The Determinants of Economic Growth in Selected Arab Countries over the Period 1998-2017

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ABSTRACT

This paper aims at exploring the main effective determinants of economic growth in Arab countries (AC). The study uses panel data for twelve Arab countries over the period from 1998 to 2017. The stationary tests used show that some variables are stationary at level and the others are not. Kao and Pedroni Panel Cointegration tests showed that the models were cointegrated, suggesting the use of the Fully Modified OLS (FMOLS) in estimating the statistical models. The empirical results revealed that the labor force growth rate, gross fixed capital formation, trade openness, economic freedom and most governance indicators were significantly and positively related to economic growth of AC. To boost sustainable economic growth, Arab countries are strongly recommended to promote and increase investments in human capital, focus on manufacturing and exporting goods where comparative advantage is existed, diversify their production, enhance the rule of law, and encourage the national cohesiveness and peaceful coexistence that ensure political and social stability.

Keywords: Economic growth, Arab countries, Governance, trade openness.

INTRODUCTION

Economic growth is the main goal of all countries because of its importance in achieving economic, social and political development. Therefore, all governments adopt policies to accelerate their national income growth rate, reduce unemployment rate, fight poverty, raise education standard, increase investments, and support structural changes, innovation, research and development. Because of the importance of economic growth, it is necessary to identify its main determinants. There are mainly two types of factors which strongly influence the economic growth: First, economic factors, which have direct effects on the production process and economic progress, such as capital formation, labor force, natural resources, technology, conditions in foreign trade and economic system. Second, non-economic factors, which indirectly affect the economic activities through influencing societies' behaviour, such as political stability, corruption, the role of government, culture, desire to develop, religion, traditions…etc. Although economic factors are more common and used, the non-economic factors have also been commonly used in economic development studies related to the third world countries during the last fifty years. Kindleberger (1965) presented many non-economic factors such as family, class, culture, race, religion, national character...etc. It should be noted that these economic and non-economic factors strictly interact with each other.

This study aims at analyzing the impact of the main economic and non-economic factors on the economic growth of AC by using panel data for twelve AC over the period 1998-2017. The study also aims at exploring

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whether the non-economic factors have an overwhelming effect on reality or not,which ultimately would help to draw some recommendations that may shed light on these factors.

2. The problem of the study

The less developed AC suffer from low growth rates, or even retreating rates of gross domestic product (GDP), and they are facing tremendous pressure to get the economy functioning in a normal manner. This important issue became the motive for many researchers to conduct vast number of studies, both at individual and institutional levels in order to investigate the main determinants of economic growth and development. Therefore, the problem of this study is in line with previous studies, in which it attempts to answer the following question: what are the main economic and non-economic factors that could deeply affect the economic growth of AC and hinder their development? Specifically, this study tries to answer this question: Can gross fixed capital formation, labor force growth rate, economic freedom, trade openness, governance and Global Financial Crisis of 2008 (GFC) significantly impact the economic growth of AC?

3. Objectives of the study

This study attempts to achieve the following two objectives:

1- To investigate the effects of gross fixed capital formation, labor force growth rate, economic freedom, trade openness and governance indicators on economic growth of selected AC.

2- To shed light on the most effective determinants of economic growth in AC while recommending governments and policy makers to concentrate on and take into consideration such determinants when designing their public policies.

4. The importance of the study

1- This study will help in predicting the growth rate of output and in determining the factors that have the greatest effect on economic growth of AC.

2- It sheds light on the importance of non-economic factors as overwhelming factors that lead to major contributions to economic growth of AC.

3- In an attempt to distinguish this study from previous literature, an aggregate model (the third model), which contains the main economic and non-economic factors, and which (to the best of the researcher's knowledge) was not used in previous studies, was used in order to investigate their impacts on economic growth of AC.

4- This study uses panel data for twelve AC (a large sample) over a long period. The most recent years were also included in the study period.

5. Limitations of the study

1- This study is limited to investigate the main non-economic factors of economic growth because some non-economic factors have more subjective indicators than others (culture, race, religion, traditions…etc.) and may distort the results or their reading.

2- Some AC were excluded from the sample because of the unavailability of all required data during the most recent years. Therefore, the impacts of the main economic and non-economic factors on economic growth for twelve AC over the period 1998-2017 were only tested.

6. Hypothesis of the study

The study aims at testing the following main hypothesis:

H_o: There is no significant relationship between the growth rate of real GDP and each of gross fixed capital formation, labor force growth rate, trade openness, economic freedom, voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, control of corruption and GFC of 2008.

7. Literature review

Adam Smith who opposed government intervention in the economy, had analyzed economic growth in his famous book *The Wealth of Nations*. He emphasized that savings are very important in the economic growth

process because they lead to capital accumulation. He also asserted the role of specialization and division of work in boosting the productivity levels that will increase wages and profits. He concluded that some of these profits are saved in order to raise investment and so on until economic growth can eventually be achieved. Recently, the theoretical base of economic growth presented by the neoclassical model of Solow (1956) depended on many assumptions such as constant return to scale production function, diminishing marginal productivity of capital, producing one homogenous good, closed economy, no government, perfect competition, and saving unconsumed money. The exogenous variables in his model are: saving rate, population growth rate, and technological progress rate. Solow also believed that saving rate is the main determinant of economic growth in the short-run, but technological progress is the most important factor in the long-run, implying that regardless of the economy's starting point, the economy will converge to a balanced growth path.

Many recent studies such as Romer (1986) and Lucas (1988) have considered technological progress (knowledge, innovation…etc.) as an endogenous variable and the major determinant of long-run economic growth. They determined three main sources of growth: new knowledge, innovation and public infrastructure. They also initiated the famous endogenous growth theory, which states that investing in labor, capital, research and development and education skills will increase the labor productivity and eventually boost the economic growth. The augmented Solow model equilibrium presented by (Romer, 1990) is not a steady state, as the economy can continue to grow infinitely. In contrast, Barro (1991, 1996) found that policies and institutions could play a critical role in accelerating economic growth in the long run. Similarly, other researchers have emphasized the important role of institutions in economic growth (Matthews, 1986; Jutting, 2003; Rodrik, 2000). Thus, institutional economics have strengthened the essential role of institutions and policies in the sustained economic growth.

