 2.9 | 4.4 | 4.3 | 4.2 | 5.3 | 5.6 |
| Morocco | 3.8 | 5.2 | 3.0 | 4.5 | 2.7 | 4.5 | 1.1 | 4.3 | 3.1 | 2.6 |
| Oman | 1.7 | 2.6 | 9.1 | 5.1 | 1.4 | 4.7 | 5.0 | 0.1 | 1.2 | -0.8 |
| Qatar | 19.6 | 13.4 | 4.7 | 5.6 | 5.3 | 4.8 | 3.1 | -1.5 | 1.2 | 0.7 |
| Kuwait | -2.4 | 9.6 | 6.6 | 1.1 | 0.5 | 0.6 | 2.9 | -4.7 | 1.2 | 0.4 |
| Tunisia | 3.5 | -1.7 | 3.9 | 2.1 | 2.7 | 1.0 | 1.1 | 2.2 | 2.5 | 1.4 |
| Saudi Arabia | 5.0 | 10.0 | 5.4 | 2.7 | 3.7 | 4.1 | 1.7 | -0.7 | 2.4 | 0.3 |

***Source:*** *World Bank database.*

As can be seen from Table 5, economic growth performance of Arab countries varies greatly across countries and years. While it has been good for some countries, it has been weak for others. For example, the economic growth performance of the UAE, Bahrain, Algeria, Jordan, Egypt and Morocco has been good for most of the years of the selected period. For other countries Like Tunisia, Saudi Arabia, Iraq and Kuwait, it has been for many years but weak in one or two years.

## 3. Literature Review

Although economists have ignored the role of institutions in entrepreneurship development and economic growth for many years, Douglass North emphasised its importance from a development perspective. North (1990) develops an analytical framework for explaining how institutions affect the performance of economies, both at a given time and over time.

Moreover, the highlights various types of institutions that might affect economic performance. In this respect, he states that institutions include any form of constraint that human beings devise to shape human interaction. These institutions could be formal such as rules that human beings devise or informal such as conventions and

codes of behaviour. However, institutions vary widely in their consequences on economic performance; some countries develop high-quality institutions that foster economic growth and enhance socioeconomic development. Others establish poor institutions that hinder economic growth, lead to economic instability and generate poverty for the citizens.

Institutions are key to entrepreneurship development and economic growth (Estrin *et al.,* 2007; Urbano *et al.,* 2019). Institutional economics has emerged, and research linking the quality of institutions to economic performance has been gaining increasing attention over the last three decades and across a wide range of disciplines (Urbano *et al.,* 2019).

Accordingly, many scholars have undertaken studies to investigate the impact of institutional quality on entrepreneurship and economy and employment (Amorós, 2009; Estrin *et al.,* 2007; Urbano *et al.,* 2019). Among researchers with substantial studies linking institutional environment to entrepreneurship and economic performance are José Amorós, David Urbano, Sebastian Aparicio, and David Audretsch.

The outcomes of their various studies are that higher institutional quality fosters entrepreneurial activities and enhance economic performance by providing individual entrepreneurs and inventors with the protection of their physical and intellectual property and encouraging them to invest in disruptions of the contemporaneous economic (and political) system with their new products and/or innovations. Along this line of thinking, Baumol (1990) shows that institutions are important determinants of the level and types of entrepreneurship.

Recent literature on entrepreneurship research has heightened the need for understanding the variations of entrepreneurial activity through the lens of institutional theory. One of the possible explanations for this trend is that scholars have realised that the variations in entrepreneurial activity cannot be explained only by focusing on individuals' traits and characteristics. In addition, to these personal characteristics, there is a wide range of institutional variables that are as much important to the entrepreneurial activity as the personal characteristics.

Many scholars from economic and sociological backgrounds have undertaken studies investigating the relationship between entrepreneurship and institutions. While economists traditionally emphasise relatively "hard" economic constraints implied by institutions, such as the stability and enforceability of property rights and non-confiscatory tax regimes and regulations (e.g., North, 1990), sociologists may put more emphasis on "soft" aspects, such as shared values and cognition (Scott, 1995), that are embodied in institutions and may also matter to entrepreneurship (Bjørnskov and Foss, 2016).

The basic assumption of this literature is that institutional factors like cultural values, norms of behaviour, and legally enforced regulations of a given environment could either constrain or foster the decision to create a new business (Baumol 1996; Sambharya and Musteen 2014). These views suggest that the institutional approach has gained importance because it looks for an acceptable framework to understand the factors that encourage or discourage entrepreneurial engagement across countries and regions.

Quality institutions could create a stable structure to human interaction and reduce uncertainty, and lower transaction costs. This is mainly because higher certainty means that contracting and protecting property costs are lowered, which means more entrepreneurial activities will be carried out (Bjørnskov and Foss, 2016).

Along the same vein, Samadi (2018) argued that institutional factors play a major role in the choices of individuals. One of these choices is related to individual's decision to enter into entrepreneurship by establishing their businesses. Therefore, the institutional factors are important for entrepreneurship because they affect the behaviour of entrepreneurs both directly and indirectly. He describes the effect of institutions on entrepreneurship through four channels, reducing uncertainty, lowering transaction costs, legitimising entrepreneurial activities and supporting against expropriation of rents.

Aidis *et al.* (2008) utilised GEM data to examine the effects of the institutional environment on entrepreneurship in Russia. They also compared entrepreneurial activities in Russia with their counterparts in Poland and Brazil. Their result suggests that the institutional environment in Russia has led to low levels of entrepreneurship development.

Moreover, drawing on a sample that allows us to compare the characteristics of entrepreneurs in Russia with those of the rest of the population, they found that the relatively few who undertake some form of entrepreneurial activity in Russia are different in several interesting ways from their counterparts in more business-friendly environments. Furthermore, their result reflects that entrepreneurship levels are comparatively low in all the countries available in the GEM dataset that have made the transition from socialism. They are significantly lower in Russia.

Ernesto (2009) carried out a study on institutional quality and entrepreneurship. His study corroborates the significant and positive effects of the quality of institutions on opportunity (productive) entrepreneurial activities and significant and negative effects on necessity (unproductive) entrepreneurial rates.

