Measuring and analyzing the impact of financial and administrative corruption on the economic growth of the Arab countries

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Abstract
The research aims to study and analyze the impact of the 2015 Corruption Perception Index on GDP (economic growth) for 2017 for Arab countries through the use of the Program Eviews 9.5 and the research found that the index of corruption perception has a direct and moral impact on the GDP of Arab countries with For the high and medium index of corruption perceptions (i.e. the relationship between financial and administrative corruption and GDP is the opposite relationship for this group of Arab countries), while the Group of Arab countries with a low corruption perception index, the relationship is reversed between the corruption perception index and GDP. Overall, this is consistent with the research hypothesis. This effect was different from the R2 coefficient, which explained 94% of the changes in GDP due to the change in the corruption perception index of the Arab group with a high index of perceptionsCorruption and 89% for Arab countries with the average indicator of perceptions of corruption, and 48% for Arab countries with a low index of perceptions of corruption. As well as the lack of atmosphere of the problem of self-association, the lack of a problem of homogeneity of contrast at a moral level of 5% of the model variables and the three totals of the research sample. The research recommended some proposals, the most important of which is to support the regulatory agencies in all their types and formations by advanced and advanced means in order to eliminate financial and administrative corruption, activate laws and issue severe penalties that reduce the spread of financial and administrative corruption and prevent the waste of public funds, activating the role of The judiciary and its dimensions from all political influences to implement the judgments of the judiciary in the perpetrators of cases of financial and administrative corruption, spreading awareness through the establishment of conferences, seminars and media that contribute to the fight against financial and administrative corruption.

Introduction

The spread of financial and administrative corruption is one of the negative phenomena that now exist and that has a negative impact on the achievement of the required levels of development. This phenomenon overlaps with many factors that lead to negative effects on the economies of states. As the negative effects of corruption increased in various States, civil and civil organizations, as well as Governments of the world, called for the fight against corruption in all its forms and manifestations. Transparency International, based in Berlin, was founded in 1995. It is based in Berlin and is a non-governmental organization that aims to combat corruption on an ongoing basis. The organization produces annual reports on corruption on all continents explaining the practices of States and corporations of various types of corruption, the ranking of States in terms of corruption and the points obtained by each State as an indicator of the degree of corruption there. The importance of research comes from presenting financial and administrative corruption as a vital issue.

Results in many problems in the event of proliferation as well as negative effects On economic growth. The problem of research is that there is financial and administrative corruption in many Arab countries. Such corruption has negative implications for the economic and social aspects of society. The research hypothesis proceeds from the hypothesis that financial and administrative corruption has an impact on Gross domestic product (economic growth) for Arab countries.

The objective of the research is to identify financial and administrative corruption and to determine the nature of the relationship between them. financial and administrative corruption and economic growth of Arab countries. Research on the impact of financial and administrative corruption on the economic growth of Arab countries For 2015-2017

The research method relied on the analytical descriptive method supported by the use of quantitative analysis. In order to reach the goal of research and prove its premise, the following three axes are divided: The first is the conceptual framework for financial and administrative corruption. The second focus is to analyse the financial and administrative corruption of Arab countries.

Third, measuring the impact of 2015 financial and administrative corruption on economic growth For the Arab countries of 2017.

First, the conceptual framework for financial and administrative corruption
1. Financial corruption means conduct contrary to existing laws and ethics. Breach of public interests and obligations through the use of public money to pursue interests In particular (Persia, 2011:8), it is defined as the exploitation of public office to generate a financial return obtained through the provision of service, the presentation of government procurement contracts and government services, the disclosure of information on such contracts, assistance in tax evasion, government or Caribbean fees, assistance in money laundering or access to a bank loan. (Government) with less benefit than the market for bribes and other practices (Abdul Kazem, 2011:3).

2. Transparency International defines administrative corruption as any act involving the misuse of public office for self-interest or collective self-interest (Mehdi, 2010:2). Administrative corruption in the Encyclopedia of Social Sciences is defined as the use of public influence to generate profits or special benefits (Al-Zubaydi, Al-Sadoun, 2006:27). Others consider administrative corruption to be an unlawful contractual relationship between two actors acting under the law (David, 2001:21).

3. Types of financial corruption: There are types of financial corruption, including financial deviations. We mean administrative and financial irregularities related to the work of the employee. These offences include the following (Mr. Kurdi, 2013:3).

A. The imposition of infatuation, which is the use by an employee of the highest powers to take advantage of the work entrusted to him or her to impose a royalty on certain individuals or to exploit the governmental manpower of employees or workers in matters other than their assigned and official work.

B. The overuse of money, such as images of the waste of public funds in hypocrisy over

furniture and buildings, the overuse of public holdings in private matters, extravagant advertising and parties, advertising and advertising in newspapers and magazines on occasions of congratulations and condolences.

The second type of financial corruption is criminal deviation and includes offences committed by an employee involving criminal offences such as bribery, embezzlement, forgery of official documents, theft, self-assault and other personal conduct offences (Turki, Sharqi, 2012:4).