From the perspective of non-economic growth factors, some researchers have investigated the effects of social-cultural factors (culture, language, religion, attitudes, race…etc.) on economic growth (Granovetter, 1985; Knack and Keefer, 1997), and they found that these factors could have significant effects. Other studies highlighted some non-economic factors such as political factors, geography and demography (Kormendi and Meguire, 1985; Lensink, 2001), and they found that political instability would increase uncertainty, which ultimately reduce investment and economic growth. Many economists and researchers have affirmed the positive impact of strong governance on economic growth. Knack and Keefer (1997) and Edlund (2017) have confirmed that protecting property rights and contract enforcement can positively impact the economic growth through attracting national and international investments. Moreover, many working papers and researches of the World Bank, International Monetary Fund and the United Nations have shown that good governance can lead to economic growth. Barro (1996) has also examined the effects of some demographic factors (such as population growth, population density, migration and age distribution) on economic growth. The results of many studies that investigated the relations between some demographic factors and economic growth were not conclusive, and many demographic aspects remain unexplored until today. The diversity of cultures, traditions and races may have a positive effect on the economic growth of some countries, but it could have a negative effect on the growth of other countries.

Neoclassical and endogenous growth models also emphasized the significant role of investment in economic growth, which led to the emergence of huge

amount of studies that investigated the relationship between economic growth and investment (e.g., Kormendi and Meguire, 1985; Podrecca and Carmeci, 2001). In addition, Lensink and Morrissey (2006) concluded that the role of foreign direct investment in growth and technology transfer cannot be ignored. In the same vein, Kandenge (2006) used the framework of endogenous growth model to investigate the impact of public and private investment on economic growth in Namibia. He found that exports, imports, economic freedom, capital, public and private investments have significant positive impact on economic growth in both short and long run. On the other hand, human capital or educated and skilled workers have been investigated by (Barro, 1991; Brunetti, et al., 1998). They found a significant positive relationship between educated population and economic growth. In addition, endogenous growth models have emphasized the vital role of innovation, technology, research and development in increasing productivity levels and economic performance, which many studies have proved the positive relationship between them (e.g., Lichtenberg, 1992; Ulko, 2004). The significant relationship between economic policies, macroeconomic conditions and economic growth was confirmed in many studies in which they stressed that institutions, stable macroeconomic conditions and a little of uncertainty have an important impact on growth (Kormendi and Meguire, 1985; Barro, 1991,1996). Barro (1996) used panel data for 100 countries over the period 1960-1990, and found that improvements in the rule of law, democracy, government policies, education level and terms of trade have a positive effect on per capita real GDP growth rate, but high government consumption and high inflation and fertility rates have negative effect.

Furthermore, the more recent endogenous growth theories highlighted the implications of openness to trade on economic growth in the long run through exploiting of diffusion of new technologies. Trade openness through exploiting comparative advantage, technology transfer and exposure to competition has a significant positive impact on economic performance (Dollar, 1992; Dollar and Kraay, 2000). Additionally, Parente and Prescott (1994) and Razmi and Refaei (2013) affirmed that the positive impact of trade openness on economic growth is conditional upon the presence of international knowledge spillover, without which trade openness could negatively affect growth. Berggren and Jordahl (2005) tested the relationship between economic and trade freedom and economic growth by using panel data for 78 countries during the period 1975−2000. They found that taxes on international trade have detrimental impact on economic growth. On the same line, Petrakos et al. (2007) conducted a questionnaire survey to explore experts' views on the factors of economic growth. They found that the most effective determinants of growth were political and institutional factors. They also discovered that socio-political framework, foreign direct investment and formal institutions have prevailed effects on growth in less advanced countries.

Al-Raimony (2011) has analyzed the economic growth factors in Jordan by using the aggregate Cobb-Douglas production function with respect to labor, capital, exports, imports and dummy variables, and found that real GDP growth rate has positive relationship with real capital growth and real export growth, but it has negative relationship with labor size growth and real import growth. Similarly, Razmi and Refaei (2013) have investigated the impact of trade openness and economic freedom on economic growth by using 17 Middle East and East Asian countries' data during the period 2000-2009. Their results showed that overall index of economic freedom is positively and robustly correlated with growth, and they demonstrated that trade openness and economic freedom have significant positive relationship with growth. Moreover, Lahouij (2016) used panel data for the time period 2002-2013 to test the

impact of governance and other factors on economic growth of some selected oil-importing MENA countries (Middle East and North Africa countries). He found that governance is strongly associated with the economic development. Bayar (2016b) also investigated the impact of six governance indicators on the economic growth of transitional economies of the European Union during the period 2002-2013. He found that all governance indicators except regulatory quality have a positive impact on economic growth. He also found that the control of corruption and the rule of law have the largest impact on the economic performance, while political stability has the lowest one.

8. Data and Methodology

8.1 Data and variables description

The data used in this study were annual data comprised a representative sample of twelve AC (Algeria, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Bahrain, Saudi Arabia, Sudan, Tunisia and United Arab Emirates) over the period 1998-2017. The sample and the study period depended on data availability, and therefore, some AC were excluded from the sample, noting that some AC face many political and economic problems in the last years, which lead to missing data of several years. The study used panel data estimation technique because of its advantages over both cross-section and time-series data sets; this technique has greater degrees of freedom and less multicollinearity leading to more efficient estimates and controlling for unobserved heterogeneity (Hsiao, 2003). Most of the data was extracted from World Bank database, which is calculated in a universal stable currency (US dollar), thus helping to achieve as much consistency as possible.

The data about real GDP and gross fixed capital formation for Jordan was taken from Central Bank of Jordan. The data about the economic freedom of AC was taken from 2018 Index of Economic Freedom that measures the degree of economic liberty in the world's nations. This index varies between 0 and 100. The higher the index the higher is the degree of freedom. This index also measures the degree of freedom in investment, freedom in trade and freedom in business. It also assesses the degree of monetary and financial freedom and property rights. The six Worldwide Governance Indicators were obtained from World Bank Governance Indicators (WGI). These indicators report the perceptions of governance held by a large number of survey respondents and expert assessments worldwide. The index of each governance indicator varies between -2.5 (weak governance performance) and 2.5 (strong governance performance).The higher the index the stronger is the governance. The description of the variables according to the literature and the previous studies is as follows:

YG (dependent variable): the annual growth rate of real GDP as a proxy for economic growth, and it is defined as the annual change in the production of goods and services in the economy or the percentage of annual change in real GDP. GDP is the market value of all goods and services produced within a country's borders in a specific time period and usually calculated on an annual basis. Economic growth is influenced by various direct factors (such as human capital, natural resources, fixed capital formation and technological progress) and indirect factors (such as institutions, public polices, aggregate demand size and the efficiency of both the financial system and the government). The data for real GDP growth rate was obtained from World Bank database.

