

## **Good Governance and Economic Growth: The Case of Gulf Cooperation Council Countries**

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*The aim of this research is to study the relationship between government effectiveness, control of corruption and regulatory quality on one hand, and economic growth, on the other hand, among the Gulf Cooperation Council (GCC) countries, using the panel Vector Error Correction Model (VECM) following Johansen's procedure, for the period 2002-2015. Study findings indicate that government effectiveness, control of corruption and regulatory quality have a strong impact on economic growth in the long term. The study suggests that GCC countries and all developing countries need to improve the quality of governance to achieve sustainable growth.*

**Keywords:** *Governance, Economic Growth, Panel VECM, Johansen Cointegration Test, Causality, Corruption, Government Effectiveness, Regulatory Quality.*

**JEL Codes :** *C01- C23- D73- H11- O11*

Track: Economics

### **1. Introduction**

The economic growth theories have been studying for a long time the variables that trigger economic growth. The literature is full of research and empirical studies that have tested the role of domestic and foreign investments, education, healthcare, technological change, and other factors on the economic growth. However, recent studies have shed light on governance's impact on economic growth. Different methodologies and country groupings have been used to examine the association between good governance and growth (Khan 2007; Emara and Jhonsa 2014; Mose and Orayo 2016; Chong and Calderon 2000).

Governance is the process by which governments set their strategies and deliver goods and services. In the case of good governance, the policies' formulation should consider public needs and interests, and their implementation and delivery should be done efficiently, in a transparent manner, and without favoritism.

Many Middle Eastern countries have consistently been ranked by the World Bank poorly on governance indicators and were given a negative governance score. However, GCC countries were given a positive governance score for most of the governance indicators in 2015. Still, they are ranking way behind on quality of governance achieved by the developed countries. For the control of corruption indicator, all GCC oil-exporting countries were listed above the 50<sup>th</sup> percentile, with the highest rank for the United Arab Emirates and Qatar, with 82<sup>nd</sup> percentile and 81<sup>st</sup> percentile respectively. Similarly, for the government effectiveness indicator, all GCC countries were ranked above the 50<sup>th</sup> percentile, with the lowest rank for Kuwait and Oman, with 53<sup>rd</sup> percentile and 56<sup>th</sup> percentile respectively, and with the highest rank for the United Arab Emirates with 92<sup>nd</sup> percentile.

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In addition, all oil-exporting countries were classified above the 50<sup>th</sup> percentile for the rule of law indicator. However, for the voice and accountability indicator, all GCC countries were ranked below 50%. As for the regulatory quality indicator, Kuwait was ranked below 50%, while the remaining countries were classified above 50%. As for the political stability indicator, Bahrain, Kuwait, and Saudi Arabia were ranked below the 50<sup>th</sup> percentile, and the remaining countries were ranked above the 50<sup>th</sup> percentile.

Hydrocarbon resources helped GCC countries achieve high levels of economic growth in the last five decades. However, the volatility of these natural resources' prices and the global shift toward renewable question the future of economic development in the GCC region. In addition to diversifying their economies and developing renewable energy sources, would the enhancement of the quality of governance help the GCC countries in achieving growth?

To the best of the author's knowledge, no past studies have analyzed the effect of high quality of governance on the economic performance in the GCC nations. Thus, the primary purpose of this research paper is to examine to which extent good governance influences economic development in the GCC region. Consequently, the author aims to use a deductive approach by applying the cointegration model and VECM to confirm this association empirically.

Hence, this research focuses on testing the relationship between three governance indicators and economic growth in the GCC countries empirically, and to suggest policies that might help these countries achieve sustainable economic growth. Accordingly, this study concentrates on regulation, government effectiveness, and corruption, rather than overall governance.

The main contribution of this paper is to analyze the short-run and long-run relationship between good governance and economic growth in the oil-exporting countries by using a Vector Error Correction Model (VECM). This method can confirm if the outcomes of the strategies that should be taken by the GCC countries to improve their quality of governance can be reached immediately or can only be seen in the long term. In fact, previous studies focused on the relationship between good governance and economic performance without differentiating between the impact of good governance on economic development in the short run and this impact in the long run. However, by examining the short-run causality and the long-run causality running from governance indicators toward economic growth in GCC countries, the author will be able to conclude if the effect of good governance on economic performance can be achieved in the short term, or if it can be only realized in the long term.