There are also other types of financial corruption:

A. Corruption in terms of size and includes petty corruption, which is corruption in the lower ranks, and major corruption, which is corruption of higher levels of employees.

B. Corruption in terms of prevalence (Muhammad, 2008: 5) It includes local corruption within the same country in its economic institutions, and international corruption whose spread is internal and exceeds its limits within the mechanisms of globalization.

4. Types of administrative corruption:

A. Organized and unregulated administrative corruption: The case of unregulated administrative corruption is an individual situation, no matter how many or less it may be used by business organizations in a primitive and indiscriminate manner. Organized corruption is often elevated to large organized crimes that have been amplified by the complexity of social and economic phenomena and are practised by groups and organizations that attempt to cover up their corruption and crimes in various ways (Fathi, 1999:16).

B. Large-scale corruption and small-scale corruption are the most serious phenomenon, with high-ranking officials and politicians allocating public resources to private uses, large-scale bribes, embezzlement of State funds and hard-to-detect contracts.

C. Micro-corruption and systemic corruption: micro-corruption is a type of limited practice that may be large or small in individual organizations or sectors. Cross-corruption is a type of large-scale practice at the level of most or all organizations or services, as it is associated with the widespread culture of corruption throughout the State.

D. Hodgins. It is tionate corruption that is in the form of forced extraction such as bribery or other benefits from others affected.

Reasons for financial and administrative corruption:

A. Absence of social justice in the distribution of income: When justice is absent in the distribution of wealth among members of society, this leads to despair and despair in the souls of workers and employees, which forces them to practice corruption and here corruption takes two main directions (Al-Askari, 2008: 40)

The first trend: that corruption is one of the means that individual's resort to in order to obtain the gains and rights that the authority has been unable to provide through the policy followed in the distribution of income and wealth.

The second trend: It is linked to the first trend, as the sense of inequality and the absence of social justice leads to frustration and weak citizenship values, thus showing feelings of selfishness and preponderance of interest

The general framework becomes appropriate for deviations and corruption of all kinds.

B. Political factors: Political factors play a large role in the spread of corruption in societies, and these factors can be summarized in (Abu Mahmoud, 2002: 456):

• The absence of a political example that sets the ideal of altruism and sacrifice.

• The over-centralization of government departments.

• The spread of bureaucracy and the rigidity of regulations and legislation.

• Poor performance in the legislative, executive and judicial authorities.

C. Structural reasons (administrative laxity): The procrastination that arises within the public sector and causes corruption in general and in administrative terms, in particular, results from administrative laxity. The latter is linked to general administrative leadership based on public sector management, which in many cases is not based on efficiency considerations, creating frustration in the services concerned. Thus, corruption, which cannot be separated from the social and cultural environment and of which mediation is one of the most important and dangerous arms (Summer 2008:38)

D. Lack of oversight. Lack of control and absence of control in government services provides an opportunity to engage in corrupt activities through illegal gains through positions and jobs.

H. The weakness and limitations of the sanctions in anti-corruption laws or in legislation to combat this phenomenon make persons indifferent as long as they do not deter the practice of corruption.

The economic effects of financial and administrative corruption: The economic implications of the occurrence of financial and administrative corruption can be explained as follows

    A. Administrative corruption results in the loss and depletion of a large part of public funds and property due to the acquisition by customers and contractors of thevalue of government contracts and property for tenders at lower prices than theydo, as well as the embezzlement by a section of the leadership of public, administrative and political officials, whether the embezzlement of organs, equipment or materials as a result of the replacement of some of these funds thatthey have embezzled abroad.

    B. Corruption dissipates public funds. It is characterized by the limited returns generated by States from their funds invested in projects. It is a high risk in the case of public investments, such as educational institutions. It is led by the loss of a major source of productive resources,which is the human component, due to the perversion of managers of such institutions. Thisis characterized by the waste of public funds through financial obscenities and extravagance, which is spread in part of ministries and government interests.

    C. Administrative corruption widens the gap between the poor and the rich because of declining living standards, leading to lower rates of economic growth. This results in the rich escaping from paying taxes for the purpose of exercising twisted methods of evasion, such as bribery.

Impact of corruption on economic growth:

Financial and administrative corruption have a negative impact on economic growth and this effect varies from country to country, depending on the quality of institutions. Incountries with excellent institutions, corruption has little negative impact, while incountries with weak institutions the impact is more.

And that the effect appears on economic growth, which is always the obsession of countries because it represents the front gateway to development, and it has become clear for the purpose of field and standard studies that growth rates are broadly affected by degrees of corruption, and corruption affects growth through its impact on both government and private investment, and as it affects Transferring investment from certain fields to other areas that have the potential for rentier production. This will negatively affect the process of allocating resources and hinder the development process (Mustafa, 2006: 1).

Corruption also affects the efficiency of allocating resources intended for the purpose of development in order to change the composition of public spending, and this is a barrier to investment, which is the basis of economic growth, as it constitutes a poor environment and does not constitute an incentive for investors, especially when officials take a share of the investment return or take bribes from men Business to facilitate acceptance of their projects. In 1998, the scientist (Cliterbig) conducted a test on the effect of corruption on economic growth and tested a number of variables to analyze the relationship between the structure of government spending and corruption and noted that corruption reduces investment and economic growth, changes government spending, and leads to a decrease in the rate of spending on health and education services (Awed, 2009: 36).