The independent variables are:

KF: Gross fixed capital formation (GFCF) to GDP ratio. GFCF is a proxy for the value of acquisitions of new or existing fixed assets by the private sector and government less disposals of fixed assets. It can be defined as the value of net additions to capital stock, such as equipment, tools, and transportation assets. GFCF excludes depreciation of fixed assets, land purchases, operating costs and financial assets.

Economic theory and previous studies confirmed that countries need capital goods to replace current assets that are used to produce goods and services, and if a country cannot replace obsolete capital goods, production declines. The higher the private and public savings, the higher the capital formation in the country, and the faster it grows. The data for GFCF to GDP ratio were obtained from World Bank database.

LF: labor force growth rate: it is a measure of the percentage change in an economy's labor force. Labor force is the number of people who are 16 years old or older, and they are employed or actively looking for work. People not included in the labor force are those who do not want to work or cannot work, such as students, homemakers, disabled, incarcerated people and retirees. The economic theory stresses the positive effect of labor force growth rate on economic growth. However, the previous studies revealed contradictory results depending on the absorption capacity of each labor market.The data on this variable was obtained from World Bank database.

OT: Openness to trade as a proxy of economic policies that either restrict or invite trade between countries. Fewer restrictions on trade can foster economic trade (trade tariffs, quotas and subsidies are examples of trade restrictions). Trade openness is measured by various ways, but this study depends on the sum of exports plus imports to the country's GDP as its index. The higher the index the higher is the trade openness. Economic theory and many previous studies confirmed that the higher the trade openness the larger the influence of trade on domestic activities, and the stronger the economy. The data for this variable was obtained from World Bank database.

EF: Economic freedom as a proxy for the ability of members of a society to undertake economic actions or to protect their liberty to pursue their own economic interests.Charles Koch Institute defines it as “the key to greater opportunity and an improved quality of life, it is the freedom to choose how to produce, sell, and use your own resources, while respecting others’ rights to do the same”.Classical theory has emphasized the role of free markets, free trade and enterprises in economic growth. Generally, economic theory emphasizes that institutional and legal structure and other economic freedom indexes are important for creating an investment environment and for attracting foreign investment. The data for this variable was taken from 2018 Index of Economic Freedom.

DM: A dummy variable is one that takes the value 0 or 1 to indicate the absence or presence of Global Financial Crisis of 2008 (GFC) effect that may shift the outcome and have a serious adverse impact on economic growth. DM has a value of one during GFC and its slow recovery afterwards (i.e. the period from 2009 to 2013), and otherwise it has a value of zero. GFC of 2008 is considered by many economists to have been the worst financial crisis since the Great Depression of the 1930s.

Governance is defined by World Bank as “the manner in which power is exercised in the management of a country's economic and social resources for development" (WB, 1992:1), but the United Nations defines it as the process of decision making. The six Worldwide Governance Indicators were obtained from World Bank Governance Indicators (WGI). The higher the index of each governance indicator the stronger is the governance. Economic theory and many previous studies emphasized the positive impact of strong governance on the economic growth. The definitions of the six indicators were taken from WGI and are summarized in table 1.

Table 1: Governance Indicators and their definitions.

1- Voice and accountability	It measures the extent to which a country's citizens are able to participate in selecting their government as well as freedom of expression, association, and the press. The higher this index the higher is the voice and accountability.
2- Political stability	It measures the ability of people to share, access or compete for power through non-violent political means. It also measures the capacity to prevent forced non-survival. The higher this index the higher is the political stability.
3- Government effectiveness	It measures the quality of public services, the capacity of civil services and their independence from political pressure, and the quality of policy formulation. The higher this index the higher is the government effectiveness.
4- Regulatory quality	It measures the ability of a government to provide sound policies and regulations that enable and promote private sector development. The higher this index the higher the quality of regulations.
5- Rule of law	It measures the extent to which agents have confidence in and abide by the rules of society, including the quality of property rights, the police and the courts. The higher this index the higher is the rule of law in society.
6- Control of corruption	It measures the ability to control and eradicate exercising public power for private gains, petty and all forms of corruption as well as elite "capture" of the state. The higher this index the higher is the control of corruption.

Source: World Bank (WGI)

8.2 Methodology

The study follows the empirical literature that start with Cobb–Douglas production function, which is a particular form of the production function, and it is often used to represent the technological relationship between the amounts of factors of production and the amount of output that can be produced by them. This production function was developed and tested against statistical evidence by Charles Cobb and Paul Douglas in 1928, and their studies became the motive for many economists to investigate the main determinants of economic growth:

$Y_t = A_t K_t^{\alpha} L_t^{\beta}$

Y_t: GDP at time t, K & L are capital and labor factors of production during the same period t, A is total factor productivity or technological progress at the same time t.Based on the above model, it could be extended as follows:

$Y_t = A_t K_t^{\alpha} L_t^{\beta} O_t^{\varphi} E_t^{\epsilon}$

O is openness to trade at time t, E is economic freedom at time t, where α, β, φ and Є represent the output elasticity of capital, labor, trade openness and economic freedom respectively. If we take the logarithm of both sides of the last expression we can rewrite it as follows:

$\ln Y_t = \ln A_t + \alpha \ln K_t + \beta \ln L_t + \varphi \ln O_t + \epsilon \ln E_t$

Then we can estimate it as follows:

$\ln Y_t = c + \alpha \ln K_t + \beta \ln L_t + \varphi \ln O_t + \epsilon \ln E_t + e_t$

Where c is the constant, and e_t is the error term. But if we differentiate (with respect to time) both sides of the equation: $\ln Y_t = \ln A_t + \alpha \ln K_t + \beta \ln L_t$, then we can get the following equation:

$YG_t = AG_t + \alpha KG_t + \beta LG_t$

YG: the growth rate of real GDP at time t.AG: the growth rate of technological progress or total factor productivity at time t, this variable cannot be measured

and it is known as Solow residual.KG: the growth rate of capital stock at time t, and it can be measured by the gross fixed capital formation to GDP ratio at time t as the previous studies did.LG: population or labor force growth rate at time t.It is known that the time derivative of the logarithm of any variable is the growth rate of that variable. We can estimate the last equation by the following regression model:$YG_t = C + \alpha\ KG_t + \beta\ LG_t + \mu_t$

Where C is the intercept and μ_t is the error term. This study depends on the previous discussion to formulate its regression models:

The first model: This study follows previous studies, such as Shahid (2014), Onyinye et al. (2017), Josheski et al. (2011), Bayar (2016a), Razmi and Refaei (2013) and Berggren and Jordahl (2005) in order to test the impact of GFCF, labor force growth rate, trade openness, economic freedom and GFC on economic growth of AC by using the following regression model:

$YG_{it} = \varphi_0 + \varphi_1\ KF_{it} + \varphi_2\ LF_{it} + \varphi_3\ OT_{it} + \varphi_4\ EF_{it} + \epsilon DM_{it} + e_{it}$ …… 1

Where φ_0 represents the intercept, i represents the country, t represents the time or the year, e_{it} represents random error term, YG represents growth rate of real GDP, KF represents GFCF to GDP ratio, LF represents labor force growth rate, OT represents trade openness which is measured by the sum of exports and imports to GDP ratio, EF represents economic freedom, DM is the dummy variable that represents the occurrence or the absence of GFC of 2008. The expected signs of all coefficients of explanatory variables (φ_1 to φ_4) are to be positive according to the economic theory and the previous studies, while ϵ is expected to be negative.