Furthermore, high-income countries exhibit similar relationships, but low- and middle-income developing countries move in the opposite direction. These results have important implications for public policy. The results suggest that the quality of

institutions alone does not enhance or improve entrepreneurship for developing countries in general.

Engle *et al.* (2011) used a sample of university business students to examine the impact of institutional factors on entrepreneurial intent in three countries (the United States, Russia and Germany). Institutions were divided into 19 formal institutional variables plus economy and three informal institutional variables. These are social norms, parental experience, and need.

They found that few formal institutional factors have significant impacts on entrepreneurial intent, while the majority of informal factors were found to have a significant influence on entrepreneurial intention. Specifically, the result reveals that the three informal institutional variables explained 17.7 of the total sample variances. This result suggests that when policymakers and researchers intend to examine the impact of institutions on economic development, they need to consider the informal institutional variables more carefully.

This study has its characteristics and uniqueness. It used both deductive and inductive approaches to develop an instrument to measure the impact of formal and informal institutional factors on entrepreneurial intent based on the World Bank's Doing Business Report. This was done by merging the primary data collected through focus groups with findings of the World Bank's Doing Business Report.

Chambers and Munemo (2019) used panel data from 119 countries to examine the impact of start-up regulations and institutional quality on the level of entrepreneurial activity. Their result reveals that a nation's regulatory and institutional environment plays an important role in determining the level of entrepreneurial activity. Specifically, they found that new firm creation varies inversely with start-up regulations.

Moreover, their result reflects that the lack of high-quality institutions has significantly hindered entrepreneurship development. In this study, the institution is measured by six dimensions of governance quality, voice and accountability, political stability and the absence of violence, government effectiveness, regulatory quality, the rule of law, and the control of corruption.

Boudreaux (2019) examined the relationship between institutional factors, entrepreneurship and economic growth using panel data for 83 developed and developing countries. He found that entrepreneurship promotes economic growth in developed countries and hinder economic growth in developing countries. He argued that institutions are important antecedents of economic growth in developed countries, but poor institutions discourage economic growth in developing countries.

This result confirms the findings of previous studies on entrepreneurship, institutions, and economic growth (Acs *et al.,* 2008; Van Stel *et al.,* 2005). This

study suggests that the effect of institutions on entrepreneurship and economic growth depends on the level of economic development. In middle and high-income countries, opportunity motivated entrepreneurship positively affects economic growth. Whereas, in low-income countries, necessity motivated entrepreneurship has a negative effect on economic growth. Therefore, the notion that entrepreneurship promotes economic growth is not always right.

Urbano *et al.* (2020) examined the interrelationships between institutional factors, entrepreneurial activity, and economic growth in fourteen developing nations using simultaneous-equation panel data models. They found a causal relationship between institutions and opportunity entrepreneurship, which is connected to the economic growth of developing countries.

Specifically, they found that the number of procedures to start a new business, private credit coverage, and access to communication were the main institutional factors that influence opportunity entrepreneurial activity. Based on this result they recommended that developing countries can enhance their economic performance by adopting policy measures that promote their entrepreneurial activity.

Content *et al.* (2020) investigated the association between entrepreneurial ecosystems (EEs), entrepreneurial activity, and economic growth in European Union regions using a latent class model. They found that the association between entrepreneurial activity and economic growth varies systematically among areas. Furthermore, they found that these disparities are related to regional features that can be linked to the quality of the entrepreneurial ecosystems in these regions.

Khalilov and Yi (2021) investigated the causal relationships between institutions and entrepreneurship in 19 OECD nations using the structural equation model. The paper found a significant bidirectional relationship between the regulatory dimension of institutions and entrepreneurship. Moreover, the paper found that the normative dimension of institutions and entrepreneurship have a one-way relationship. These two interconnected variables promote economic growth.

Stoica *et al.* (2020) examined the nexus between entrepreneurship and economic growth in 22 European nations using panel data model. The study found that entrepreneurship have a positive impact on economic growth in the full sample. Moreover, they found that opportunity-driven entrepreneurship has a bigger impact in transition economies, whereas necessity-driven entrepreneurship would have a bigger impact in the innovation-driven economies.

Zouita (2021) investigated the impact of entrepreneurship on economic growth in 95 emerging economies and nations using fixed effects, random effects, and system GMM models. The paper found that the entrepreneurial activity has a positive impact on economic growth in the full sample. Moreover, the study found that the effect of entrepreneurship on economic growth is greater in low-income countries

than in high income countries. The study also found that the regulatory quality boosts the positive impacts of entrepreneurship on economic growth.

Alvarez *et al.* (2011) analyse the influence of environmental factors on entrepreneurship at the Spanish regional level, using institutional economics as the theoretical framework for the research. The main findings of the research indicate that, nascent entrepreneurship rates are related to formal institutions, such as low levels of commercial and services infrastructures and high levels of physical infrastructures, and informal institutions, such as higher education and high abilities and knowledge to start up.

On the other hand, the results show that new business ownership is related to formal institutions, such as low levels of commercial and services infrastructures and high levels of physical infrastructures, and informal institutions, such as entrepreneur social image. Thus, these results indicate that the perception of knowledge and skills is very relevant to start a business. However, subsequent to this decision, society must endorse and values the entrepreneurial career in order to move the new business forward and overcome obstacles in the early stages

Douglas North and other new institutionalists who followed him recognised the importance of the institutional environment and convincingly asserted that institutional arrangements can have profound long-term effects. They argue, for instance, that countries with superior institutions which respect property rights will have better long-term outcomes in the form of higher productivity and economic growth (North 1971; North and Thomas 1973; Acemoglu *et al.,* 2001).

Wong *et al.* (2005) estimated a similar relationship. The main finding from the analysis is the significance of High Potential TEA as the sole form of entrepreneurship that has any explanatory effect on differing economic growth rates across nations.

Rodrik (2003) explains that institutions are indirectly linked with aggregated production, in which different factors take place to connect institutions to economic growth. In this sense, it is suggested that the institutional context, apart from influencing the traditional factors (i.e., labor, human capital, and physical capital), also affects the individual decisions that generate economic dynamics.

Authors such as Rodrik (2003) and Hausmann and Rodrik (2003) suggest that additional productive factors such as entrepreneurship and industrial development are highly influenced by the institutional environment, explaining the differences in economic growth across countries.