There are mechanisms for the impact of corruption on economic growth:

A. Direct influence mechanisms: Among these effects are:

Corruption causes distortions in markets and the distribution of primary resources between sectors because it weakens the government's ability to impose the necessary regulatory control and oversight to correct market failure, and this results in a decline in economic efficiency and growth.

Corruption results in inefficient investment selection, which leads to less economic growth.

B. Mechanisms of indirect influence: through a number of channels, the most important of which are: Investment, political stability, free trade, human capital, expenditures and government revenues (Ahmed, 2009: 25).

Analyzing the reality of the Corruption Perceptions Index in Arab countries for the year 2015

First: The 2015 Corruption perception Index (CPI)

Before going into the analysis, we must get acquainted with the Corruption Perception Index issued by Transparency International on the level and extent of corruption in countries of the world. This organization has issued an annual international index since 1995 to pursue cases of corruption, symbolized by an acronym (CPI) Corruption perception Index With accuracy, the organization conducts field surveys asking businessmen and analysts from inside and outside the country about the rampant corruption in it. At the level of the Arab countries, the State of Qatar is the least corrupt at the Arab level for the year 2015 and ranked (71), and the United Arab Emirates ranked second in the Arab world (ranked 70), while Jordan ranked third in the Arab world (ranked 53), and Saudi Arabia ranked fourth (52) See table (1), this is at the level of Arab countries with a high corruption perceptions index. As for the Arab countries with the average index of corruption perceptions, Tunisia ranked first (38th), followed by Algeria and Egypt in second place (36th), then Djibouti ranked fifth. See Table (2). As for the Arab countries with a low corruption perceptions index, Eritrea and Yemen ranked first (18th), Iraq second (16th), and finally Somalia (8th) - Table (3).

Table (1) Corruption Perception Index and GDP for Arab countries with a high index of corruption perceptions for the period 2015-2017

The GDP for 2017 is $ 1 million	Corruption Perceptions Index 2015	Country	No
166929	71	Qatar	1
3825575	70	United Arab Emirates	2
40765	53	Jordan	3
688586	52	Saudi Arabia	4
35432	51	Bahrain	5
119552	49	Kuwait	6
70783	45	Oman	7

Source / - World Bank data

Table (2) Corruption Perception Index and GDP for Arab countries with the average index of corruption perceptions for the period 2015-2017

The GDP for 2017 is $ 1 million	Corruption Perceptions Index 2015	Country	No
39952	38	Tunisia	1
167555	36	Algeria	2
235369	36	Egypt	3
109709	36	Morocco	4
1844	34	Djibouti	5
4957	31	Mauritania	6
53393	28	Lebanon	7
1068	26	Comoros	8

Source / - World Bank data

Table (3) Corruption Perception Index and GDP for Arab countries with a low corruption perceptions index for the period 2015-2017

The GDP for 2017 is $ 1 million	Corruption Perceptions Index 2015	Country	No
2607	18	Eritrea	1
26818	18	Yemen	2
190874	16	Iraq	3
123053	12	Sudan	4
7128	8	Somalia	5

Source / - World Bank data

Table (4) Average of the Corruption Perceptions Index for 2015 and GDP for 2017 for the sample countries

The Corruption Perception Index	Number of countries	Average	Total	Indexing

balance				
Countries with a high	7	55.857	391	CPI Index
CPI Index 71 - 45		706803.1	4947622	IndexGDP
Countries with average	8	33.12	265	IndexCPI
CPI index 38-26		76730.9	613847	IndexGDP
Countries with a low	5	14.4	72	IndexCPI
CPI 18-8		70.1	350480	IndexGDP

Source / from the researcher's work based on tables (1, 2, 3)

Second: The research sample:

Before starting the analysis, it is necessary to give an idea about the research sample and how to organize it in order to know the method of analysis. The research sample consists of (21) Arab countries, and the sample has been divided into three groups from countries based on the aforementioned corruption perceptions index. Above, and through Table (4), which was arranged in descending order of the Corruption Perceptions Index, the group of Arab countries with the High Corruption Perceptions Index, whose balance ranges from (71 - 45), numbered (7) Arab countries, and the group of Arab countries with the average Corruption Perceptions Index and its balance ranged from From (38 - 26) and their number (8) Arab countries, and the group of Arab countries with a low corruption perceptions index and a score of (18 - 8) and the number of (5) Arab countries, and the three groups were represented with their average score from the Corruption Perceptions Index and their average domestic product. The total and as shown in Table (4) It is noticed from the aforementioned table that the first group of Arab countries came at the top of the ranking due to the achievements of these countries in terms of the Corruption Perceptions Index, which was reflected in the size of their gross domestic product, as it was an average (The GDP of these countries is the largest of the three groups, which means that these countries have gone a long way in taking measures to combat cases of financial and administrative corruption. As for the third group of Arab countries, whose average balance of this indicator was weak, their average gross domestic product was also weak, which confirms the weakness of their measures in combating financial and administrative corruption. This is shown in Table (4) above.