The second model: Bayar (2016b), Emara and Jhonsa (2014), Bouoiyour and Naimbayel (2012) and Fayissa and Nsiah (2013) tested the impact of governance on economic growth by the following equation:

$YG_{it} = \beta_0 + \beta_1\ VA_{it} + \beta_2\ PS_{it} + \beta_3\ GE_{it} + \beta_4\ RQ_{it} + \beta_5\ RL_{it} + \beta_6\ CC_{it} + \mu DM_{it} + E_{it}$ …… 2

Where β_0 represents the intercept, i represents country, t represents year, E_{it} represents random error term.Equation 2 will be estimated in order to test the relationship between the growth rate of real GDP (YG) and all governance indicators (VA: Voice and accountability, PS: Political stability, GE: Government effectiveness, RQ: Regulatory quality, RL: Rule of law, CC: Control of corruption) and GFC (represented by DM). The literature and the previous studies stressed that the high level of public governance could stimulate domestic and foreign investments by reducing uncertainty, creating good investment environment for both domestic and foreign firms, which in turns increase economic growth. The expected signs of all coefficients (β_1 to β_6) are to be positive, while μ is expected to be negative.

The third model: This aggregate equation is constructed as an attempt to distinguish this study from previous ones, following Pere (2015), Orayo and Mose (2016) and Lahouij (2016) who used the six governance indicators with relevant independent variables as determinants of economic growth:

$YG_{it} = \alpha_0 + \alpha_1\ KF_{it} + \alpha_2\ LF_{it} + \alpha_3\ OT_{it} + \alpha_4\ EF_{it} + \alpha_5\ VA_{it} + \alpha_6\ PS_{it} + \alpha_7\ GE_{it} + \alpha_8\ RQ_{it} + \alpha_9\ RL_{it} + \alpha_{10}\ CC_{it} + \lambda DM_{it} + U_{it}$ …… 3

Where α_0 represents the intercept, i represents country, t represents year, U_{it} represents random error term.Equation 3 will be estimated in order to test the impact of the growth rate of capital stock (KF), labor force growth rate (LF), trade openness (OT), economic freedom (EF), GFC (DM) and the six governance indicators on real GDP growth rate. The expected signs of all coefficients (α_1 to α_{10}) are to be positive according to economic theory and the previous studies, while λ is expected to be negative.

9. Empirical results

In order to avoid spurious relationship, the study used Levin, Lin & Chu, Im, Pesaran and Shin W-stat, ADF-Fisher Chi-square, PP-Fisher Chi-square and

Breitung t-stat to test the existence of unit roots in the panel data. The general hypothesis for unit root test is as follows: Null hypothesis: panel data has a unit root (not stationary). Alternative hypothesis: panel data does not have a unit root (stationary). The results of these tests are presented in tables 2 and 3, and they revealed that all the variables in the study (except KF, OT, RL and GE) have P values less than 0.05 in most of the unit root tests that were conducted to each variable, which led to rejection of the most null hypotheses. Meanwhile, most alternative hypotheses for these test types are accepted for these variables. Therefore, all the variables except KF, OT, RL and GE are stationary at both the level of individual effects on one hand and the level of individual effects and individual linear trends.

Table 2. Panel unit root test: Level of individual effects.

Variable	Exogenous variables	Method	Statistic value	Prob. value	decision
YG	Individual effects	Levin, Lin& Chu	-3.14222	0.0008	Stationary
		IM, Pesaran and Shin W-stat	-3.11419	0.0009	Stationary
		ADF-Fisher Chi-square	47.3599	0.0030	Stationary
		PP- Fisher Chi-square	72.5065	0.0000	Stationary
LF	Individual effects	Levin, Lin& Chu	-2.27732	0.0114	Stationary
		IM, Pesaran and Shin W-stat	-2.54210	0.0055	Stationary
		ADF-Fisher Chi-square	40.3382	0.0197	Stationary
		PP- Fisher Chi-square	74.6714	0.0000	Stationary
KF	Individual effects	Levin, Lin& Chu	0.79173	0.7857	Non stationary
		IM, Pesaran and Shin W-stat	0.24414	0.5964	Non stationary
		ADF-Fisher Chi-square	23.3199	0.5010	Non stationary
		PP- Fisher Chi-square	24.3495	0.4418	Non Stationary
EF	Individual effects	Levin, Lin& Chu	-32.8187	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-11.5413	0.0000	Stationary
		ADF-Fisher Chi-square	287.108	0.0000	Stationary
		PP- Fisher Chi-square	174.937	0.0000	Stationary
OT	Individual effects	Levin, Lin& Chu	-1.32272	0.0930	Non stationary
		IM, Pesaran and Shin W-stat	-1.09729	0.1363	Non stationary
		ADF-Fisher Chi-square	31.0382	0.1527	Non stationary
		PP- Fisher Chi-square	19.6110	0.7187	Non stationary
VA	Individual effects	Levin, Lin& Chu	-3.95997	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-2.17393	0.0149	Stationary
		ADF-Fisher Chi-square	42.8449	0.0104	Stationary
		PP- Fisher Chi-square	28.6630	0.2331	Non Stationary
GE	Individual effects	Levin, Lin& Chu	-0.08244	0.4671	Non stationary
		IM, Pesaran and Shin W-stat	1.35187	0.9118	Non stationary
		ADF-Fisher Chi-square	21.0762	0.6342	Non stationary
		PP- Fisher Chi-square	16.7414	0.8595	Non stationary