This paper is structured into four parts. Section 2 tackles the definitions of governance, and the literature and empirical research that have studied the relationship between good governance and economic performance. Section 3 presents the model used in this study. In section 4 the results of the model are discussed, and finally, the conclusion is provided in section 5.

## 2. Literature Review

Different organizations and scholars defined governance. According to the UNDP (1997), governance is "the exercise of political, economic and administrative authority in the management of a country's affairs at all levels." Moreover, "governance comprises the

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institutions through which citizens exercise their legal rights and their property rights and express their interests.”

As per Kaufmann et al. (2010), governance is “the institutions by which authority in a country is exercised.” Institutions include governments’ selection and monitoring process, government effectiveness in policies implementation, respect of citizens, and property rights protection.

Good governance is associated with an efficient administration capable of adjusting its policies and regulations to changing social needs, an appropriate legal system, and a transparent and open political system that allow citizens’ participation in the policy-making process.

Kaufmann et al. (2009) constructed aggregate governance indicators measuring the below six pillars of governance to examine the quality of governance in a country:

- “Voice and accountability” capture government’s attitude to the liberty of expression, public participation in electing policymakers, and freedom of the press.
- “Political stability and absence of violence and terrorism” capture the likelihood of violence, political instability, social tension, and crime.
- “Government effectiveness” reflects the quality of policy formulation and the efficiency of their implementation, the public services quality, as well as the civil servants’ competencies.
- “Regulatory quality” reflects the government’s ability to develop the private sector.
- “Rule of law” reflects the efficiency of the judiciary system and police, the ownership rights, and reflects citizens’ confidence in the governments, and the courts.
- “Control of corruption” captures the abuse of public power for personal interests.

These dimensions complement one another, and the satisfaction of all of them leads to higher overall governance quality. Hence, by maintaining political stability, eliminating corruption, respecting civil liberties and property rights, improving competitiveness by expanding the private sector, enhancing government policies formulation and implementation, and delivering efficient legal systems, nations can achieve a high quality of governance. Additionally, “good governance is transparent, equitable, and effective in making the optimal use of resources” (UNDP, 1997).

Industrialization, technological advancement and economic and social progress, such as education and healthcare, are primordial to a country economic growth. However, growth also requires capable governments and the ability to use their natural resources and their human, physical, and technological capital more efficiently. By ensuring more efficient markets, which are less subject to market failures, good governance could drive economic development (Khan, 2007). Furthermore, growth necessitates political institutions ready to distribute the economic gains across different individuals and groups (Acemoglu and Robinson, 2008). Thus, governance can impact growth through political systems, legal systems, and state bureaucratic policies formulation and implementation process.

On the one hand, political and civil rights are critical to achieving sustainable development. Sen (1999) emphasized the importance of human rights and political freedom to achieve growth. He argued that citizens should participate in deciding what they want, and this participation that requires knowledge and education skills plays a crucial role in the development process. Moreover, while studying the ability of institutional characteristics of

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governance to explain development in different countries from South America and East Asia, Campos and Nugent (1999) found that high quality of bureaucracy improved economic growth in East Asia. Similarly, according to Acemoglu and Robinson (2008), the different political and economic institutions explain the differences between countries in regards to economic development. The countries where private property is protected have known a sustained growth. However, the centralized states, where people are prevented from participating in economic activities and from their property rights, have generated growth for limited periods only.

On the other hand, development depends on law and order, the social safety and the social services offered to the population. First, if citizens believe that the courts and police are efficient, they will avail themselves of their services. Second, investors base their investment decisions on the laws and regulations implemented by governments, especially the rules that protect intellectual property, public health and safety. Campos and Nugent (1999) demonstrated that the rule of law's effectiveness had a significant contribution to enhancing development in Latin American.

Similarly, corruption in the political system and government bureaucracy and inefficiency affect the investments negatively. Corruption prevents countries from developing and achieving sustainable economic growth. By reducing the resources available to be invested in productive activities, and by increasing market opacity, it creates uncertainty for investors, and hence it discourages private investments.