The third axis: measuring and analyzing the impact of financial and administrative corruption on the economic growth of countries

Arabic for the period 2015-2017

Description of research variables: The impact of financial and administrative corruption on economic growth is measured According to the statistical program Eviews 9.5, and below is a description of the model's variables:

1. Dependent variables: They are expressed in one variable, which is the Gross Domestic Product (GDP). For 2017, it is in the million dollars.

2. Independent variables: They are expressed in one variable, the Corruption Perceptions Index (CPI). For 2015.

Tables (1, 2 and 3) represent the research sample data.

The first requirement: the impact of financial and administrative corruption on the economic growth of the Arab countries with the index

Higher Corruption Perceptions for the period (2015-2017)

First: Testing the stability of the variables

     The time series are divided according to the stability characteristic (Narayan and Smyth, 2008, 230):

 Stable chains: chains whose levels change with time without the mean changing in them over a relatively long period of time, that is, there is no general trend towards either increase or decrease (does not contain the root of the unit).

 Unstable strings: They are strings whose mean is constantly changing, increasing or decreasing (containing a unit root).

 Before assessing and choosing the relationship between economic variables, the time series must be analyzed to ensure that these variables are stable (Stationary) and that they are free from the unit root, and to know the statistical properties of them. Time series are completely stable if the following conditions are met:

A- The stability of the arithmetic mean over time E $(X_t) = u$

B- Stability of the variance over time Var $(X_t) = \sigma_{x2}$

T- That the common variance between any two values of the same variable be dependent on the time gap between the two values and not on the actual value of the time at which the variance is calculated.

Meaning that the two strings (Xt, Xt + k) have a common correlation dependent on the displacement K, i.e. the covariance is: Yk = Cov (Xt, Xt + k) = E (Xt-u) (Xt + k-u)

And in the event that the time series is not stable, a problem called (Spurious Regression) will appear, which is the presence of a general trend in the time series of variables that may lead to the existence of a significant relationship between these variables even if the general trend is the only thing in common between them) Or, in general, the false regression is if both X and Y contain a unit root, then the OLS estimation of this regression leads to completely false or misleading and incorrect results (Cobb, 2009, 324).

1- Dickey-Fuller Extended Selection to reveal time-series stability

Table (5) Results of the Time Series Stability Test by Dickey-Fuller Extended

At Level			
GDP	CPI		
-49.77175	-4.422251	t-Statistic	
0.0001	0.0261	*Prob.*	With Constant
***	**		
-13.23198	-9.430238	t-Statistic	
0.0018	0.0066	*Prob.*	With Constant & Trend
***	***		
-57.84641	-1.957410	t-Statistic	
0.0001	0.0556	*Prob.*	Without Constant & Trend
***	*		

a: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1% and (no) Not Significant

b: Lag Length based on SIC

Source: Prepared by the researcher based on Eviews.9.5 program output

From Table (5), which shows the results of the time-series stability test, as it was found that the variable (GDP) stabilized at the level, whether with a breaker or a breaker and a general trend or without a breaker and a general trend at a significant level (1%). As for the CPI variable, it also stabilized at the level. The level with a breaker, a breaker, a general trend without a breaker, and a general trend at a significant level (1%, 5% and 10%)

Second: Examining the (ARDL) model of the long-term equilibrium relationship (co-integration)

The (ARDL) model is one of the methods of dynamic modeling of co-integration, as this model provides a method for inserting time-lagging variables as independent variables in the model. This model was developed by Pesaran (1997), Shinand and Sun (1998), and each (2001). et Al, Pesaran, and this model is characterized by that it does not require the time series to be integrated of the same degree, as Pesaran believes that the ARDL model () can be applied regardless of the characteristics of the time series, what was stable at its level (0) I or at the first difference) 1) I or a combination of both, the only condition for applying this test is that the time series are not integral to the second order (2) I, i.e., for the second difference (Alimi, 2014,106), and the (ARDL) methodology of Pesaran has better characteristics in The case of short time series compared to other usual methods of cointegration testing such as the two-stage Engle-Granger 1987 and Johansen Cointegration Test under the VAR model (Pesaran et al, 2001, 291).

The (ARDL) model is characterized by taking a sufficient number of time lag periods (slowdowns) to obtain the best results in the general framework model, and it is not required that the slowdown period be the same for all variables, and the (ARDL) model gives the best results for the parameters in the short and long term.

The (ARDL) model of models is compatible with the size of small samples, as the (ARDL) model can separate the effects of the short term from the long term, where we can through (ARDL) determine the complementary relationship of the dependent variable and the independent variable in the short and long term in the same equation, in addition to To determine the effect of each independent variable on the dependent variable (Pesaran and shin, 2000,295), and to test the extent to which a co-integration relationship between the variables is achieved within the framework of the (ARDL) model, Pesaran et al (2001) present a modern approach to test the extent to which an equilibrium relationship is achieved Long-term between the variables under the unrestricted error correction model, this method is known as (Bounds Test), meaning

the boundary test, and the existence of a common complementarity relationship in this test is confirmed by comparing the value of the (F) test calculated with the special tabular values provided by plastic Narayan (2005, at Level of significance (1%, 2.5%, 5% and 10%).