Variable	Exogenous variables	Method	Statistic value	Prob. value	decision
PS	Individual effects	Levin, Lin& Chu	-1.81415	0.0348	Stationary
		IM, Pesaran and Shin W-stat	-0.63520	0.2626	Non Stationary
		ADF-Fisher Chi-square	36.7994	0.0497	Stationary
		PP- Fisher Chi-square	33.5980	0.0921	Non Stationary
RQ	Individual effects	Levin, Lin& Chu	-1.91790	0.0276	Stationary
		IM, Pesaran and Shin W-stat	-2.91531	0.0018	Stationary
		ADF-Fisher Chi-square	50.6360	0.0012	Stationary
		PP- Fisher Chi-square	34.4771	0.0765	Non Stationary
RL	Individual effects	Levin, Lin& Chu	-1.35141	0.0883	Non stationary
		IM, Pesaran and Shin W-stat	-0.24924	0.4016	Non stationary
		ADF-Fisher Chi-square	30.4768	0.1694	Non stationary
		PP- Fisher Chi-square	24.2231	0.4489	Non stationary
CC	Individual effects	Levin, Lin& Chu	-2.43721	0.0074	Stationary
		IM, Pesaran and Shin W-stat	-1.43384	0.0758	Non Stationary
		ADF-Fisher Chi-square	33.4328	0.0953	Non Stationary
		PP- Fisher Chi-square	36.6146	0.0478	Stationary

Source: Author's calculations using Eviews.

Table 3. Panel unit root test: Level of individual effects and individual linear trends.

Variable	Exogenous variables	Method	Statistic value	Prob. value	decision
YG	Individual effects &	Levin, Lin& Chu	-4.24178	0.0000	Stationary
	individual linear trends	Breitung t-stat	-3.35491	0.0004	Stationary
		IM, Pesaran and Shin W-stat	-2.90146	0.0019	Stationary
		ADF-Fisher Chi-square	44.3095	0.0070	Stationary
		PP- Fisher Chi-square	53.6468	0.0005	Stationary
LF	Individual effects &	Levin, Lin& Chu	-2.98397	0.0014	Stationary
	individual linear trends	Breitung t-stat	2.21781	0.9867	Non stationary
		IM, Pesaran and Shin W-stat	-6.94563	0.0000	Stationary
		ADF-Fisher Chi-square	58.8377	0.0001	Stationary
		PP- Fisher Chi-square	59.8643	0.0001	Stationary
KF	Individual effects &	Levin, Lin& Chu	-0.76329	0.2226	Non stationary
	individual linear trends	Breitung t-stat	0.26332	0.6038	Non stationary
		IM, Pesaran and Shin W-stat	-1.75032	0.0400	Stationary
		ADF-Fisher Chi-square	37.5051	0.0389	Stationary
		PP- Fisher Chi-square	21.7611	0.5935	Non stationary

Variable	Exogenous variables	Method	Statistic value	Prob. value	decision
EF	Individual effects & individual linear trends	Levin, Lin& Chu	-32.7992	0.0000	Stationary
		Breitung t-stat	-1.62825	0.0517	Non Stationary
		IM, Pesaran and Shin W-stat	-10.9441	0.0000	Stationary
		ADF-Fisher Chi-square	39.5824	0.0237	Stationary
		PP- Fisher Chi-square	56.2440	0.0002	Stationary
OT	Individual effects & individual linear trends	Levin, Lin& Chu	-2.16303	0.0153	Stationary
		Breitung t-stat	0.54451	0.7070	Non stationary
		IM, Pesaran and Shin W-stat	-0.76184	0.2231	Non stationary
		ADF-Fisher Chi-square	32.5184	0.1147	Non stationary
		PP- Fisher Chi-square	33.7850	0.0886	Non stationary
VA	Individual effects & individual linear trends	Levin, Lin& Chu	-3.80089	0.0001	Stationary
		Breitung t-stat	-1.98537	0.0236	Stationary
		IM, Pesaran and Shin W-stat	-1.67609	0.0469	Stationary
		ADF-Fisher Chi-square	34.7953	0.0715	Non Stationary
		PP- Fisher Chi-square	30.4845	0.1692	Non Stationary
GE	Individual effects & individual linear trends	Levin, Lin& Chu	-2.02157	0.0216	Stationary
		Breitung t-stat	1.95359	0.9746	Non stationary
		IM, Pesaran and Shin W-stat	0.31819	0.6248	Non stationary
		ADF-Fisher Chi-square	20.2697	0.6813	Non stationary
		PP- Fisher Chi-square	17.7843	0.8133	Non stationary
PS	Individual effects & individual linear trends	Levin, Lin& Chu	-2.59593	0.0047	Stationary
		Breitung t-stat	-1.60321	0.0544	Non Stationary
		IM, Pesaran and Shin W-stat	-3.41961	0.0003	Stationary
		ADF-Fisher Chi-square	53.4759	0.0005	Stationary
		PP- Fisher Chi-square	47.3735	0.0030	Stationary
RQ	Individual effects & individual linear trends	Levin, Lin& Chu	-4.14738	0.0000	Stationary
		Breitung t-stat	-1.86278	0.0312	Stationary
		IM, Pesaran and Shin W-stat	-2.77507	0.0028	Stationary
		ADF-Fisher Chi-square	44.7885	0.0062	Stationary
		PP- Fisher Chi-square	20.3252	0.6781	Non Stationary
RL	Individual effects & individual linear trends	Levin, Lin& Chu	-1.67489	0.0470	Stationary
		Breitung t-stat	0.79170	0.7857	Non Stationary
		IM, Pesaran and Shin W-stat	-0.55691	0.2888	Non Stationary
		ADF-Fisher Chi-square	37.1832	0.0420	Stationary
		PP- Fisher Chi-square	37.7451	0.0368	Stationary

Variable	Exogenous variables	Method	Statistic value	Prob. value	decision
CC	Individual effects & individual linear trends	Levin, Lin& Chu	-1.90958	0.0281	Stationary
		Breitung t-stat	-1.64937	0.0495	Stationary
		IM, Pesaran and Shin W-stat	-1.65713	0.0487	Stationary
		ADF-Fisher Chi-square	33.6584	0.0909	Non Stationary
		PP- Fisher Chi-square	36.2727	0.0516	Non Stationary

Source: Author's calculations using Eviews

After taking the first difference for the variables KF, OT, RL and GE they became stationary at both the level of individual effects and the level of individual effects and individual linear trends as illustrated in tables 4 and 5.