According to Acemoglu and Robinson (2012), nations with stagnant economies lack the institutions required to create the incentives needed to save, invest, and innovate. In many developing countries, the lack of sufficient economic activity is caused by the corrupted politicians that prevent any independent economic activity, or any incentive for creative destruction, for fear of losing their power. Moreover, the political institutions in these nations prevent the citizens from controlling or influencing politicians. Similarly, these politicians tend to abuse power entrusted to them to pursue their private gains and to amass vast fortunes by expropriating the assets of others. The concentration of wealth in the hands of a small group reduces the resources required to invest in public services, and hence decreases local and foreign investments needed for economic growth. Therefore, when nations become more corrupted, growth stops.

Furthermore, corrupted nations create huge inequalities because of the excessive wealth concentrated in the hand of those in control. These disparities engender violence and civil wars, which starts a process of lawlessness and political instability, blocking, therefore, any development and economic prosperity (Acemoglu and Robinson, 2012). Conversely, when corruption is controlled, wealth is no longer concentrated in the hand of a narrow group, and all citizens will start to benefit from public services. Thus, non-corrupted nations create the incentives for sustainable economic growth. Hence, by creating an environment that promotes economic activity, good governance plays a crucial role in encouraging investments and long-term economic growth.

Substantive empirical research provides evidence that good governance increases economic growth. According to Hall and Jones (1998), establishments and public policies that create an economic environment that allows people to invest, innovate, and produce, increase productivity, output per worker, and thus long-term economic performance. Hall and Jones based their analysis on the Cobb-Douglas approach where they decomposed changes in output per worker across countries into differences in physical capital, average

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educational attainment, and labor input. Then, they examined the impact of social infrastructure, which represents government and institutions policies, on each of these inputs. However, knowledge has become an essential factor in the production process and should be included as an input in such analysis. Technology, continuous learning, innovation, and research and development expenditures are crucial to accumulate knowledge and increase competitiveness and productivity. Therefore, the impact of social infrastructure on knowledge accumulation should be examined too.

Similarly, to examine if a high governance quality could lead to higher economic growth in the subsequent period, Han et al. (2014) classified the sample countries used in their study into two categories: nations with excess governance and nations with insufficient governance. Their research confirmed that governance quality has a significant positive impact on the development, especially in the Middle East and North Africa (MENA) region and developing Asia. Furthermore, the authors applied the Ordinary Least Squares (OLS) regression and the generalized method of moments (GMM) to examine the impact of good governance, foreign direct investment, human development, and openness on economic growth. Nevertheless, these techniques do not separate between the short-run and the long-run effect of governance on economic performance.

Similarly, by estimating the effects of good governance on per capita incomes on a sample of 153 countries, from 2000 to 2001, Kaufmann and Kraay (2002) found a strong causal influence connecting governance to average income in the long term. Kaufmann and Kraay used a cross-sectional empirical framework of levels of governance and income to capture the causal relationship between these variables in the long run. However, this study did not capture the association between governance and income in the short run.

Moreover, a study conducted by Mose and Orayo (2016) to assess the link between governance's quality and development in countries in East-Africa for the period 1999-2013, revealed that governance indicators have a positive influence on economic growth in these countries. The authors employed the Random Effect Model and the Ordinary Least Squares techniques for their analysis. However, the authors failed to mention if the policies that should be implemented by the governments can have a direct impact on the economic growth, or if the results of these reforms can only be achieved in the long run.

Jalilian et al. (2007) conducted a study to test the impact of the efficiency of the regulatory policies (using regulatory quality indicator), and the quality of the governance processes formulated and implemented by the authorities (using government effectiveness indicator), on economic performance in the developing countries. They applied cross-sectional and panel data procedures. Their results suggested that effective regulation and better quality of governance are associated with more rapid economic growth. Although this study seeks to examine the impact of regulation on economic growth in developing countries, the authors included some transitional and developed countries in their dataset. However, none of the oil-exporting GCC nations was included in the dataset of this study.

From the studies mentioned above, the author can conclude that better quality of governance is positively associated with economic growth. However, none of these empirical studies differentiated between the impact of good governance on the economic growth in the short run vs. the long run by using VECM, and none of them have targeted the GCC countries by themselves. In fact, this separation is crucial for governments, so they can anticipate the period that the country needs to achieve a higher economic performance after implementing the reforms required to improve the quality of governance.