If the calculated value of (F) is greater than the maximum tabular value (I1 Bound), then the null hypothesis (H0: b = 0) is rejected and the alternative hypothesis is accepted (H1: b ≠ 0) That is, the existence of a long-term integration relationship between the variables, but if the computed value is located between the maximum and the minimum value, the result is inconclusive, but if the calculated value of (F) is less than the lowest tabular value (I0 bound), then this means that there is no long-term relationship (Al-Burmani) David, 2017, 290).

Table (6) Results of the border test for the long-term equilibrium relationship

Test Statistic	Value	K (Number of independent (variables
F-statistic	48.32585	1
Significant Level	I0 Bound	I1 Bound
%10	3.02	3.51
%5	3.62	4.16
%2.5	4.18	4.79
%1	4.94	5.58

Source: Prepared by the researcher based on Eviews.9.5 program output

From Table (6), which shows the results of the boundary test for the relationship between the study variables, we note that the calculated F-statistics value was (48.32585), which is greater than the maximum tabular value of (5.58) at the level of significance (1%), and at the level (5%). And 2.5% and 10%). Therefore, we reject the null hypothesis and accept the alternative hypothesis that states the existence of a long-term equilibrium relationship, that is, the existence of a long-term co-complementarity relationship between these variables.

Third: Estimating the error correction model and the short and long-term relationship according to the ARDL model))

After it has been ascertained that there is a long-term equilibrium relationship (a co-integration relationship) between the study variables, the next step comes to define the short and long-term relationship between these variables, and this will be done by estimating the error correction model, which represents an important step in the ARDL tests. The test is based on the error correction parameter (CointEq (-1)) in the statement of correcting the relationship between the short term and the long term. The short term corrects the long-term equilibrium trend or imbalances during the same year (Pradhan et al, 2013, 914).

Table (7) the results of error correction and the short and long-term relationship between the study variables according to the (ARDL) model

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	.Prob
D(CPI 2015)	337033.0	18655.80	18.06586	0.0000
CointEq(-1)*	-0.126949	0.010113	-12.55326	0.0000
R^2	0.94			
F-stat	318.3762			
Prop-F	0.000000			
EC = GDP2017 - (341913.9616*FX2015 -15255025.9480)				
Error correction equation				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	.Prob
CPI 2015	341914.0	103775.3	3.294754	0.0032
C	-15255026	4608034.	-3.310528	0.0031

Source: Prepared by the researcher based on Eviews.9.5 program output

From table (7), we note that the short-term parameter of the independent variable (D (CPI)) was positive and amounted to (337033.0), meaning that an increase in the corruption perception index by one unit in 2015 led to an increase in GDP by (337033.0) in 2017

We notice that the parameter of error correction or adjustment velocity CointEq (-1) reached (-0.126949) and it is significant at the level (1%), and then there is a long-term equilibrium relationship, and here we will reject the null hypothesis and accept the alternative hypothesis that there is a long-term equilibrium relationship. Determination (the core of the model), its value reached (0.94), meaning that the variable entering the model explains about (94%) of the dependent variable, while the remaining percentage (6%) are random variables not included in the estimated model, as for the significance of the model as a whole (F) It reached (318.3762), with a significant level (0.0000).

Either the long-term relationship, we notice that there is also a direct relationship between the corruption perception index and the gross domestic product, meaning that increasing the corruption perception index by one unit in 2015 led to an increase in the GDP by (341914.0) in 2017.

Fourth: The autocorrelation and heterogeneity test of the ARDL model

The estimated models are tested to ensure that they are free from the problem of self-correlation (the serial correlation between the values) using the Breusch-Godfrey Serial Correlation LM Test and the Heteroskedasticity Test: ARCH to ensure that the estimated models are free from the problem of heterogeneity of variance at a significant level (5%) for the relationship between the study variables

Table (8) results of the self-correlation test and the heterogeneity of variance for the relationship between the study variables

Breusch-Godfrey Serial Correlation LM Test			
F- statistic	4.624973	Prop . F	0.8765
Obs*R-squared	21.07592	Prob. Chi-Square	0.1532
Heteroskedasticity Test: ARCH			
F-statistic	1.908899	Prob. F	0.1798
Obs*R-squared	1.915611	Prob. Chi-Square	0.1663

Source: Prepared by the researcher based on Eviews.9.5 program output

From Table (8), the (ARDL) model is estimated to be free from the self-correlation problem according to the Breusch-Godfrey Serial Correlation LM Test, i.e. we accept the null hypothesis (the lack of self-correlation problem) because the value of (Prop. F) and Prob. Chi-Square)) is not significant at a significant level (5%) and we reject the alternative hypothesis, as well as the (ARDL) model estimated from the problem of heterogeneity of variance where the values of each of the Prob were. Chi-Square)) and ((Prop.F) are not significant at (5%) according to (Heteroskedasticity Test: ARCH).