Wennekers and Thurik (1999) have explored the possible connections between business start-ups and economic growth. Since then, entrepreneurial activity has been considered as an important element to generate economic growth (Acs,

Audretsch, Braunerhjelm, and Carlsson, 2012; Audretsch and Keilbach, 2004; Audretsch and Keilbach, 2008).

Busenitz *et al.* (2000) adopted specific definitions of how institutional dimensions affected new entrepreneurial activity. They defined the normative dimension as "the degree to which a country's residents admire entrepreneurial activity and value creative and innovative thinking." The cognitive dimension was defined as the "knowledge and skills possessed by the people in a country to establish and operate a new business."

Finally, the regulatory dimension refers to "laws, regulations and government policies that provide support for new businesses, reduce the risks for individuals starting a new company and facilitate entrepreneurs' efforts to acquire resources." These definitions, or their close adaptations, have been generally accepted by entrepreneurship researchers (Spencer and Gomez, 2004).

## 4. Methodology and Data

This study empirically investigates the impact of institutions on entrepreneurial activities and economic growth in selected Arab countries. It employs panel data containing a pooled time-series, cross-sectional data for 11 Arab countries for the period 2006-2017.

The model specification is built on the above conceptual framework which was drawn from the previous literature review. The model is built on the proposition that higher-quality institutions lead to higher rates of entrepreneurial activity (Urbano and Alvarez, 2014), and higher rates of entrepreneurial activity lead to higher economic growth (Braunerhjelm *et al.*, 2010). High-quality institutions can provide motivation and encourage protection of property rights, which are important for innovation and entrepreneurial investment.

Recent literature contributions have modelled this mechanism using a multi-stage analysis where institutions affect entrepreneurship in the first stage, subsequently affecting economic growth in the second stage (Bosma *et al.*, 2018; Urbano *et al.*, 2019). We employed the three stages least estimator (3SLS) to enable us to estimate this relationship. Further, we use ordinary least square (OLS) and two stages least square (2SLS) estimators to add more robustness to the analysis.

## 5. Empirical Estimation

Assuming a standard Cobb-Douglas production function (Mankiw *et al.*, 1992), the production at the time t can be given by the following equation:

$$Y(t) = K(t)^{\alpha} \ (A(t)L(t))^{1-\alpha}) \qquad (1)$$

Where $0 < \alpha < 1$; and Y is output, K is capital, L is labor, A is level of technology or an efficiency indicator. The variable A (t) also reflects resource endowments and institutional factors affecting growth. We would expect the effect of entrepreneurship and institutional factors on growth performance to work through the efficiency indicator A (t).

The relationship is expected to be positive i.e., improvement in institutional environment leads to improvement in growth performance. Cross-country empirical studies on economic growth adopted different types of specification such as the following one (Caselli *et al.,* 1996):

$$\ln(Y_{i,t}) - \ln(Y_{i,t-\tau}) = \beta \ln(Y_{i,t-\tau}) + Z_{i,t-\tau}\,\rho + \eta_i + \varphi_i + \epsilon_{i,t} \quad (2)$$

Where $Y_{i,t}$ is per capita GDP in country I in period t, $Z_{i,t-\tau}$ is a row vector of determinants of economic growth, $\eta_i$ is a country specific effect, $\varphi_i$ is a period specific effect, and $\epsilon_{i,t}$ is an error term.

An appropriate approach for investigating the relationship between economic growth, entrepreneurship and institutional quality in Arab countries is to use simultaneous equations as explained earlier.

Our modelling strategy in this paper is to estimate a general growth model and then introduce entrepreneurship indicator into this model equation followed by a second equation linking entrepreneurship indicators to institutional quality indicators as shown in the following paragraph.

### 5.1 The System of Equations

Equations (3) and (4) describe the system of equations to be estimated in this paper. We then briefly describe the variables involved, their measurement, and data sources and conduct the relevant statistical tests. This paper estimates the following system of equations simultaneously:

$$gy_{i,j} = \alpha_0 + \alpha_1 X_{i,j} + \alpha_2 Z_{i,j} + \alpha_3 IN_{i,j} + \alpha_4 W_{1,i,j} + \varepsilon_{1,i,j} \quad (3)$$

$$Z_{i,j} = \beta_0 + \beta_1 IN_{i,j} + \beta_3 W_{2,i,j} + \varepsilon_{2,i,j} \quad (4)$$

Where *i,j* index for country pairs, $gy_{i,j}$ denotes economic growth rates, $X_{i,j}$ are factors affecting economic growth and related to production function such as human capital levels, $\mathrm{NBD}_{i,j}$ is entrepreneurship index, $W_{i,j}$ is a vector of exogenous factors, $IN_{i,j}$ denotes institutional factors affecting growth and entrepreneurship.

### 5.2 Model Estimation Results

We estimate the previous system using 3SLS to assess the relationship between institutions, entrepreneurship, and economic growth rates. Further, we estimated equations (3, 4) using OLS and 2SLS for robustness purposes. Countries included in regression are: United Arab Emirates (UAE), Bahrain (BHR), Algeria (DZA), Jordon (JOR), Kuwait (KWT), Morocco (MAR), Mauritania (MRT), Oman (OMN), Qatar (QAT), Saudi Arabia (SAU), and Tunisia (TUN).

The 3SLS is applied to a total number of 110 observations from these countries for the period 2006-2017. We use E-Views statistical software to conduct the simultaneous equation regression. The software satisfies the order tests by not allowing for estimation of under-identified simultaneous equation systems. Similarly, the software sets the satisfaction full rank test as a default condition for allowing processing of the estimation. Our regression satisfies both order and rank tests.

The estimation is conducted for the period 2006-2017 and the number of observations included in 110. Table 6 offers definition for variables used in regression and Table 7 shows the descriptive statistics for these variables. From Table 6, GY is Growth rates in sampled Arab countries. The data for this variable is collected from World Development Indicator databases (WDI), NBD is New Business Density, Cost-start-bus-percap is Cost of Starting Business obtained from the databases of Doing business report. Reg-qual is Regulating Quality and Gov-eff is Government Efficiency.

