

The Impact of Institutions Problems on Economic Growth-The case of Arab Economies-

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Abstract :

This research aims to investigate the relationship between institutions and economic growth by modelling corruption as an institution in itself, rather than as some form of illicit behaviour and in a framework that takes into account that corruption also affects growth through its impact on institutions. To achieve this purpose we used Panel data For the period 2007 to 2017 for ten Arabic countries. That were obtained from the World Bank , International Organization of Transparency and Freedom House by using PANEL data and analyzed by stata 12 program . The results show that there is a positive and significant relationship between corruption and economic growth in the countries under studie where We find that the overall effect of corruption on economic growth is highly dependent on the institutional setting of a country. Particularly in situations where institutions are not well developed it may be conducive to economic growth .

Keywords : Institutions Problems, Economic Growth, Arab Economies, PANEL Data.

JEL Classification Codes: O43 , F43, C23

Introduction

The phenomenon of corruption is considered as a source of great concern and a problem that haunts societies, regimes and people. As illegal activities and practices have increased and developed, taking forms and dimensions from their

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expansion to the point that they have become threatening many societies in their regime existence, social security, economic growth and sustainable development. Regardless of the various components and causes of corruption, its consequences fall into one stream, which is the negative effects on economic growth. There are many experimental studies that try to determine the effect of corruption on economic growth, as Mauro (1997) shows that corruption has negative effects. On GDP and economic growth, Pelligrini and Gerlagh (2004) (Pellegrini, 2004) highlight that the negative impact of corruption on economic growth reaches 81% through indirect effects in developing countries. While Mallik and Saha in 2016 (Mallik, 2016) studied the relationship between growth and corruption in a sample of 146 developed and developing countries. They concluded that there is no negative effect of corruption on economic growth. In a similar study, Haydarolu (2016) studies the relationship between corruption, economic freedom and economic growth, and it appears that corruption has a negative impact on Economic growth in sub-Saharan Africa, which is characterized by mismanagement.

The current study aims to answer the following question:

What is the relationship between corruption and economic growth in some Arabic countries?

In order to get a deep insight in this research, the researchers set the following

hypothesis :

Corruption has a positive impact on the economic growth of some Arabic countries.

The study examines the existence of the relationship between corruption and economic growth in the context of some Arabic countries (Algeria, Jordan, Egypt, Bahrain, Lebanon, Saudi Arabia, Morocco, Oman, Tunisia and the United Arab Emirates) for the period extending between 2007-2017 by following an approach Quantitative analysis based on the application of standard and necessary methods by using panel data models that mix data between time series and cross sections. Thus, to achieve the research objectives

2. Literature Review

2.1 Ondo ,A (2017).

In his article analyzes the direct relationship between corruption and economic growth in the member countries of the Central African Economic and Monetary Group (EMCCA), and to achieve this purpose, the economist researcher used the econometrics of data during the period between 2005-2015 to show that corruption contributed to and strengthened economic growth in CEMAC member countries. By "reducing" the administrative burdens that impede access to the essential public services (public schools, health, electricity and gas). The results highlight the existence of a positive relationship between these two variables that reinforce the idea that corruption acts as the grease which is really indispensable for lubricating the wheels of rigid administration and this would make it possible to circumvent the excessive administrative burdens and regulations inherent in the work of the state in CEMAC countries. The researcher also explains that corruption can have non-linear effects on economic growth, so it may be important to distinguish between transmission channels and the effects of corruption on growth. (Ondo, 2017)

2.2 Pieroni, J.P; Dunne; G. d'Agostino (2016).

The study examines the interaction between corruption and government expenditures and how this affects economic growth in African countries. It relies

on a model for endogenous growth and its expansion to include different categories of government spending assuming the presence of corruption, which has different effects on each of the groups. The results confirm the negative impact of corruption and military spending, and it explains the interaction between corruption and military expenditures through indirect effects. It also explains that countries that have political impacts and repercussions have worse effects of corruption on economic growth than countries that have high military burdens. (D'Agostino, Dunne, & Pieroni, 2016)

2.3 Dridi, M (2013).

The aim of this research paper is to identify the transmission channels through which corruption can affect economic growth. For this purpose, the researcher used a channel methodology developed by Tavares and Wacziarg (2001) and applied by Wacziarg (2001) and more recently by Lorentzen, McMillan and Wacziarg (2008). Since this methodology is based on a system of simultaneous equations to assess the effects of corruption on the various determinants of economic growth, which will allow the possibility of clarifying how corruption affects growth through and by all possible channels. The obtained results indicate that the negative impact of corruption on economic growth is transmitted Mainly through its impact on human capital and political instability. (Dridi, 2013)