Fifth: The Granger Causality Test for the relationship between the study variables

The Cranger test is used to determine the direction of causation between the variables of the study if this test shows the direction of causation whether it is in one direction or two directions alternating or that both variables are independent of each other, as Kranger assumes the null hypothesis (X does not Granger Cause Y) i.e. That the variable (X) does not cause the variable (Y)), and through the statistical probability (Prob) of the value of F)), we can determine the direction of causation whether the variable (X) causes the variable (Y) or not, if the value of (Prob.F) Greater than (5%) we accept the null hypothesis of (Cranger) and we reject the alternative hypothesis that there is no causal relationship, but if the value of (Prob.F) is less than (5%) we reject the null hypothesis of Cranger and accept the alternative hypothesis that states the existence of a causal relationship Between the two variables, after performing the causality test, the results were as shown in Table (9):

Table (9): Results of the Kranger causality test among the study variables

Null Hypothesis	The direction of the relationship	F - Statistic	Prob.
Fx 2015 does not Granger Cause GDP 2017	⟶	2.83493	0.0813
GDP 2017 does not Granger Cause FX2015	⟶	5.78860	0.0099

Source: Prepared by the researcher based on Eviews 9 program outputs

Kranger's causality test results are in the table above:

By noting the probability of (F) test in Table (9), the results were as follows:

• There is a causal relationship with two directions between (GDP 2017) and (CPI 2015), that is, a relationship between GDP and the corruption perception index and vice versa.

The second requirement: the impact of financial and administrative corruption on the economic growth of the Arab countries with the index

Average of perceptions of corruption for the period (2015-2017)

First:

At Level			
GDP	CPI		
-1.805112	1.001604	t-Statistic	With Constant
0.3456	0.9886	*Prob.*	
no	no		
-15.06001	-8.566753	t-Statistic	With Constant & Trend
0.0002	0.0047	*Prob.*	
***	***		
-1.976108	-0.904041	t-Statistic	Without Constant & Trend
0.0540	0.2851	*Prob.*	
*	no		

Dickey - Fuller extended selection to detect time-series stability

Table (10) Results of Time Series Stability Test by Dickey - Fuller Extended

a: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1% and (no) Not Significant

b: Lag Length based on SIC

Source: Prepared by the researcher based on Eviews.9.5 program output

Table 10, which shows the results of the time series mapping test, showing that the variable (GDP) has stabilized at the level with a cutoff, a general direction, no cutoff and a general direction at a moral level (1% and 10%). The variable (CPI), which is the corruption perception index, will also recognize at the level a cutoff and a general trend at a moral level (1%).

Second: Examining the (ARDL) model of the long-term equilibrium relationship (co-integration)

Table (11) results of choosing the limits of the long-term equilibrium relationship

Test Statistic	Value	(Number of independent variables) K
F-statistic	8.672622	1
Significant Level	I0 Bound	I1 Bound
%10	3.02	3.51
%5	3.62	4.16
%2.5	4.18	4.79
%1	4.94	5.58

Source: Prepared by the researcher based on Eviews.9.5 program output

From table 11, which shows the results of the boundary test of the relationship between study variables, we note that the value is the computed F-statistics were 8.672622, which is larger than the super-high tabular value. (5.58) at a moral level (1%), and at a level (5%, 2.5% and 10%), so we reject the nil hypothesis and accept the alternative hypothesis of a long-term equilibrium relationship, i. e. a long-term common integration relationship between these variables.

Third: Estimating the error correction model and the short and long-term relationship according to the ARDL model))
Table (12) the results of error correction and the short and long-term relationship between

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	.Prob
D(CPI)	158901.1	25317.31	6.276382	0.0082
CointEq(-1)	-2.844335	0.431937	-6.585067	0.0071
R^2	0.89			
F-stat	8.345870			
Prop-F	0.057473			
EC = GDP2017 - (3951.7721*FX2015 + 46432.0875) Error correction equation				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	.Prob
CPI	3951.772	2038.973	1.938119	0.1480
C	46432.09	75129.18	0.618030	0.5803

the study variables according to the (ARDL) model
Source: Prepared by the researcher based on Eviews.9.5 program output

From table (12), we note that the short-term parameter of the independent variable (D (CPI)) was positive and amounted to (158901.1), meaning that an increase in the corruption perception index by one unit in 2015 led to an increase in GDP by (158901.1) in 2017

We also note that the parameter of error correction or adaptive velocity CointEq (-1) reached (-2.84), which is significant at the level (1%), and then there is a long-term equilibrium relationship, and here we will reject the null hypothesis and accept the alternative hypothesis that there is a long-term equilibrium relationship. The determination coefficient (the essence of the model) has reached its value (0.89), meaning that the variable entering the model explains about (89%) of the dependent variable, while the remaining percentage (11%) are random variables not included in the estimated model, as for the significance of the model as a whole (F It reached (8.345870), with a significant level (0.057473).

Either the long-term relationship, we notice that there is also a direct relationship between the corruption perception index and the gross domestic product, meaning that an increase in the innovation index by one unit in 2015 led to an increase in the GDP by (3951,772) in 2017.