The data for the last two variables are collected from (WGI – Worldwide governance Indicators). All the data for the previous variables are obtained from the World Bank databases. Fin-freedom-index is Financial Freedom Index collected from The Heritage Foundation. H is Human capital availability reflecting the availability of human capital in the country adjusted for the quality of human capital in it. We calculate this indicator as follows:

$$H = L.D.P.e^{\pi s}$$

Where:
L: is population size, D: is percentage of the population aged (15-64), which reflects the influence of the demographic factor on the demographic structure and determines the level of dependency, P: is the labor force participation rate, S: is the number of years of schooling, $\pi$: is a parameter that shows the rate of return on education, and its value ranges between (0-1.0).

The last variable shows the increase in worker productivity due to an increase in education by one year (Feenstra, Inklaar and Timmer 2013; World Bank, 2000).

Data for indicators of human capital availability are collected from the United Nation, and the World Bank.

***Table 6.*** *Variable's definition*

| Variables | Definition | Source |
|---|---|---|
| GY | Growth rates | WDI |
| NBD | New business density | WB |
| Cost-start-bus-percap | Cost of Starting Business | Doing business report |
| Reg-qual | Regulating Quality | WGI – Worldwide governance indicators |
| Gov-eff | Government Efficiency | Worldwide governance indicators |
| Fin-freedom-index | Financial Freedom Index | The Heritage Foundation |
| H | Human Capital Availability | United Nation, World Bank |

***Source:*** *Authors' compilation.*

Table 7 shows the descriptive statistics of regression variables for the selected Arab countries during the period 2006-2017. The performance of these countries in key regression variables such as economic growth, entrepreneurship, institutions in Table 7 has been explained in more details above.

Table 7 shows that the mean value of economic growth rates for the selected countries during the period 2006-2017 was 3.58% and the standard deviation was 6%. The latter indicates high level of fluctuations in economic growth performance in these countries. This can be attributed to oil price shocks, global financial crisis and political instability due to Arab spring revolution. Average rates of governance indicators in Table 7 show weak performance during the same period. Other variables show similar trends.

***Table 7.*** *Descriptive statistics on regression variables*

| | Economic Growth rates | NBD | Cost of Starting Business | Regulation Quality | Government Efficiency | Financial Freedom Index | Human Capital |
|---|---|---|---|---|---|---|---|
| Mean | 0.035838 | 1.389038 | 46.74922 | -0.347731 | -0.396154 | 46.66667 | 107393.9 |
| Median | 0.038590 | 1.309884 | 21.30000 | -0.240000 | -0.395000 | 50.00000 | 61862.87 |
| Maximum | 0.232469 | 6.061931 | 279.6000 | 1.110000 | 1.510000 | 90.00000 | 609801.4 |
| Minimum | -0.360754 | 0.087920 | 0.500000 | -1.830000 | -1.920000 | 10.00000 | 1934.308 |
| Std. Dev. | 0.060903 | 1.151065 | 57.98410 | 0.715680 | 0.769027 | 16.73320 | 125679.1 |
| Sum | 9.317760 | 170.8517 | 11967.80 | -90.41000 | -103.0000 | 10080.00 | 27922406 |
| Sum Sq. Dev. | 0.960668 | 161.6439 | 857349.7 | 132.6592 | 153.1734 | 60200.00 | 4.09E+12 |
| Observations | 260 | 123 | 256 | 260 | 260 | 216 | 260 |

***Source:*** *Computed using EViews statistical package*.

Table 8 shows the estimation results of the regression for data from Arab countries. It indicates that entrepreneurship indicator (NBD) is positively highly associated with economic growth at the level of significance of (1%) in all types of estimation

(OLS, 2SLS, 3SLS) in Arab countries. The positive coefficient indicates that increase in entrepreneurship level encourages economic growth. Further, institutional indicators proxied by regulation quality and government efficiency are highly significantly associated with economic growth. Similarly, human development index is significantly affecting economic growth. Other variables such as financial freedom and cost of starting business are not significant for economic growth performance in Arab countries.

Wald coefficient restriction test is conducted for system equation and the results of the test are shown in table (A.1) and (A.2) in the appendix. Values of Chi square indicate the rejection of the null hypothesis: C (2) =0, C (3) =0, C (4) =0, C (5) =0, C (7) =0, C (8) =0.

The previous results lend strong support for the positive role of entrepreneurship in driving economic growth in Arab countries. Further, the result proves the significance of institutions for both entrepreneurship and economic growth performance.

***Table 8.*** *Relationship between institution, entrepreneurship, and economic growth: regression estimation results (OLS, 2SLS, 3SLS)*

| Regressor | Coefficient | OLS | t-Statistic | 2SLS | t-Statistic | 3SLS | t-Statistic |
|---|---|---|---|---|---|---|---|
| Constant_eqn1 | C1 | -0.49478** | -2.068488 | -2.172163** | -2.346467 | -2.202391** | -2.425319 |
| NDB | C2 | 0.52945*** | 12.78287 | 1.045954*** | 4.743744 | 1.091438*** | 5.749253 |
| Cost of start business | C3 | -0.003436 | -1.525221 | 0.032948 | 0.789371 | 0.018477 | 0.469834 |
| Regulation quality | C4 | 0.38532*** | 2.855123 | 0.949806*** | 2.688993 | 0.846844** | 2.452064 |
| Govt efficiency | C5 | -0.224382* | -1.619689 | -1.291319*** | -2.746343 | -1.141287*** | -2.551833 |
| Financial Freedom | C7 | -0.01069** | -2.856597 | -0.011234 | -1.301324 | -0.010232 | -1.051416 |
| Human capital | C8 | 2.85E-06*** | 4.721985 | 8.97E-06*** | 4.912705 | 9.36E-06*** | 5.031845 |
| Constant_eqn2 | C6 | 0.71291*** | 8.444688 | -0.252898 | -0.377938 | -0.186946 | -0.304177 |
| $R^2$ | | 0.835737 | | 0.798049 | | 0.900951 | |
| Adjusted $R^2$ | | 0.830073 | | 0.790356 | | 0.897178 | |
| Obs | | 121 | | 110 | | 110 | |