2.4 Younes, m.d ; Ahmed, d.a (2012)

This research aims to determine the impact of corruption on economic growth in various institutions from all countries of the world. For which the necessary data are available to conduct quantitative analysis in order to ensure that there is a wide variation in the levels of corruption and the type of institutions between the countries ; whose case is studied to ensure more credible results. A regression equation in which economic growth (GDP per capita) is a function of the corruption index, and the researcher has relied on two types of corruption indicators. The first is the index issued by Transparency International, which is the Corruption Perceptions Index (CPI) and the second is the index that is issued about the World Bank, which is the Control of Corruption Index (CC), and other external variables affecting growth have been incorporated (education index, internal investment, foreign direct investment, population growth rate) and with regard to the type of institutions in each country, the researcher relied on average of governance indicators issued by the World Bank. The obtained results show that corruption affects negatively economic growth and that there is a variation in this effect from one country to another according to the difference in the quality of institutions. In countries that have good institutions, the effect of corruption is negative and weak, and it is greater in countries with weak institutions and has a significant impact on economic growth in these countries. (يونس، د.م و أحمد، 2012)

2.5 NDIKUMANA.L ; BALIAMOUNE-LUTZ .M (2009)

This research paper attempts to analyze the influence of corruption on public and private investment in African countries to find out the channels through which corruption weakens economic growth. The empirical results indicate that corruption affects economic growth directly through its impact on investment and has a negative impact on local and private investment however, it has a positive effect on public investment. On the other hand, the obtained results confirm that corruption does not encourage private investment at all. Indicating that it increases

business costs while increasing uncertainty about the expected investment benefits. The results support the view that corruption impedes growth and oblige the decision makers to do some institutional reforms to improve Quality of governance as an essential pre- requirement for growth by means of investment. (Balioune-Lutz.M & Ndikumana, 2009)

2.6 MAURO.P (1995).

This paper analyzes a set of data that includes subjective indicators of corruption, the effectiveness of the judicial system, and different categories of political stability in various sectors of countries. The results show that corruption inhibits investment, which leads to slow economic growth since there is a negative correlation between corruption and investment, as well as growth. The relationship is statistically and economically important and there is evidence that bureaucratic efficiency does indeed cause increased investment and growth. (Mauro, 1995)

3.Relationship Between Corruption and Economic Growth

The economic growth is represented by the increase in the production of goods and services for any country. However, the more the growth of the National Economy is greater than the rate of population growth, the better the standard of living of individuals is (صخري، 2005، صفحة 05) but there are many factors and determinants that will affect the economic growth such as the phenomenon of corruption. Which is considered one of the vocabulary circulating in various societies and countries, especially in recent years. Its definition differs according to fields and according to societies, so the World Bank defines it as “the abuse of power” (يونس و أحمد، 2012، صفحة 189) but there are many factors and determinants that will affect the economic growth such as the phenomenon of corruption. Which is considered one of the vocabulary circulating in various societies and countries, especially in recent years. Its definition differs according to fields and according to societies, so the World Bank defines it as “the abuse of power” (منظمة الأمم المتحدة، صفحة 2003) While Tanzi (1998) argues that corruption is that behaviour which is based on deviating from the official duties associated with public office in order to achieve a private, personal or family interest (Tanzi, 1998), which made the phenomenon of corruption a subject of observation and study for a long time and still received a lot of attention. In general, corruption is a negative and harmful phenomenon as the literature has shown that this phenomenon has different effects according to the institutional frameworks and also that determining the effects of corruption on economic growth remains a question that has not been concretely answered, whether it is through theory or empirical work. Some studies have shown a significant negative impact of corruption on economic growth, but this result cannot be generalized yet.

There are many different ideas concerning corruption which are divided into two points of view. The first ideas, consider that corruption can accelerate economic growth under the pretext that corruption has the ability to avoid administrative militancy and grease the wheels of bureaucracy (Leff (1964)). Corruption can be a source of efficiency to remove the barriers imposed by the government that impede investment and disrupt economic decisions. In this context, Lui (1985) explains that corruption may be desirable because it reduces the average value of waiting time costs and makes corrupt officials more efficient and more effective in making decisions.