Fourth: The autocorrelation and heterogeneity test of the ARDL model

The estimated models are tested to ensure that they are free from the problem of self-correlation (serial correlation between values) using the Breusch-Godfrey Serial Correlation LM Test and the Heteroskedasticity Test: ARCH to ensure that the estimated models are free from the problem of heterogeneity of variance at a significant level (5%) for the relationship between the study variables.

Table (13) results of the self-correlation test and the heterogeneity of variance for the relationship between the study variables

Breusch – Godfrey Serial Correlation LM Test			
F – statistic	13.30355	Prob.F	0.1903
Obs*R- squared	6.746442	Prob.Chi-Square	0.3430
Heteroskedasticity Test : ARCH			
F – statistic	0.195923	Prob.	0.6809
Obs*R-squared	0.280162	Prob. Chi-Square	0.5666

Source: Prepared by the researcher based on Eviews.9.5 program output

We note from tables 13 above that the estimated ARDL model is free of the problem ofself-association by test. (Breusch-Godfrey Secret Corporation LM Test) That is, weaccept the non-existence hypothesis of a self-association problem, because the value isProp. F and Prop. Chi-Square) are non-moral at a moral level. (5%) We reject the alternative hypothesis, as well as the estimated ARDL of the heterogeneity problem where Prob. Chi-Square values)According to the Heteroskedasticity Test: ARCH).

Fifth: Granger Causality Test for the relationship between study variables

Table 14 Results of Kranger causation test among study variables

Null Hypothesis	The direction of the relationship	F - Statistic	Prob.
CPI 2015 does not Granger Cause GDP 2017	→	1.18859	0.3369
GDP 2017 does not Granger Cause CPI 2015	→	26.6814	0.0067

Source / prepared by the researcher, depending on the output of Eviews 9.5

Kranger's causality test results are in the table above:

By noting the probability of (F) test in Table (14), the results were as follows:

• There is a one-way causal relationship between (GDP 2017) and (CPI 2015), that is, a relationship between GDP and the Corruption Perception Index.

The third requirement: the impact of financial and administrative corruption on the economic growth of the Arab countriesLow Corruption Perception Index Duration (2015-2017)

First: Dickey - Fuller extended selection to detect time-series stability

Table (15) Results of Time Series Stability Test by Dickey - Fuller Extended

At Level			
GDP	CPI		
-1.752160	-0.612250	t-Statistic	With Constant
0.3902	0.8446	*Prob.*	
no	no		
-1.037963	-2.625613	t-Statistic	With Constant & Trend
0.9120	0.2743	*Prob.*	

no	no		
-1.375558	-3.280789	t-Statistic	Without Constant & Trend
0.1510	0.0026	*Prob.*	
no	***		

1st difference			
GDP	CPI		
-1.635578		t-Statistic	With Constant
0.4450		*Prob.*	
no			
-2.328457		t-Statistic	With Constant & Trend
0.3997		*Prob.*	
no			
-1.671127		t-Statistic	Without Constant & Trend
0.0886		*Prob.*	
*			

From Table (15), which shows the results of the time-series stability test, as it was found that the variable (GDP) did not stabilize at the level, but rather settled at the first difference without a break and a general trend at a significant level (10%). As for the variable (CPI), which represents the corruption perception index It may settle at the level without a break and a general trend at a significant level (1%).

Second: Examining the (ARDL) model of the long-term equilibrium relationship (co-integration)

Table (16) results of the border test for the long-term equilibrium relationship

Test Statistic	Value	Number of) K independent (variables
F-statistic	4.219484	1

Significant Level	I0 Bound	I1 Bound
%10	3.02	3.51
%5	3.62	4.16
%2.5	4.18	4.79
%1	4.94	5.58

Source: Prepared by the researcher based on Eviews.9.5 program output

From Table (16), which shows the results of the boundary test for the relationship between the study variables, we note that the calculated F-statistics value was (4.219484), which is greater than the maximum tabular value of (4.16) at a significant level (5) Therefore we reject the null hypothesis and accept the alternative hypothesis that states On the existence of a long-term equilibrium relationship, i.e., the existence of a long-term co-complementarity relationship between these variables.

Third: Estimating the error correction model and the short and long-term relationship according to the ARDL model))

Table (17) the results of error correction and the short and long-term relationship between

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	.Prob
D(CPI)	-57813.14	20421.91	-2.830936	0.0126
CointEq(-1)	-0.228426	0.060308	-3.787644	0.0018
R^2	0.48			
F-stat	54.26594			
Prop-F	0.000000			
EC = GDP2017 - (49467.9034*FX2015 -820370.4422)Error correction equation				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	.Prob
CPI	-30915.86	60930.71	2.547091	0.0412
C	-820370.4	392319.4	-2.091078	0.0540

the study variables according to the (ARDL) model
Source: Prepared by the researcher based on Eviews.9.5 program output

From table (17), we note that the short-term parameter of the independent variable (D (CPI)) was inverse and amounted to (-57813.14), meaning that an increase in the corruption perception index by one unit in 2015 led to a decrease in GDP by (57,813.14) in 2017. .