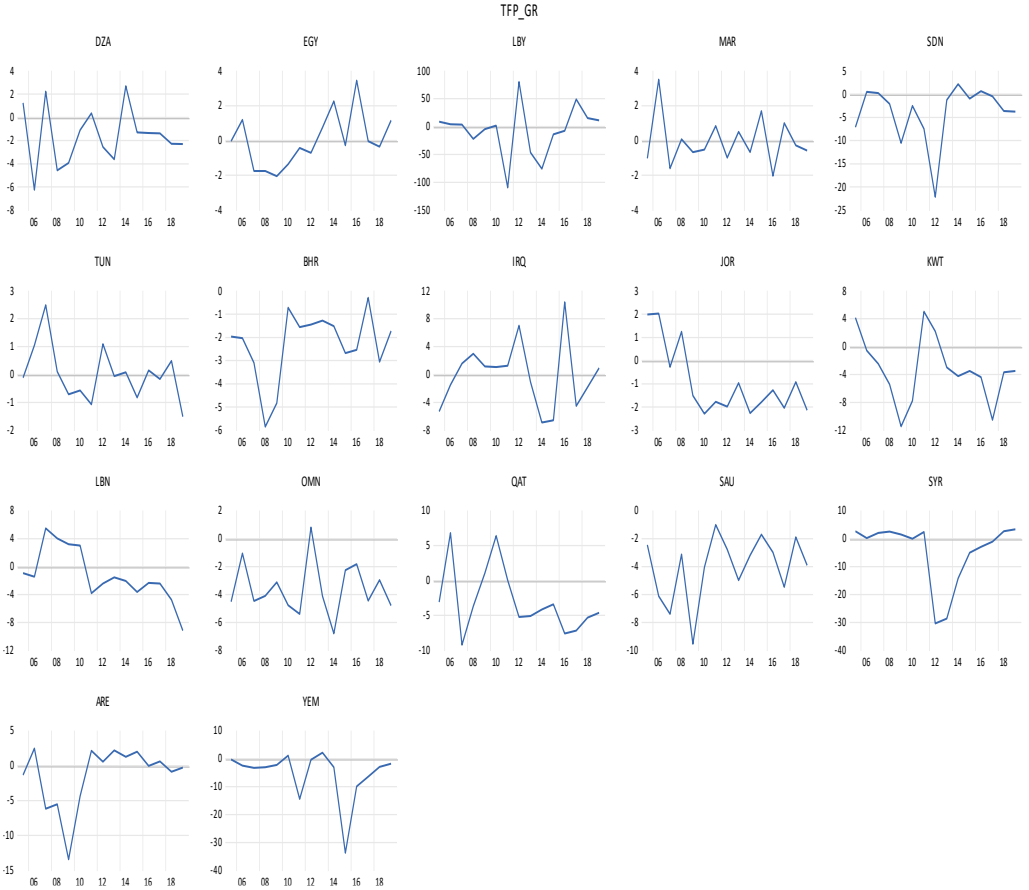
***Note:*** **** means significant at 1% level and ** means significant at 5% level.*
***Source:*** *Own study.*

### 5.3 Relationship between Entrepreneurship Growth and Total Factor Productivity Growth in Arab Countries

Figure 3 and Figure 4 show total factor productivity growth in Arab countries. They indicate that contribution of TFP to economic growth has been negative for most of the years during the period 2006-2017. This indicates that growth in Arab countries is driven mainly by growth in capital and labour and more effort need to be exerted by Arab countries to improve TFP performance**.**

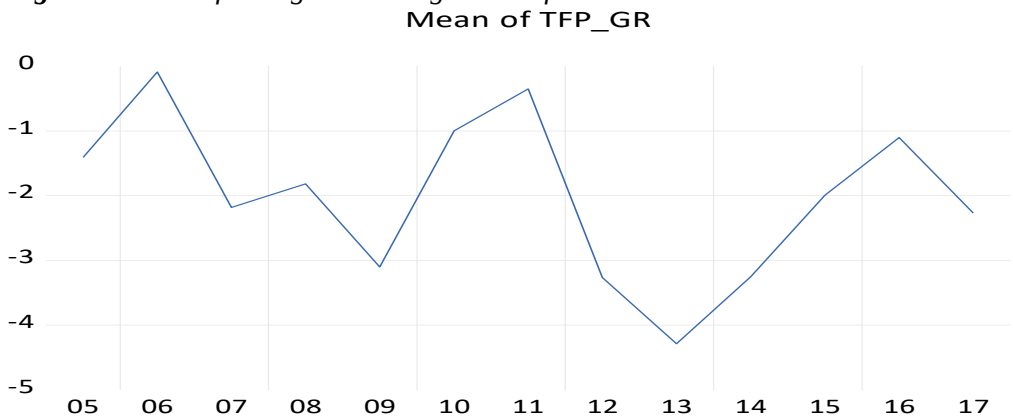
Figure 3 shows that the mean value of the TFP growth rate in Arab countries remained below zero during the period (2006-2017). The weakest performance was recorded during the period of oil price crash (2013-2015). In particular, oil producing countries were affected negatively significantly during that period as shown in the upper part of the graph. Other countries were affected negatively by Arab spring revolution such as Egypt, Syria and Yemen.

***Figure 3.*** *Total factor productivity growth in Arab countries (2006-2017)*




***Source:*** *Constructed using the Conference Board databases – 2021.*

***Figure 4.*** *Mean of TFP growth using the Conference Board databases 2021*




***Source:*** *Own study.*

The relationship between total factor productivity growth and entrepreneurship indicator (NNLLC growth) is tested for Arab countries for the period 2007-2016 using panel fixed effect after conducting unit root and cointegration test. The estimation confirms that growth in entrepreneurship leads to enhances growth of total factor productivity. The coefficient of the regression is positive indicating positive relationship and the level of significant is high and less than 5% (0.037). Estimation results are given in the Appendix 2.

## 6. Conclusion and Policy Recommendations

The aim of the present study was to investigate the relationship between economic growth, entrepreneurship development and institutional environment in Arab countries. The study used panel dataset from 11 countries for the period 2006-2017. The selection of the countries and the period are dictated by data availability. For this purpose, we used a simultaneous equations model for economic growth, entrepreneurial activity and institutional factors.