Therefore, the below hypothesizes will be tested:

- There is a significant causality running from a higher quality of governance to economic growth in the short run.
- There is a significant causality running from a higher quality of governance to economic growth in the long run.

### 3. Methodology

The connection between quality of governance and economic growth will be estimated using annual panel data for the period 2002-2015 for oil-exporting GCC countries (KSA- Kuwait- UAE- Bahrain- Oman- Qatar). This period is sufficient to capture the long-run relationship between the variables. It should be noted that the six dimensions of governance have become available since 1996. However, not until 2002 that the worldwide governance indicators project started issuing the data yearly. And since the model requires time series data, this study tests the governance impact on economic growth after 2002.

Moreover, this study aims to examine specifically the association between effective policies formulation and implementation, efficient regulatory institutions that can improve the private sector and competitiveness in the market, and a less corrupted system on the one hand, and economic performance on the other hand in the GCC countries. Thus, the model employs only the following three governance indicators: "government effectiveness," "regulatory quality," and "control of corruption." Each country has a score on the aggregate indicator that ranges from "-2,5 to 2,5". A low score reflects a bad quality of governance and vice versa (Kaufmann et al., 2009).

The yearly GDP per capita growth rate is used as a representation of economic growth. This rate is based on constant 2010 USD. The GDP per capita growth percentage is one of the best economic performance's indicator.

The yearly growth rate of GDP per capita will be used as a dependent variable in this study, whereas "control of corruption," "government effectiveness," and "regulatory quality" will be used as independent variables. Different studies have utilized governance factors and GDP per capita to observe the good governance's impact on economic growth. Han et al. (2014) specified their model by using the governance variables ("control of corruption, government effectiveness, political stability, voice and accountability, regulatory quality, rule of law") as the independent variables, and the annual growth rate of GDP per capita as the dependent variable. Similarly, Emara and Chiu (2016) specified their model by using GDP per capita as the dependent variable, and the composite governance index which recapitulates the six dimensions of governance as an independent variable to estimate the governance impact on economic growth.

Annual panel time series data for the yearly growth rate of GDP per capita is collected from the World Bank. Data on the three dimensions of governance is obtained from the Worldwide Governance Indicators. The appropriate method for this study is to evaluate a Vector Error Correction Model. This technique can determine if there is a causality running from good governance to economic growth in both short term and long term. Moreover, cointegration is a crucial method to study relationships between multiple time series data.

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In fact, most of the empirical studies that examined the relationship between good governance and economic development employed regression models. However, regression models could give spurious results when the data and residuals are non-stationary. Moreover, regression models cannot separate between the short-term and long-term effects of high quality of governance on economic growth. Hence, by applying the cointegration model in this study, the author can improve the analysis of the connection between governance and development.

Before applying the cointegration test, time series data should be tested for stationarity. In fact, the following pre-condition is required to be able to adopt Johansen's cointegration procedure: all variables should be non-stationary at the level and should become stationary when integrated into the same order. Thus, Augmented Dickey-Fuller (ADF) Fisher unit root test will be performed to investigate the existence of panel unit root for each one of the panel data time series.

Then the existence of cointegration between the variables will be verified by applying Johansen Fisher panel cointegration test. The importance of Johansen's method is that it can inspect the presence of multiple cointegrating relations between the governance dimensions and GDP per capita. In fact, the model used in this study includes more than two variables, so it is possible to detect more than one cointegrating relation among the variables if there is any.

If the existence of cointegration can be confirmed, VECM can then be performed to test the existence of long-term causality and short-term causality between the governance indicators and economic growth in the GCC countries.

To test the assumption of the positive influence of good governance on economic growth, the model is specified as the below:

$$X_{jt} = (GDP_{jt}, GE_{jt}, CC_{jt}, RQ_{jt})$$

Where  $GDP$  represents GDP per capita,  
 $GE$  represents government effectiveness,  
 $CC$  represents control of corruption,  
 $RQ$  represents regulatory quality,  
 $j = 1, \dots, C$ ; with  $C$  = number of countries,  
 $t = 1, \dots, T$ ; with  $T$  = time period.