And other ideas, focus on highlighting the negative effects of this phenomenon, as Tanzi (1998), points out that the companies that can provide the highest bribe are not necessarily the most economically efficient, which may negatively affect economic growth. Rose-Ackerman (1997) and Tanzi (1998), explain corruption reduces investment incentives for local as well as foreign investors because they are often forced to pay bribes before starting their business or in order to stay in business, which negatively affects economic growth through an increase in transaction costs, an increase in the degree of uncertainty, and a reduction in state revenues and increase its spending. Davoodi and Alonso-Terme (2002), mentioned other arguments that highlight that corruption negatively affects economic growth, considering that corruption can lead to more income inequality and increase poverty by targeting social programs. Thus, making individuals the most wealthiest people that benefit from government-funded programs at the expense of the rest of the population. (Dridi.M, 2013, pp. 122-123)

4. The Practical Part

4.1 Framework Presentation

Ondo (2017) relied on the model assumed by Mauro (1995) and Pelligrini and Gerlagh (2004) of endogenous growth in which economic growth (Y_{it}) is determined by corruption ($corr_{it}$), standard variables of economic growth (X^1) and institutional variables (X^2). Where the economic growth (Y_{it}) is the endogenous variable of the model and it is defined by the growth rate of the gross domestic product (GDP). Accordingly, the linear relationship is considered to study the direct impact of corruption on economic growth; therefore, the model of the direct impact of corruption on economic growth is as follow :

$$Y_{it} = \alpha_0 + \alpha_1 corr_{it} + \beta X^1_{it} + \beta X^2_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

Where:

Y_{it} : Is economic growth;

$corr_{it}$ (CPI) : Corruption;

X^1_{it} : The vector of the standard variables used by most studies on growth;

X^2_{it} : Is the vector of institutional variables;

4.1.1 Dependent Variables

In our standard analysis, we use the GDPper capita growth rate as a dependent variable with data for ten (10) Arab countries for a representative sample extracted from the World Bank data.

4.1.2 Independent Variables

- Human capital (Kh) : as measured by the enrollment rate in secondary education .
- Private investment (Inv) :determined by gross fixed capital formation
- Commercial opening (Ov) : : as measured by adding imports and exports of goods and services as a percentage of GDP.
- Government expenditure (Dep).
- Civil liberty (Cl) : Which we measure using the Global Civil liberty Index and this index created by Freedom House evaluates civil freedom on a scale from 1 to 7, where the lowest scores (1 and 2) indicate that the country respects freedom of expression, assembly, freedom, religion, education and association, and the highest scores are awarded (6 & 7) to states where citizens live in strong fear and oppression.

- Corruption (CPI): Measured by Transparency International's Corruption Perceptions Index, which ranks countries on a scale from 0 to 10 (0 indicates the most corrupt and 10 entirely clean).

Based on the previous variables, the equation is determined as follow:

$$Y_{it} = \alpha_i + \beta_1 \text{CPI}_{it} + \beta_2 \text{Kh}_{it} + \beta_3 \text{Inv}_{it} + \beta_4 \text{CI}_{it} + \beta_5 \text{Ov}_{it} + \beta_6 \text{Dep}_{it} + \varepsilon_{it} \quad (2)$$

Where i and t represent respectively the individuals of the panel, the index of time.

With α : basic individual effect, (β_1 , β_2 , β_3 , β_4 , β_5 , β_6) parameters estimated in this model and ε_{it} the term of the error.

The data used to enter the variables were gathered from the World Bank database except for the corruption variable (CPI) obtained from data from the non-governmental organization (NGO) Transparency International (TI), and the Global Freedom Index (CI) determined by the Freedom House. The logarithm was entered on for human capital and private investment, the data collected relates to ten Arab countries during the period 2007-2017.

2.4 Data Analysis

In order to estimate the equation (2) by using Panel data, we test the characteristics of the obtained data in terms of homogeneity and heterogeneity.

However, the estimation of the Static Panel data requires two stages that should be followed: The first stage, is to perform the Fisher Homogeneity test in order to check whether we can assume the theoretical model is completely homogeneous (constant and tendency are the same) for all Arab countries, or not in this research paper. Through the homogeneity test, by means of Fisher's statistic, we can accept or reject the Homogeneity Hypothesis. After that, we make the choice of selecting the individual effect specifications, where the estimated models are different only when the individuals are different in the value of the constant $\alpha_i = \alpha_0 + \alpha_i$. From this statement, we can distinguish two cases: The first case, models with fixed effect (the individual effect is constant over time). The second case, models with random effect (the constant is a random variable).