Table 4. Panel unit root test: first difference with individual effects

Variabe	Exogenous variables	Method	Statistic value	Prob. value	decision
D(OT)	Individual effects	Levin, Lin& Chu	-10.2748	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-7.96180	0.0000	Stationary
		ADF-Fisher Chi-square	103.781	0.0000	Stationary
		PP- Fisher Chi-square	113.879	0.0000	Stationary
D(KF)	Individual effects	Levin, Lin& Chu	-6.35333	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-6.64912	0.0000	Stationary
		ADF-Fisher Chi-square	88.7110	0.0000	Stationary
		PP- Fisher Chi-square	113.141	0.0000	Stationary
D(RL)	Individual effects	Levin, Lin& Chu	-10.5752	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-8.75497	0.0000	Stationary
		ADF-Fisher Chi-square	119.120	0.0000	Stationary
		PP- Fisher Chi-square	376.175	0.0000	Stationary
D(GE)	Individual effects	Levin, Lin& Chu	-12.3137	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-11.3744	0.0000	Stationary
		ADF-Fisher Chi-square	144.664	0.0000	Stationary
		PP- Fisher Chi-square	150.951	0.0000	Stationary

Source: Author's calculations using Eviews

Table 5. Panel unit root test: first difference with individual effects and individual linear trends

Variabe	Exogenous variables	Method	Statistic value	Prob. value	decision
D(OT)	Individual effects & individual linear trends	Levin, Lin& Chu	-11.2180	0.0000	Stationary
		Breitung t-stat	-5.45946	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-6.64844	0.0000	Stationary
		ADF-Fisher Chi-square	84.5246	0.0000	Stationary
		PP- Fisher Chi-square	119.765	0.0000	Stationary
D(KF)	Individual effects & individual linear trends	Levin, Lin& Chu	-8.78310	0.0000	Stationary
		Breitung t-stat	-5.43377	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-7.14812	0.0000	Stationary
		ADF-Fisher Chi-square	86.1429	0.0000	Stationary
		PP- Fisher Chi-square	97.4137	0.0000	Stationary
D(RL)	Individual effects & individual linear trends	Levin, Lin& Chu	-10.7273	0.0000	Stationary
		Breitung t-stat	-3.97997	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-8.41213	0.0000	Stationary
		ADF-Fisher Chi-square	103.847	0.0000	Stationary
		PP- Fisher Chi-square	134.158	0.0000	Stationary
D(GE)	Individual effects & individual linear trends	Levin, Lin& Chu	-11.2623	0.0000	Stationary
		Breitung t-stat	-7.83059	0.0000	Stationary
		IM, Pesaran and Shin W-stat	-10.8916	0.0000	Stationary
		ADF-Fisher Chi-square	127.930	0.0000	Stationary
		PP- Fisher Chi-square	163.551	0.0000	Stationary

Source: Author's calculations using Eviews

Based on the results of the unit root tests, Kao and Pedroni Panel Cointegration tests were conducted. The results of Pedroni tests are shown in the appendix, while the results of Kao cointegration tests are presented in table 6. Seven test types with eleven probability values in Pedroni Cointegration test should be taken into consideration. The null hypothesis for these cointegration tests is that there is no cointegration in the model, noting that six of eleven outcomes (majority) are significant. P values are less than 0.05 in both cases of individual intercept and individual intercept and individual trend. Therefore, the null hypothesis is rejected in each case, indicating that the three models are cointegrated. The results of Kao cointegration tests in table 6 show that the probability values are also less than 5%, indicating that the study variables for each model have a long run stable relationship.

Table 6. Kao Residual Cointegration Test

The model	ADF t-statistic value	Probability value
First model	-2.558425	0.0053
Second model	-1.657209	0.0403
Third model	-3.283476	0.0005

Source: Author's calculations using Eviews

Therefore, FMOLS model is applied in order to estimate the three models. FMOLS was originally designed by Phillips and Hansen (1990) to provide optimal unbiased estimates of cointegrating regressions.

This method has modified least squares to account for serial correlation effects and for the endogeneity in the regressors that result from the existence of a cointegrating relationship. The results of FMOLS models are presented in tables 7, 8 and 9 for the first, second and third models respectively.

Table 7. Results of estimation for the first model using FMOLS (1998-2017, dependent variable: real GDP growth rate)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KF	0.106450	0.062372	1.706692	0.0895
LF	0.518281	0.237345	2.183661	0.0302
EF	0.067418	0.088441	0.762300	0.4468
OT	0.027846	0.014362	1.938849	0.0540
DM	-1.794171	0.477251	-3.759388	0.0002

Source: Author's calculations using Eviews

The first model aims to analyze the impacts of KF (gross fixed capital formation to GDP), LF (labor force growth rate), EF (economic freedom) and OT (trade openness) on YG (real GDP growth rate). It is apparent from table 7 that all independent variables except DM and EF have statistically significant positive effects on the growth rate of real GDP, and all estimated coefficients carry the correct expected signs, which is consistent with the economic theory and the previous studies. LF has the highest positive coefficient and OT has the lowest one, indicating that a 1% increase in trade openness increases the growth rate of real GDP in AC covered in this study by only 0.028 %, which is statistically significant at 10%. Trade openness contributes slightly to higher growth in AC, while a 1% increase in labor force growth rate increases the growth rate of real GDP by about 0.52 % at 5% significance level. Economic freedom also has positive effect on economic growth, even though it is not significant. In addition, 1% increase in the accumulation of fixed capital over time will increase real GDP growth rate by about .11% at 10% significance level. It is clear that there is a significant negative impact at 1% significance level of GFC of 2008 and its slow recovery afterwards (DM) on the economic growth by about 1.8%.

All coefficients of the explanatory variables in table 8 carry the correct expected sign, which is consistent with the economic theory and the previous studies. All governance indicators except government effectiveness (GE) significantly and positively affect the economic growth of the selected AC during the study period.

Table 8. Results of estimation for the second model using FMOLS (1998-2017, dependent variable: real GDP growth rate)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VA	0.139976	0.064517	2.169613	0.0313
PS	1.328779	0.076151	17.44922	0.0000
RQ	4.160601	0.122694	33.91032	0.0000
GE	0.010437	0.166981	0.062506	0.9502
RL	1.157008	0.146113	7.918584	0.0000
CC	0.589247	0.135168	4.359353	0.0000
DM	-1.638892	0.048820	-33.57032	0.0000

Source: Author's calculations using Eviews

The most effective governance indicators are regulatory quality (RQ), political stability (PS) and rule of law (RL) respectively. A 1% increase in RQ increases the growth rate of real GDP by 4.16 % at 1% significance level, while a 1% increase in voice and accountability (VA) increases real GDP growth rate by only 0.14 % at 5% significance level. Political stability is an important factor that contributes in creating a good investment environment in AC and raises their economic growth by about 1.33% at 1% significance level. There is also a significant negative impact at 1% significance

level of GFC(DM) on the economic growth of AC by about 1.64% in the second model.