The cointegrated vector autoregressive model for each country as developed by Johansen can be written as (Johansen, 2010):

$$\Delta X_t = \alpha \beta' X_{t-1} + \sum_{i=1}^{k-1} \Gamma_i \Delta X_{t-i} + \varepsilon_t$$

Where  $\varepsilon_t$  is an error term,

$\alpha$  is a matrix of the speed of adjustment for each of the cointegrating vectors,

$\beta'$  is a matrix that includes the cointegrating relations (Johansen, 1991).

Johansen proposes two different probability ratio tests: "trace test" and "maximum eigenvalue test".

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“Trace test” examines the following hypotheses: the null hypothesis of  $r$  cointegrating equations vs. the alternate hypothesis of  $n$  cointegrating equations, where  $n$  is greater than  $r$  (Ssekuma, 2011).

$H_0$ : Rank  $(\alpha \beta') = r$  against  $H_1$ : Rank  $(\alpha \beta') > r$

However, “maximum eigenvalue test” examines the following hypotheses: the null hypothesis of  $r$  cointegrating equations vs. the alternate hypothesis of  $(r+1)$  cointegrating equations (Ssekuma, 2011).

$H_0$ : Rank  $(\alpha \beta') = r$  against  $H_1$ : Rank  $(\alpha \beta') = r+1$

When  $r=0$ , the nonexistence of a relationship between the variables can be concluded.

However, if the rank of  $\alpha \beta'$  is non-null, hence the existence of  $r$  cointegrating relations can be confirmed, and the author can then run the VECM to estimate the relationship between the variables in the long run.

## 4. Results and Discussions

### 4.1 Unit Root Test

As mentioned earlier, before running the Johansen Fisher Panel Cointegration model to examine the presence of a cointegration relationship between the variables, all variables should be non-stationary when integrated of order 0, and stationary when integrated to the same order (Johansen, 2000).

ADF Fisher unit root test is performed to determine if each series exhibits a unit root.

The tables below show the results of panel unit root test using the ADF test. Based on these results, the null hypothesis that  $GDP$ ,  $GE$ ,  $CC$ , and  $RQ$  have unit roots at the level can be accepted, which means that all variables are non-stationary at level ( $p$ -value  $> 5\%$ ). However, when each variable is converted into the first difference, it becomes stationary at 5% ( $p$ -value  $< 5\%$ ). Therefore, based on the ADF Fisher unit root test, the author can conclude that all variables become stationary when integrated of order 1 for the GCC economies.



**Table 1: Results of ADF Unit Root Test (at level specification)**

Variables	ADF- Fisher Chi-Square	
	t-stats	p-value
<b>GDP</b>	20.641	0.0559
<b>GE</b>	4.40418	0.975
<b>CC</b>	12.8507	0.38
<b>RQ</b>	9.89678	0.625

**Table 2: Results of ADF Unit Root Test (first difference)**

Variables	ADF- Fisher Chi-Square	
	t-stats	p-value
<b>GDP</b>	33.1028	0.0009
<b>GE</b>	36.1617	0.0003
<b>CC</b>	34.1266	0.0006
<b>RQ</b>	34.979	0.0005

#### 4.2 Tests of Cointegration

An appropriate lag length is essential to facilitate the estimation of the equilibrium relationship. The below estimation results indicate that all the criteria show significant results at one lag length period. Therefore, lag length of 1 period is the optimal lag and shall be used when running Johansen Fisher cointegration test, and VECM test.

**Table 3: VAR Lag Order Selection Criteria**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-158.8864	NA	0.010415	6.786932	6.942865	6.845859
1	-19.735990	249.3111*	0.0000617*	1.655666*	2.435333*	1.950304*
2	-4.400265	24.92055	0.0000644	1.683344	3.086745	2.213692
3	10.26549	21.38756	0.0000707	1.738938	3.766072	2.504995
4	22.26500	15.49937	0.0000898	1.905625	4.556493	2.907392

Note: \*indicates lag order selected by criterion (each test at 5% level). LR: sequential modified LR test statistic; FPE: Final prediction error; AIC: Akaike information criterion; SC: Schwarz information criterion; HQ: Hannan-Quinn information criterion.

Johansen’s method is used in this study since the model contains multiple variables. This test can detect many cointegrating relations. The hypothesis of at most r cointegration vector will be verified (Johansen, 1991).