The second stage, is determined by choosing the individual effect characteristics through the use of Hausman (1978), Breusch and Pagan tests, through which we can determine the individual effect of the model whether it has a fixed effect (H1) or a random effect (H0). However, the random effects model will be used if the probability related to Hausman test statistic is greater than 5%. We can check the Heteroscedasticity and also verify the lack of autocorrelation. We estimate by generalized least squares (GLS) to obtain the efficiency and consistency of the model estimator by using the Stata12 program.

Through Fisher's homogeneity test results, it is clear that the obtained model has an individual effect characteristics. Both the results of the Hausman (1978) test and the Breusch and Pagan test supported the hypothesis that the resulting model has a fixed effect according to the statistic

($\chi^2 = 41.56 > \text{prob}$), and from the results obtained it becomes clear to us that the model suffers from the existence of autocorrelation between the variables on the one hand and from the heteroscedasticity on the other hand. After proceeding to the model treatment from the previous problems (autocorrelation and heterogeneity), we estimate the model by generalized least squares (GLS), and we get the results shown in the following table.

**Table n° 01 : Results of estimating the economic growth equation
using Generalized Least Squares (GLS)**

Y (Growth rate of GDP per capita)	Coefficients	prob
Private investment (Inv)	0.1295592	0.000
Commercial opening (Ov)	-0.1654481	0.341
Government expenditure (Dep)	0.0122338	0.015
Civil liberty (Cl)	0.4801662	0.000
Corruption (CPI)	0.2917369	0.000
Human capital (Kh)	-0.5220503	0.000
Constant	8.757233	0.000

Source : Prepared by the researchers based on **Stata 12** results

From the obtained result shown in table 1, we notice that there is the existence of a positive and statistically significant relationship between corruption and economic growth at the limits of 5%, which is confirmed by Rock & Bonnett (2004) (Rock & Bonnett, 2004, pp. 999-1017) that corruption raises economic growth in many countries of East Asia that have modern industrial economies. However, Mallik and Saha (2016), mentioned that there is no negative impact of corruption on economic growth, and does not affect it directly at the level of 146 developed and developing countries during the period (2007 – 2017). This is due to the fact that the growth indicators in these countries are based on the natural resource indicators, in which the majority of these countries are undergoing in implementing the infrastructures in many different sectors that would lead to the expansion of the phenomenon of corruption due the presence of weak monitoring institutions. .

In addition, the results showed the existence of a positive and statistically significant direct relationship at the limits of 5% between private investment (Inv), government spending (Dep) and civil freedom (Cl) on economic growth in these Arab countries, and this is what we are seeking for through the revival of private investment in light of the presence of large projects in the realization of basic facilities supported by government expenditure. In addition, to improving civil freedom, especially in these countries through the so-called Arab Spring Revolution, supporting the point of view that in the existence of the respect of individual freedom, the economic growth will be enhanced. As for human capital (Kh), it has a negative impact on economic growth; it is of significant statistical significance at the limits of 5%, as for Commercial opening (Ov), it has a negative and insignificant effect at the limits of 5% on economic growth in the period extending from 2007 to 2017. The results also show that due to their relative proximity, the heterogeneity of GDP growth rates will be explained by random disturbances for each member state.

5. Conclusion

This research study examines the direct relationship between corruption and economic growth in ten Arab countries by using Panel data for the period from 2007 to 2017. The obtained results show that there is a positive and significant relationship between corruption and economic growth, which will support and reinforce the idea that corruption has the ability to avoid administrative strictness

and makes it possible to circumvent the administrative burdens and excessive regulations imposed by these Arab countries which impede investment and disrupt other economic decisions. Corruption leads to less waiting time and makes corrupt responsables more competence and effective decision-makers, which requires us to identify the transmission channels through which corruption may affect economic growth and evaluate its influence on different determinants of economic growth that will allow the possibility of clarifying how corruption affects economic growth through all possible channels.