We estimated the previous system of equation using three types of estimators: OLS, 2SLS and 3SLS. The result indicates that entrepreneurship indicator (NBD) is significantly associated with economic growth in all types of estimation (OLS, 2SLS, 3SLS) in Arab countries. The positive coefficient indicates that increase in entrepreneurship level encourages economic growth.

Moreover, institutional factors (regulation quality and government efficiency) are significantly associated with economic growth. Similarly, human development index is significantly affecting economic growth. Other variables such as financial freedom and cost of start business are not significant for economic growth performance in Arab Countries. The research contributes to existing literature relating to economic growth, entrepreneurship and the quality of institutional by analysing the combined

effect of entrepreneurship with institutional quality on GDP growth in the group of selected Arab countries.

The selection of these countries were justified by sharing many things in common, culture, political system, geographic location, climate, history, language, religion. Therefore, those countries have their formal institutions derived from their values and traditions and past experiences. Results suggest that better institutions promote entrepreneurial activity and contribute positively into entrepreneurship development.

Therefore, countries who intend to promote their entrepreneurship state should launch policy packages that contribute in improving quality of their institutions. Through the entrepreneurship development they can post the economic growth in their countries. This result implies that governments in Arab countries need to adopt economic policy reform package that promote better institutional quality and contribute to enhancing entrepreneurship development and enhance economic growth in their countries.

The results of the study prove the importance role of entrepreneurship for economic growth and TFP performance. This indicates that directing more resources and improving rules and regulation flexibility will benefit economic growth and TFP growth in Arab countries.

**References:**

Acemoglu, D., Johnson, S., Robinson, J. 2005. The rise of Europe: Atlantic trade, institutional change, and economic growth. American economic review, 95(3), 546-579.

Acs, Z.J., Audretsch, D.B., Braunerhjelm, P., Carlsson, B. 2012. Growth and entrepreneurship. Small Business Economics, 39(2), 289-300.

Acs, Z.J., Desai, S., Hessels, J. 2008. Entrepreneurship, economic development and institutions. Small business economics, 31(3), 219-234.

Aidis, R., Estrin, S., Mickiewicz, T. 2008. Institutions and entrepreneurship development in Russia: A comparative perspective. Journal of business Venturing, 23(6), 656-672.

Aixalá, J., Fabro, G. 2008. Does the impact of institutional quality on economic growth depend on initial income level? Economic Affairs, 28(3), 45-49.

Alkurdi, O.F. 2021. A critical comparative review of emergency and disaster management in the Arab world, Journal of Business and Socio-economic Development, 1(1), 24-46.

Alvarez, C., Urbano, D. 2011. Environmental factors and entrepreneurial activity in Latin America. Academia Revista Latinoamericana de Administración, 48, 126-139.

Alvarez, C., Urbano, D., Coduras, A., Ruiz-Navarro, J. 2011. Environmental conditions and entrepreneurial activity: a regional comparison in Spain. Journal of Small Business and Enterprise Development.

Amorós, J.E. 2009. Entrepreneurship and quality of institutions: A developing-country approach, No. 2009/07. WIDER Research Paper.

Audretsch, D.B., Keilbach, M. 2004. Does entrepreneurship capitalmatter? Entrepreneurship Theory and Practice, 28(5), 419-430.

Audretsch, D.B., Keilbach, M. 2004. Entrepreneurship and regional growth: an evolutionary interpretation. Journal of evolutionary economics, 14(5), 605-616.

Audretsch, D.B., Keilbach, M. 2008. Resolving the knowledge paradox: knowledge-spillover entrepreneurship and economic growth. Research Policy, 37(10), 1697-1705.

Audretsch, D., Keilbach, M. 2004. Entrepreneurship capital and economic performance. Regional studies, 38(8), 949-959.

Bacigalupo, M., Kampylis, P., Punie, Y., Van den Brande, G. 2016. EntreComp: The entrepreneurship competence framework. Luxembourg: Publication Office of the European Union, 10, 593884.

Baumol, W.J. 1990. Entrepreneurship: Productive, Unproductive, and Destructive. Journal of Political Economy, 98(5, Part 1), 893-921. https://doi.org/10.1086/261712.

Baumol, W.J. 1996. Entrepreneurship: Productive, unproductive, and destructive. Journal of business venturing, 11(1), 3-22.

Bjørnskov, C., Foss, N. 2013. How strategic entrepreneurship and the institutional context drive economic growth. Strategic Entrepreneurship Journal, 7(1), 50-69.

Bjørnskov, C., Foss, N.J. 2008. Economic freedom and entrepreneurial activity: Some cross-country evidence. Public Choice, 134(3), 307-328.

Bjørnskov, C., Foss, N.J. 2016. Institutions, entrepreneurship, and economic growth: what do we know and what do we still need to know? Academy of Management Perspectives, 30(3), 292-315.

Bosma, N., Sanders, M., Stam, E. 2018. Institutions, entrepreneurship, and economic growth in Europe. Small Business Economics, 51(2), 483-499.

Boudreaux, C.J. 2019. Entrepreneurship, institutions, and economic growth: Does the level of development matter? arXiv preprint arXiv:1903.02934.

Bowen, H.P., De Clercq, D. 2008. Institutional context and the allocation of entrepreneurial effort. Journal of International Business Studies, 39(4), 747-767.

Braunerhjelm, P. 2010. Entrepreneurship, Innovation and Economic Growth-past experience, current knowledge and policy implications.

Broadman, H.G. 2004. Building market institutions in South Eastern Europe: Comparative prospects for investment and private sector development, Vol. 41181, No. 4. World Bank Publications.

Bruton, G.D., Ahlstrom, D., Li, H.L. 2010. Institutional theory and entrepreneurship: where are we now and where do we need to move in the future? Entrepreneurship theory and practice, 34(3), 421-440.

Busenitz, L.W., Gomez, C., Spencer, J.W. 2000. Country institutional profiles: Unlocking entrepreneurial phenomena. Academy of Management journal, 43(5), 994-1003.

Caselli, F., Esquivel, G., Lefort, F. 1996. Reopening the convergence debate: a new look at cross-country growth empirics. Journal of economic growth, 1(3), 363-389.