As mentioned earlier, “trace test” and “maximum eigenvalue test” are used to examine the rank r of  $\alpha \beta'$ .

For the “trace test,” the below hypothesizes are tested:

H<sub>0</sub>: No cointegrating relation among the variables (r=0), vs. H<sub>1</sub>: At least 1 cointegrating relation (r>0), then H<sub>0</sub>: At most 1 cointegrating equation (r=1), vs. H<sub>1</sub>: At least 2 cointegrating equations (r>1), etc.

As for “maximum eigenvalue test”, the below hypothesizes are tested:

$H_0$ : No cointegrating relation ( $r=0$ ), vs.  $H_1$ : 1 cointegrating relation ( $r=1$ ), then  $H_0$ : At most 1 cointegrating equation ( $r=1$ ), vs.  $H_1$ : 2 cointegrating equations ( $r=2$ ), etc.

**Table 4: Johansen Fisher Panel Cointegration Test**

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

Hypothesized No. of CE(s)	Fisher Stat.*		Fisher Stat.*	
	(from trace test)	Prob.	(from max-eigen test)	Prob.
None	55.26	0.0000	55.26	0.0000
At most 1	58.10	0.0000	56.55	0.0000
At most 2	11.77	0.0672	8.878	0.1805
At most 3	12.06	0.0606	12.06	0.0606

\* Probabilities are computed using asymptotic Chi-square distribution.

In reference to “trace and maximum eigenvalue tests” presented in the above table, the null hypothesis of none cointegrating equation and the null hypothesis of at most one cointegrating equation are rejected (Prob.<5%). However, the null hypothesis of at most two cointegrating equations (Prob.>5%) is accepted by both tests. Therefore, there is at most two cointegrating relations among the variables, which means that economic growth, “control of corruption,” “government effectiveness,” and “regulatory quality” move together in the long term.

### 4.3 Vector Error Correction Model (VECM)

Since Johansen’s test confirmed the existence of cointegration between the variables, “VECM” will be applied to examine the short-run and the long-run dynamics of the variables.

The equation running from *GDP* toward the independent variables *GE*, *CC*, *RQ* is estimated. The below results are obtained.

**Table 5: Panel Vector Error Correction Model**

Variables	Coefficients	Standard errors	T-Value
GE (-1)	0.79102	5.119752	0.154504
CC (-1)	1.503766	3.109662	0.483579
RQ (-1)	1.619009	4.547477	0.356024
CointEq1	-0.426194	0.121521	-3.50717
R-Squared	0.351727		

Optimal lag one used on the base of LR FPE AIC SC HQ

Results show that there is a 35% variation in annual growth of GDP per capita due to change in “control of corruption” (*CC*), “government effectiveness” (*GE*), and “regulatory quality” (*RQ*). Moreover, each one of these independent variables affects positively the annual growth of GDP per capita, which means that when *GE*, *CC*, and *RQ* increase, there is a corresponding increase in GDP per capita, and consequently in economic growth.

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The importance of VECM is that it allows the separation between short-term and long-term relations.

- **Long-term causality:**  $C(1)$ , the “error correction term” (ECM), is the coefficient of the cointegration model. It represents the speed at which the adjustment would need to happen to reach an equilibrium in the long run. Since  $C(1)$  is negative (-0.426%) and significant (prob = 0.0008 < 5%), the author can conclude that there is causality running from *CC*, *GE*, and *RQ* to GDP per capita in the long run. Therefore, these determinants of governance quality have a long-term influence on economic growth. These findings confirm related empirical work such as Hall and Jones (1998), and Kaufmann and Kraay (2002). Consequently, the hypothesis which states that there is a significant causality running from a higher quality of governance to economic growth, in the long run, is accepted.
- **Short-term causality:** to estimate the short-run causality running from each independent variable to GDP per capita annual growth, the significance of the lagged terms of each independent variable should be checked by running “Wald test.”

The null hypothesis ( $H_0$ ) in “Wald test” is that the coefficients of the independent variables in all lag should be zero. If the author succeeds in rejecting this hypothesis, a causality running from *CC*, *GE*, and *RQ* to GDP per capita in the short term can be confirmed.

The tables below show Wald test results for short-run causality running from *GE* to GDP per capita, *CC* to GDP per capita, and *RQ* to GDP per capita.