It is apparent from table 9 below that all independent variables' coefficients carry the correct expected signs. GFC of 2008 (DM) also has a significant negative effect at 1% significance level on the economic growth of AC by 1.92% in this model. Labor force growth rate (LF) still has higher effect on the economic growth of AC than fixed capital accumulation (KF), indicating that a 1% increase in LF increases the growth rate of real GDP by about 0.39 %, while a 1% increase in KF increases economic growth by about 0.16 % at 1% significance level. Trade openness contributes very slightly to higher growth in these countries, but a 1% increase in economic freedom (EF) increases their economic growth by about 0.06 % at 5% significance level.

Table 9. Results of estimation for the third model using FMOLS (1998-2017, dependent variable: real GDP growth rate)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KF	0.159405	0.017295	9.216664	0.0000
LF	0.385252	0.068238	5.645723	0.0000
EF	0.059627	0.028081	2.123378	0.0351
OT	0.000122	5.23E-05	2.325833	0.0211
VA	0.120029	0.285267	0.420760	0.6744
PS	1.265461	0.261923	4.831424	0.0000
RQ	4.462676	0.420338	10.61687	0.0000
GE	1.436442	0.655534	2.191255	0.0297
RL	0.343618	0.475847	0.722120	0.4712
CC	0.225745	0.363047	0.621808	0.5349
DM	-1.924110	0.169407	-11.35793	0.0000

Source: Author's calculations using Eviews

The most effective governance indicators in table 9 are regulatory quality (RQ), government effectiveness (GE) and political stability (PS) respectively. A 1% increase in RQ increases the growth rate of real GDP by 4.46% at 1% significance level, while a 1% increase in GE increases real GDP growth rate by about 1.44 % at 5% significance level. An increase of political stability in AC by 1% can result in 1.27% increase in their economic growth during the study period and it is significant at 1%. Rule of law (RL), control of corruption (CC) and voice and accountability (VA) are not significant in this model.

10. Conclusions and recommendations

This paper provided evidence of the significant positive impacts of labor force growth rate, GFCF, trade openness, economic freedom and all governance indicators on economic growth of selected AC in the period 1998-2017. The results showed that the non-economic factors have the greatest significant positive effects on the economic growth of AC during the study period. GFC of 2008 and its slow recovery also have expected significant negative impact on their economic growth.

In fact, efficient and effective delivery of public services by governments, who are accountable and responsive to the needs of their citizens, will eventually create a democratic environment that is essential to achieving desired economic and social growth (Hall and Jones, 1999; Pere, 2015; Emara and Chiu, 2016). Furthermore, foreign and domestic investors are usually basing their investments decisions on applied good governance. Actually, the World Bank and International Monetary Fund have affirmed that good governance is conditional for being legible to most external aid. The traditional determinants of economic growth (labor, capital or natural resources) cannot positively impact the economic performance if there is underdeveloped, instable and untrustworthy institutional environment (Easterly, 2001). Moreover, Countries can obtain higher credit ratings when they have good public administration and better governance, which can reduce the cost of capital and improve their economic performance. Therefore, Arab governments should make real institutional reforms and adopt appropriate polices that eliminate corruption and rent seeking behaviour,

promote human rights, and enhance the rule of law, which eventually will ensure that resources are efficiently and effectively applied in pursuit of economic growth and development. AC need to improve the quality of education and concentrate on developing the skills and expertise of their labor force. They also have to establish specialization in the production of goods in which they have comparative advantages and diversify their production and sources of national income, and not to depend only on exporting natural raw materials. They also should facilitate trade that allows transition of new knowledge and leading technologies, increases labor and capital productivities, encourages domestic and international competition, and attracts more international financial flows and investments. Furthermore, increasing investments in fixed and human capital should be matched with encouraging the national cohesiveness and peaceful coexistence that ensure political and social stability. Finally, crises or global conditions must be watched carefully in order to minimize their negative effects on economic growth.

REFERENCES

AL-Raimony, A. (2011). The Determinants of Economic Growth in Jordan, ***Abhath Al-Yarmouk, Humanities and Social Sciences Series***, 27(3): 2297-2305.

Barro, R. (1991). Economic Growth in a Cross Section of Countries, ***Quarterly Journal of Economics***, 106 (2): 407-443.

Barro, R. (1996). Determinants of Economic Growth: A Cross Country Empirical Study, ***National Bureau of Economic Research***, NBER Working Paper 5698, 1050 Massachusetts Avenue Cambridge, MA 02138, August.

Bayar, Y. (2016a). Impact of Openness and Economic Freedom on Economic Growth in the Transition Economies of the European Union, ***South-Eastern Europe Journal of Economics,*** 1: 7-19.

Bayar, Y. (2016b). Public Governance and Economic Growth in the Transitional Economies of the European Union, ***Transylvanian Review of Administrative sciences***, 48: 5-18.

Berggren, N. and Jordahl, H. (2005). Does Free Trade Really Reduce Growth? Further Testing Using The Economic Freedom Index, ***Public Choice***, 122(1–2): 99–114.

Bouoiyour, J., & Naimbayel, D. (2012). Economic Growth in Sub-Saharan Africa: Is Governance a Source of Inequality between Countries? ***paper presented at the 17th Annual Conference of the African Uganda Econometric Society***.

Brunetti, A.; Kisunko, G., & Weder, B. (1998). Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of the Private Sector, ***The World Bank Economic Review***, 12 (3): 353–384.

Charles Koch Institute. https://www.charleskochinstitute.org/about-us/

Dollar, D. (1992). Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976-1985, ***Economic Development and Cultural Change***, 40 (3): 523-544.

Dollar, D., & Kraay, A. (2000). Trade, Growth and Poverty, ***The World Bank Development Research Group***, Washington, (mimeo).

Easterly, W. (2001). ***The elusive quest for growth: economists' adventures and misadventures in the topics***, Cambridge MA: MIT Press.

Edlund, K. (2017). Does economic freedom affect the growth rate? Evidence from middle-income countries, Bachelor thesis, International Business Program. Available at:

Emara, N. and Jhonsa, E. (2014). Governance and Economic Growth: The Case of Middle East and North African Countries, ***Journal of Development and Economic Policies***, 16 (1): 47-71.

Emara, N., & Chiu, I. (2016). The Impact of Governance on Economic Growth: The Case of Middle Eastern and North African Countries, ***Topics in Middle Eastern and African*** **Economies**, 18 (1): 126-144.

Fayissa, B., & Nsiah, C. (2013). The Impact of Governance on Economic Growth in Africa, ***Journal of Developing***

Areas, 47 (1): 91-108.

Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. ***American Journal of Sociology***, 91 (3): 481-510.