Chambers, D., Munemo, J. 2019. Regulations, institutional quality and entrepreneurship. Journal of Regulatory Economics, 55(1), 46-66.

Content, J., Bosma, N., Jordaan, J., Sanders, M. 2020. Entrepreneurial ecosystems, entrepreneurial activity and economic growth: new evidence from European regions. Regional Studies, 54(8), 1007-1019.

Dana, L.P. 1993. Environment for entrepreneurship: a model of public policy and economic development. The Journal of Entrepreneurship, 2(1), 73-86.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A. 2002. The regulation of entry. The quarterly Journal of economics, 117(1), 1-37.

Easterly, W., Levine, R. 2002. It's not factor accumulation: stylized facts and growth models. Banco Central de Chile.

Engle, R.L., Schlaegel, C., Dimitriadi, N. 2011. Institutions and entrepreneurial intent: A cross-country study. Journal of Developmental Entrepreneurship, 16(02), 227-250.

Feenstra, R.C., Inklaar, R., Timmer, P.M. 2013. "PWT8.0: a User's Guide", mimeo. Available at: www.ggdc.net/pwt.

Hall, R.E., Jones, C.I. 1999. Why do some countries produce so much more output per worker than others? The quarterly journal of economics, 114(1), 83-116.

Hausmann, R., Rodrik, D. 2003. Economic development as self-discovery. Journal of development Economics, 72(2), 603-633.

Hayton, J.C., George, G., Zahra, S.A. 2002. National culture and entrepreneurship: A review of behavioral research. Entrepreneurship theory and practice, 26(4), 33-52.

Henderson, J. 2002. Building the rural economy with high-growth entrepreneurs. Economic Review-Federal Reserve Bank of Kansas City, 87(3), 45-75.

Holcombe, R.G. 1998. Entrepreneurship and Economic Growth. Quarterly journal of Austrian economics, 1(2), 45-62.

Jankauskas, V., Šeputienė, J. 2009. The impact of the institutional environment on the economic development. Ekonomika, 87, 141-153.

Khalilov, L., Yi, C.D. 2021. Institutions and entrepreneurship: Empirical evidence for OECD countries. Entrepreneurial Business and Economics Review, 9(2), 119-134.

Kostova, T. 1997. Country institutional profiles: Concept and measurement. In: Academy of management proceedings, Vol. 1997, No. 1, 180-184. Briarcliff Manor, NY 10510, Academy of Management.

Lee, S.M., Peterson, S.J. 2000. Culture, entrepreneurial orientation, and global competitiveness. Journal of world business, 35(4), 401-416.

Mankiw, N.G., Romer, D., Weil, D.N. 1992. A contribution to the empirics of economic growth. The quarterly journal of economics, 107(2), 407-437.

Menzies, M.B. 2012. Researching scientific entrepreneurship in New Zealand. Science and Public Policy, 39(1), 39-59.

Mojica, M.N., Gebremedhin, T.G., Schaeffer, P.V. 2010. A county-level assessment of entrepreneurship and economic development in Appalachia using simultaneous equations. Journal of Developmental Entrepreneurship, 15(01), 3-18.

Norrman, C., Bager-Sjögren, L. 2010. Entrepreneurship policy to support new innovative ventures: Is it effective? International small business journal, 28(6), 602-619.

North, D.C. 1971. Institutional change and economic growth. The Journal of Economic History, 31(1), 118-125.

North, D.C. 1990. Economic performance. New York.

North, D.C. 1994. Institutions and productivity in history. Economics working paper archive at WUSTL.

North, D.C. 1994. Institutions matter. Economic History, 9411004.

Oxley, J.E. 1999. Institutional environment and the mechanisms of governance: the impact of intellectual property protection on the structure of inter-firm alliances. Journal of Economic Behavior and Organization, 38(3), 283-309.

Reynolds, P.D. 1999. Creative Destruction: Source or Symptom. Entrepreneurship, small and medium-sized enterprises and the macroeconomy, 97.

Rodrik, D. 2000. Institutions for high-quality growth: what they are and how to acquire them. Studies in comparative international development, 35(3), 3-31.

Rodrik, D. 2003. Institutions, integration, and geography: In search of the deep determinants of economic growth. Search of Prosperity: Analytic Country Studies on Growth.

Samadi, A.H. 2018. Institutions and entrepreneurship in MENA countries. In: Entrepreneurship Ecosystem in the Middle East and North Africa (MENA), 53-93. Springer, Cham.

Sambharya, R., Musteen, M. 2014. Institutional environment and entrepreneurship: An empirical study across countries. Journal of International Entrepreneurship, 12(4), 314-330.

Scott, G. 1995. Foreign debt service and economic growth. Atlantic Economic Journal, 23(2), 157-158.

Scott, W.R. 1995. Institutions and organizations, Vol. 2. Thousand Oaks, CA: Sage.

Shepherd, D.A., Zacharakis, A. 2000. Structuring family business succession: An analysis of the future leader's decision making. Entrepreneurship Theory and Practice, 24(4), 25-39.

Sisaye, S. 2021. The influence of non-governmental organizations (NGOs) on the development of voluntary sustainability accounting reporting rules. Journal of Business and Socioeconomic Development, 1(1), 5-23.

Sobel, R.S. 2008. Testing Baumol: Institutional quality and the productivity of entrepreneurship. Journal of Business Venturing, 23(6), 641-655.

Spencer, J.W., Gómez, C. 2004. The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: a multi-country study. Journal of business research, 57(10), 1098-1107.

Ssebulime, K., Joseph, M. 2019. Estimating the Cost of Unemployment to Uganda's Growth and Growth Trajectory 1980-2016: An Auto-Regressive Distributed Lag Modelling Approach. International Journal of Econometrics and Financial Management, 7(1), 27-36.

Steensma, H.K., Marino, L., Weaver, K.M., Dickson, P.H. 2000. The influence of national culture on the formation of technology alliances by entrepreneurial firms. Academy of management journal, 43(5), 951-973.

Stephen, F.H., Urbano, D., Van Hemmen, S. 2005. The impact of institutions on entrepreneurial activity. Managerial and decision economics, 26(7), 413-419.