**Table 6: Short-Term Causality from GE to GDP Per Capita**

Test Statistic	Value	df	Probability
<b>F-statistic</b>	0.023871	(1.65)	0.8777
<b>Chi-square</b>	0.023871	1	0.8772

**Table 7: Short-Term Causality from CC to GDP Per Capita**

Test Statistic	Value	df	Probability
<b>F-statistic</b>	0.2338	(1.65)	0.6303
<b>Chi-square</b>	0.2338	1	0.6287

**Table 8: Short-Term Causality from RQ to GDP Per Capita**

Test Statistic	Value	df	Probability
<b>F-statistic</b>	0.126753	(1.65)	0.7230
<b>Chi-square</b>	0.126753	1	0.7218

These findings indicate that  $H_0$  should be accepted (Prob. of Chi-square > 5%). Therefore, there is no causality running from the three governance indicators (*GE*, *CC*, *RQ*) to GDP per

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capita in the short term. Thus, the hypothesis which states that there is a significant causality running from a higher quality of governance to economic growth in the short run is rejected.

Finally, these findings confirm the positive association between the quality of governance and economic development, which was found by other empirical studies. However, the primary contribution of this study is the empirical separation between the short run and the long run association between good governance and economic development. Based on these results, the economic growth that will occur from improving the quality of governance in GCC countries will happen only in the long term.

Therefore, by implementing new policies and regulations to fight corruption, increase government efficiency and to develop the private sector, GCC economies can achieve growth in the future.

### 5. Conclusion

This study examines the relationship between “control of corruption,” “government effectiveness,” “regulatory quality” and GDP per capita in GCC countries, using panel VECM model from 2002 till 2015. The performance of Johansen model to test for multivariate cointegration between the three governance determinants and GDP per capita indicates that there are two cointegrating vector relationships, and therefore a long-term association between the quality of governance and economic development.

The negative and significant coefficient of the “error correction term” (ECM) confirms the existence of the causality running from the “control of corruption,” “government effectiveness,” and “regulatory quality” towards the GDP per capita in the long run. However, based on Wald test, this relation is not valid in the short run.

In fact, an efficient and a non-corrupted government that responds to public needs, deliver high quality of public services and promote the private sector development, create an environment that attracts the local and foreign direct investments, which increase the sustainable economic growth. Conversely, corruption, an inefficient public sector, and suppression of private-sector institutions decrease the level of investments and growth. Hence, good governance should be an essential part of any country’s strategies because of the crucial role it plays in realizing economic development.

Therefore, the developing economies and specifically the GCC countries should focus on reducing and controlling corruption, supporting the expansion of private sector institutions and market competitiveness, and providing an efficient public sector and high quality of public services, to attract local and foreign investments in all economic sectors. On the one hand, effective governance and regulatory system intensify the gross fixed capital formation by increasing the investments in the private and public sectors. On the other hand, good governance attracts the foreign direct investment inflows which increase the GDP per capita, facilitate the technological knowledge transfer to the country, and hence helps the country achieve long-run economic growth.

The results of this research assert the findings of Acemoglu and Robinson (2012) who argued that good governance leads to sustainable economic development, and the conclusions of Kaufmann and Kraay (2002) who found that good governance has a robust positive effect on the long-term economic growth. In fact, based on this empirical study, the

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author concludes that the policies that should be implemented by governments to enhance the quality of governance can only induce economic growth in the future. Nevertheless, previous empirical studies did not separate between the short run and the long run while examining the impact of good governance on economic growth. Thus, the primary contribution in this study is the distinction between the short-term causality and long-term causality running from governance toward development. Therefore, based on these results, GCC countries should improve their quality of governance to achieve economic growth. However, good governance should be included in the long-term economic plans of these countries since the outcomes will not be achieved immediately.

This study has some limitations. First, the results of this empirical study could be impacted by the small number of observations. Thus, they should be taken cautiously. However, these results are consistent with the studies that focus on improving governance quality to achieve long-term economic growth. Second, this study focuses on the relationship between three governance indicators and economic growth. Future research should study the impact of the overall governance indicator, as well as other economic growth determinants such as gross domestic fixed capital formation and foreign direct investment, on economic development in the oil-exporting GCC countries, to detect the governance impact on economic growth compared to other economic determinants.

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