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7. Appendices

Table 1: Fixed -effects Test Outputs

<u>xtreg ykh cl depovincpi , fe</u>		
Fixed-effects (within) regression	Number of obs =	110
Group variable: code	Number of groups =	10
R-sq: within = 0.3644	Obs per group: min =	11
between = 0.0111	avg =	11.0
overall = 0.0092	max =	11

F(6,94) = 8.98
 corr(u_i, Xb) = -0.6958 Prob> F = 0.0000

y	Coef.	Std. Err.	tP> t	[95% Conf. Interval]
kh	.008431	.1252364	0.07	0.946
cl	.0704817	.0259009	2.72	0.008
dep	-.0098212	.0025307	-3.88	0.000
ov	-.0568982	.0874746	-0.65	0.517
inv	.2917831	.0622596	4.69	0.000
cpi	.0075652	.0332068	0.23	0.820
_cons	1.665818	1.952537	0.85	0.396
sigma_u	1.3803397			
sigma_e	.1121836			
rho	.99343813			(fraction of variance due to u_i)

F test that all u_i=0: F(9, 94) = 104.79 Prob> F = 0.0000

Table 2 :Random -effects Test Outputs

xtreg ykh cl depovinvcpi , re
 Random-effects GLS regression Number of obs = 110
 Group variable: code Number of groups = 10
 R-sq: within = 0.1897 Obs per group: min = 11
 between = 0.5904 avg = 11.0
 overall = 0.5792 max = 11
 Wald chi2(6) = 45.74
 corr(u_i, X) = 0 (assumed) Prob> chi2 = 0.0000

y	Coef.	Std. Err.	zP> z	[95% Conf. Interval]
kh	-.378785	.0899843	-4.21	0.000
cl	.0905761	.0325525	2.78	0.005
dep	-.0061464	.003094	-1.99	0.047
ov	-.0663176	.1045646	-0.63	0.526
inv	.1254198	.0418166	3.00	0.003
cpi	.0905509	.0392244	2.31	0.021
_cons	10.07216	1.502383	6.70	0.000
sigma_u	.3019322			
sigma_e	.1121836			
rho	.87869516			(fraction of variance due to u_i)

Table 3 :Hausman test Outputs

hausman fixe
 ---- Coefficients ----
 | (b) (B) (b-B) sqrt(diag(V_b-V_B))
 | fixe . Difference S.E.

```

-----+-----
kh | .008431  -.378785   .387216   .0871033
cl | .0704817 .0905761  -.0200944   .
dep | -.0098212 -.0061464  -.0036748   .
ov | -.0568982 -.0663176   .0094194   .
inv | .2917831  .1254198   .1663633   .0461262
cpi | .0075652  .0905509  -.0829858   .
-----+-----

```

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$\chi^2(6) = (b-B)'[(V_b - V_B)^{-1}](b-B)$

= 41.56

Prob>chi2 = 0.0000

(V_b-V_B is not positive definite)

Table 4 :Breusch and Pagan test Outputs

.xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

$y[\text{code},t] = Xb + u[\text{code}] + e[\text{code},t]$

Estimated results:

| Varsd = sqrt(Var)

```

-----+-----
y | .9120213   .9549981
e | .0125852   .1121836
u | .0911631   .3019322

```

Test: Var(u) = 0

chibar2(01) = 63.39

Prob> chibar2 = 0.0000

Table 5 : GLS test Outputs

xtgls yinvovdep cl cpikh

Cross-sectional time-series FGLS regression

Coefficients: generalized least squares

Panels: homoskedastic

Correlation: no autocorrelation

Estimated covariances = 1 Number of obs = 110

Estimated autocorrelations = 0 Number of groups = 10

Estimated coefficients = 7 Time periods = 11

Wald $\chi^2(6)$ = 727.81

Log likelihood = -38.84877 Prob> chi2 = 0.0000

```

-----+-----
y | Coef. Std. Err. zP>|z| [95% Conf. Interval]
-----+-----
inv | .1295592 .0139852  9.26 0.000   .1021487   .1569696
ov | -.1654481 .1736798 -0.95 0.341   -.5058542   .174958
dep | .0122338 .0050538  2.42 0.015   .0023285   .0221391
cl | .4801662 .0446201 10.76 0.000   .3927125   .5676199
cpi | .2917369 .047524  6.14 0.000   .1985915   .3848823
kh | -.5220503 .04428 -11.79 0.000   -.6088375   -.4352632
_cons | 8.757233 1.250876  7.00 0.000   6.305562   11.2089
-----+-----

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