Stoica, O., Roman, A., Rusu, V.D. 2020. The nexus between entrepreneurship and economic growth: A comparative analysis on groups of countries. Sustainability, 12(3), 1186.

The World Bank. 2000. Measuring growth in total factor productivity. PREMnotes, No. 42.

Thurik, R., Dejardin, M.A.F.G. 2011. The impact of culture on entrepreneurship. The European Business Review, 1(2), 57-59.

Urbano, D., Audretsch, D., Aparicio, S., Noguera, M. 2020. Does entrepreneurial activity matter for economic growth in developing countries? The role of the institutional environment. International Entrepreneurship and Management Journal, 16(3), 1065-1099.

Urbano, D., Alvarez, C. 2014. Institutional dimensions and entrepreneurial activity: an international study. Small business economics, 42(4), 703-716.

Urbano, D., Aparicio, S., Audretsch, D. 2019. Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned? Small Business Economics, 53(1), 21-49.

Van Stel, A., Storey, D. J., Thurik, A.R. 2007. The effect of business regulations on nascent and young business entrepreneurship. Small business economics, 28(2), 171-186.

Wennekers, S., Thurik, R. 1999. Linking entrepreneurship and economic growth. Small business economics, 13(1), 27-56.

Williamson, O.E. 2000. The new institutional economics: taking stock, looking ahead. Journal of economic literature, 38(3), 595-613.

Zouita, M.S. 2021. The impact of entrepreneurship on economic growth in 95 developing and emerging countries. Scientific Annals of Economics and Business, 68(2), 145-162.

## Appendix:

***Table (A-1):*** *Panel Least Squares results*
Dependent Variable: TFP_GR
Method: Panel Least Squares
Sample (adjusted): 2007 2016
Periods included: 10
Cross-sections included: 10
Total panel (unbalanced) observations: 88
White period standard errors and covariance (no d.f. correction)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -2.538946 | 0.355268 | -7.146557 | 0.0000 |
| NNLLC_GR | 8.464607 | 3.988195 | 2.122416 | 0.0370 |

| Effects Specification | | | |
|---|---|---|---|
| Cross-section fixed (dummy variables) | | | |
| Root MSE | 4.038433 | R-squared | 0.259445 |
| Mean dependent var | -1.784918 | Adjusted R-squared | 0.163269 |
| S.D. dependent var | 4.719717 | S.E. of regression | 4.317266 |
| Akaike info criterion | 5.879591 | Sum squared resid | 1435.187 |
| Schwarz criterion | 6.189258 | Log likelihood | -247.7020 |
| Hannan-Quinn criter. | 6.004348 | F-statistic | 2.697607 |
| Durbin-Watson stat | 1.554543 | Prob(F-statistic) | 0.006881 |

***Source:*** *Authors' calculation using EViews 11.*

***Table (A-2):*** *Fixed Effects tests*
Redundant Fixed Effects Tests

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 2.524795 | (9,77) | 0.0136 |
| Cross-section Chi-square | 22.756140 | 9 | 0.0068 |

***Source:*** *Authors' calculation using EViews 11.*

***Table (A-3):*** *Unit Root Tests*
Panel unit root test: Summary
Series: NNLLC_GR
Sample: 2005 2017

| Method | Statistic | Prob.** | Cross-sections | Obs |
|---|---|---|---|---|
| Null: Unit root (assumes common unit root process) | | | | |
| Levin, Lin and Chu t* | -10.3569 | 0.0000 | 10 | 78 |
| Breitung t-stat | -1.86473 | 0.0311 | 10 | 68 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin W-stat | -1.47258 | 0.0704 | 10 | 78 |
| ADF - Fisher Chi-square | 39.4778 | 0.0058 | 10 | 78 |
| PP - Fisher Chi-square | 75.7954 | 0.0000 | 10 | 78 |

***Source:*** *Authors calculation using EViews 11*

***Table (A-4):*** *Panel Unit Root Tests*
Panel unit root test: Summary
Series: TFP_GR
Sample: 2005 2017

| Method | Statistic | Prob.** | Cross-sections | Obs |
|---|---|---|---|---|
| Null: Unit root (assumes common unit root process) | | | | |
| Levin, Lin and Chu t* | -9.45403 | 0.0000 | 11 | 132 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin W-stat | -7.08179 | 0.0000 | 11 | 132 |
| ADF - Fisher Chi-square | 81.3177 | 0.0000 | 11 | 132 |
| PP - Fisher Chi-square | 96.0294 | 0.0000 | 11 | 132 |

***Source:*** *Authors calculation using EViews 11*

***Table (A-5):***
Panel unit root test: Summary
Series: TFP_GR
Sample: 2005 2017

| Method | Statistic | Prob.** | Cross-sections | Obs |
|---|---|---|---|---|
| Null: Unit root (assumes common unit root process) | | | | |
| Levin, Lin and Chu t* | -10.0491 | 0.0000 | 11 | 132 |
| Breitung t-stat | -4.49589 | 0.0000 | 11 | 121 |
| Null: Unit root (assumes individual unit root process) | | | | |
| Im, Pesaran and Shin W-stat | -5.55628 | 0.0000 | 11 | 132 |
| ADF - Fisher Chi-square | 63.9377 | 0.0000 | 11 | 132 |

| | | | | |
|---|---|---|---|---|
| PP - Fisher Chi-square | 91.1990 | 0.0000 | 11 | 132 |

***Source:*** *Authors' calculation using E-views 11.*

**Appendix (2)**

***Table (A-6):*** *Coefficient restriction test 2SLS equation*
Wald Test:

| Test Statistic | Value | df | Probability |
|---|---|---|---|
| Chi-square | 96.33543 | 6 | 0.0000 |

Null Hypothesis: C(2)=0, C(3)=0, C(4)=0, C(5)=0, C(7)=0, C(8)=0
***Source:*** *Authors' calculation using EViews 11.*

***Table (A-7):*** *Coefficient restriction test 2SLS equation*
Wald Test:

| Test Statistic | Value | df | Probability |
|---|---|---|---|
| Chi-square | 241.7287 | 6 | 0.0000 |

Null Hypothesis: C(2)=0, C(3)=0, C(4)=0, C(5)=0, C(7)=0, C(8)=0
***Source:*** *Authors' calculation using EViews 11.*