Hall, R., & Jones, C. (1999). Why Do Some Countries Produce so Much More Output per Worker Than Others? ***Quarterly Journal of Economics***, 114 (1): 83-116.

Hsiao, C. (2003). ***Analysis of Panel Data***. 2nd edition, United Kingdom: Cambridge University Press.

http://www.diva-portal.org/smash/get/diva2:1134907/FULLTEXT01.pdf

http://www.worldbank.org/en/search?q=governance%20indicators

Josheski, D.; Lazarov, D., & Koteski, C. (2011). Cobb-Douglas production function revisited, VAR and VECM analysis and a note on Fischer/Cobb-Douglass paradox, Munich Personal RePEc Archive, https://mpra.ub.uni-muenchen.de/33576/, 1-22.

Jutting, J. (2003). Institutions and Development: A Critical Review, OECD Development Center, ***Working Paper*** 210.

Kandenge, F. (2006). Public and Private Investment and Economic Growth in Namibia (1970-2005), ***Botswana Journal of Economics*, 7 (11) ,** https://www.ajol.info/index.php/boje/article/view/64200

Kindleberger, p. (1965). ***Economic development***, 2nd edition, New York: McGraw-Hill.

Knack, S., & Keefer, P. (1997). Does Social Capital Have an Economic Impact? A cross-country investigation, ***Quarterly Journal of Economics***, 112 (4): 1251-1288.

Kormendi, R., & Meguire, P. (1985). Macroeconomic Determinants of Growth: Cross-Country Evidence, ***Journal of Monetary Economics***, 16 (4): 141-163.

Lahouij, H. (2016). Does Governance Matter to Economic Growth? Evidence from MENA Countries, Awards for Excellence in Student Research and Creative Activity Documents. http://thekeep.eiu.edu/lib_awards_2016_docs/5.

Lensink, R. (2001). Financial Development, Uncertainty and Economic Growth, ***De Economist***, 149 (3): 299-312.

Lensink, W., & Morrissey, O. (2006). Foreign Direct Investment: Flows, Volatility and the Impact on Growth, ***Review of International Economics***, 14 (3): 478-493.

Lichtenberg, F. (1992). R&D Investment and International Productivity Differences, ***NBER Working Paper***, No. 4161.

Lucas, R. (1988). On the Mechanics of Economic Development, ***Journal of Monetary Economics***, 22: 3-42.

Matthews, R. (1986). The Economics of Institutions and the Sources of Growth, ***The Economic Journal***, 96 (384): 903-918.

Onyinye, N.; Idenyi, O., & Ifeyinwa, A. (2017). Effect of Capital Formation on Economic Growth in Nigeria, ***Asian Journal of Economics, Business and Accounting***, 5 (1): 1-16.

Orayo, J., & Mose, G. (2016). A Comparative Study on Contribution of Governance on Economic Growth in the East African Community Countries, ***International Journal of Regional Development***, 3 (2): 89-106.

Parente, S., & Prescott, E. (1994). Barriers to Technology Adoption and Development, ***J Polit Econ***, 102 (2): 298–321.

Pere, E. (2015). The Impact of Good Governance in the Economic Development of Western Balkan Countries, ***European Journal of Government and Economics***, 4 (1): 25-45.

Petrakos, G.; Paschalis, A., & Sotiris, P. (2007). Determinants of Economic Growth: The Experts' View, DYNREG Dynamic Regions in a Knowledge Driven Global Economy Lessons and Policy Implications, ***EU WORKING PAPERS***, No. 20.

Phillips, P., & Hansen, B. (1990). Statistical Inference in Instrumental Variables Regression with I(1) Processes, ***Review of Economic Studies***, 57: 99-125.

Podrecca, E., & Carmeci, G. (2001). Fixed Investment and Economic Growth: New results on Causality, ***Applied Economics***, 33 (2): 177-182.

Razmi, M., & Refaei, R. (2013). The Effect of Trade Openness and Economic Freedom on Economic

Growth: The Case of Middle East and East Asian Countries, ***International Journal of Economics and Financial Issues***, 3 (2): 376-385.

Rodrik, D. (2000). Institutions for High-Quality Growth: What They are and How to Acquire Them, ***NBER Working Paper,*** No. 7540.

Romer, P. (1986). Increasing Returns and Long Run Growth, ***Journal of Political Economy***, 94 (5): 1002-1037.

Romer, P. (1990). Endogenous Technological Change, ***Journal of Political Economy***, 98 (5): 71-102.

Shahid, M. (2014). Impact of Labor Force Participation on Economic Growth in Pakistan, ***Journal of Economics and Sustainable Development***, 5 (11): 89-94.

Solow, R. (1956). A Contribution to the Theory of Economic Growth, ***Quarterly Journal of Economics***, 70 (1): 65-94.

Ulku, H. (2004). R&D Innovation and Economic Growth: An Empirical Analysis, ***IMF Working Paper,*** No.185.

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محددات النمو الاقتصادي في دول عربية مختارة خلال الفترة 1998-2017

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ملخص

تهدف هذه الورقة إلى استكشاف المحددات الأساسية للنمو الاقتصادي في الدول العربية، التي تمكن من تسليط الضوء على المحددات الأكثر فعالية.تستخدم الدراسة بيانات السلاسل الزمنية المقطعية لاثنتي عشرة دولة عربية خلال الفترة من 1998 إلى 2017. كانت بعض متغيرات الدراسة مستقرة على المستوى والبعض الآخرغير مستقر. كما تم إجراء اختبارات التكامل للنماذج ووجدت أنها تكاملية، ولذلك تم استخدام نموذج المربعات الصغرى العادية المعدلة (FMOLS) للتقدير والذي أظهر أن لمعدل نمو القوى العاملة واجمالي التكوين الرأسمالي الثابت والانفتاح التجاري والحرية الاقتصادية ومعظم مؤشرات الحوكمة علاقة إيجابية ملحوظة إحصائيا مع النمو الاقتصادي للدول العربية خلال فترة الدراسة. أوصت الدراسة أنه يجب على الحكومات العربية حتى تقوم برفع أدائها الاقتصادي أن تشجع وتزيد الاستثمار في رأس المال المادي والبشري، وأن تركز على تصنيع وتصدير السلع التي تمتلك ميزة نسبية فيها، وأن تنوع إنتاجها، وتدعم سلطة القانون، وأن تشجع التماسك الوطني والتعايش السلمي الذي يضمن الاستقرار السياسي والاجتماعي.

الكلمات الدالة: النمو الاقتصادي، الدول العربية، الحوكمة، الانفتاح التجاري.

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