We also notice that the parameter of error correction or adjustment velocity CointEq (-1) reached (-0.22) which is significant at the level (1%), and then there is a long-term equilibrium relationship, and here we will reject the null hypothesis and accept the alternative hypothesis that there is a long-term equilibrium relationship. The coefficient of determination (the essence of the model) has reached its value (0.48), meaning that the variable entering the model explains about (48%) of the dependent variable, while the remaining percentage (52%) are random variables not included in the estimated model, while the significance of the model as a whole (F It reached (54.26594) and a significant level (0.000). Either the long-term relationship, we notice that there is an inverse relationship between the corruption perception index and the gross domestic product, meaning that an increase in the innovation index by one unit in 2015 led to a decrease in the gross domestic product by (30915.86) in the year 2017.

Fourth: The autocorrelation and heterogeneity test of the ARDL model

The estimated models are tested to ensure that they are free from the problem of self-correlation (the serial correlation between the values) using the Breusch-Godfrey Serial Correlation LM Test and the Heteroskedasticity Test: ARCH to ensure that the estimated models are free from the problem of heterogeneity of variance at a significant level (5%) for the relationship between the study variables.

Table (18) results of the self-correlation test and the heterogeneity of variance for the relationship between the study variables

Breusch – Godfrey Serial Correlation LM Test			
F – statistic	0.879966	Prob.F	0.4381
Obs*R- squared	2.265507	Prob.Chi-Square	0.3221
Heteroskedasticity Test : ARCH			
F – statistic	0.084219	Prob.	0.7754
Obs*R-squared	0.094251	Prob. Chi-Square	0.7588

Source: Prepared by the researcher based on Eviews.9.5 program output

We note from table 18 above that the estimated ARDL model is free of the problem of self-association according to the Breusch-Godfrey Secret Coronation LM Test, i.e. we accept the counting hypothesis.

Which states that there is no problem of self-association, because the value (Prop.F andProb. Chi-Square) is unethical at a moral level (5%) and we reject the alternativehypothesis, as well as the estimated ARDL of the heterogeneity problem where Prob.ARCH).

Fifth: The Granger Causality Test for the relationship between the study variables

Table (19): Results of the Kranger causality test among the study variables

Null Hypothesis	The direction of the relationship	F - Statistic	Prob.
CPI 2015 does not Granger Cause GDP 2017	⟶	4.23406	0.0384
GDP 2017 does not Granger Cause CPI 2015	⟶	2.79565	0.0097

Source: Prepared by the researcher based on Eviews.9.5 program output

Kranger's causality test results are in the table above:

By noting the probability of (F) test in Table (19), the results were as follows:

• There is a causal relationship with two directions between (GDP 2017) and (CPI 2015), that is, a relationship between GDP and the corruption perception index and vice versa**.**

Conclusions:

1. Financial and administrative corruption is a societal scourge that affects all countries, including the Arab countries, and hinders wheel of economic growth and development in the public and private sectors, with economic impacts a negative social and political society.

2. The highest rates for combating financial and administrative corruption were recorded in the State of Qatar, reaching (71) inCorruption Perception Index, followed by the United Arab Emirates and scored (70) for this index this means a high economic growth index in these two countries.

3. The lowest rates for combating financial and administrative corruption were recorded in the Arab countries, reaching (16)In Iraq, (12) in Sudan, (8) in Somalia. 4. The group of Arab countries with the highest corruption perceptions index ranked first in terms of size

Its gross domestic product, when it occupied the group of Arab countries with the average index the second place, as for the group of Arab countries with a low index of corruption perceptions, was lostIt ranked third in its gross domestic product, which confirms the impact of financial and administrative corruption on economic growth in these countries.

5. The results of the time-series stability test according to the Dickey - Fuller expanded test indicate that the Gross Domestic Product (GDP) and the Corruption Perceptions Index (CPI) are stable at the level and for the first and second groups of Arab countries. As for the third group, the (GDP) has stabilized at the difference. The first (CPI) has stabilized at the level.

6. The results of cointegration according to the boundary test indicate the existence of a long-term equilibrium relationship between (GDP) and (CPI).

7. The results of the benchmark analysis showed that the 2015 Corruption Perceptions Index has a negative effect and significant GDP (economic growth) for the year 2017 for the first two groups the second is for the Arab countries, and this means that these two groups have taken measures to combat corruption Financial and administrative, while this relationship appeared negative for the third group in the sense that financial corruption and the administration in these countries was great and influencing economic growth in them.

8. The results of the explanatory power reflected by the determination coefficient (R2) showed that 94% of the changes in (GDP) (economic growth) are due to the change in the Corruption Perceptions Index (CPI) for the Arab countries with the highest index of corruption perceptions.

The average corruption perceptions (R2) account for 89% of the changes in GDP due to the changein the CPI, countries with a low index of corruption perceptions had a coefficient of determination48%.

9. The diagnostic results for the relationship between GDP and CPI showed no autocorrelation problem according to the LM test, as well as the absence of the contrast uniformity problem according to the ARCH test at the level of significance is 5%, and for the three groups, the research sample.

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