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THE IMPACT OF STOCK MARKET DEVELOPMENT ON ECONOMIC GROWTH OF GCC COUNTRIES

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Abstract

Several factors that contribute to economic growth around the world have been studied however, the factors contributing to the economic growth of the GCC countries have not been identified in research. This study examines the impact of stock market development index of the GCC countries for 20 years on economic growth. A panel data of Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman (six countries) for a period of 1980 -2017 was collected and used for this study. Considering the presence of the endogeneity in the model, the study examines the panel data. This analysis employed the estimation of dynamic panel data using GMM model estimator. The result presents a summed significant relationship between stock market development proxied by each country's market index and economic growth among the GCC countries. Bank size and oil contribute significantly to economic growth since the GCC countries are oil-based economy. In correspondence with other studies, credits loans and inflation are not contributors to economic growth. This study fills the gap in the literature on variation on the impact of stock market on economic growth across the globe in the GCC countries.

Keywords: GCC countries, Stock market development, economic growth, oil-based economy, GMM

INTRODUCTION

The impact of stock market development on the economic growth in recent times has become of the major areas of study for development and economic researchers as well as policy makers around the world.The relationship between growth in the stock market and the economic development or economic fluctuations has been consistently researched. Though the research implemented usually concentrated on developed economies such as the United States, Europe, or Asian economies such as China, Japan etc. not allot of studies have been implemented when it comes to the Arabic world. A stock market that is functioning effectively in most cases affects economic growth in a positive way due to the fact that savings are invested in the stock market which automatically improves capital productivity. This study tries to determine whether there is a correlation between the stock market and the actual economy in the Arabic world. The argument proposed by this study will try to establish that economic growth is a function of an effective and growing stock market.

The study will gather historical studies implemented on several developed countries and compare them with the finding obtained in the Arabic world. The findings from the Arabic world will be determined by implementing an empirical study with a data sample from 1980 to 2017. The data obtained will then be applied to various econometric techniques using GMM estimators. The results obtained will be compared to several countries (United States, United Kingdom and Japan) which will show whether the economic growth in the Arabic world has a positive impact on the growth of their respective stock markets.

The stock market index in most circumstances is a great predictor of how the economy of a specific country or group of countries is progressing. In general, a sudden rise in the prices in the stock market can have a positive impact on the economy for it increases individual's capital and/or profit which enables them to make new investments on the other hand a sudden decrease in the prices of the stock market can have negative impacts on the economy. In this sense we can safely gather that the relationship between macroeconomic variable and the stock market go hand in hand.

Over the past century the relationship between the economy and the stock market index has been studied extensively not only by scholars but by politicians as well for they realized that it could aid then in political policies, future investments and curve the loss of any sudden price decline or any negative economic decline. This said there is also the factor of how investment is implemented in the stock markets across the world meaning academics have argued that in some cases a flourishing stock market can have a negative effect on the economy for it decreases savings or liquidity in general which can affect the actual growth of the economy in a country especially the developing world (Devereux and Smith, 1994)

On the other had there is a side of the argument that states that by investing in the stock market it gives way to greater risk spreading and risk pooling simultaneously which will provide greater information on how companies are allocating their resources or what their future investments will be giving investors a sound background on how they will investment in the stock market which will lead to greater profit which will have a positive impact on the economy (Harris, 1997)What this study will do is perform empirical test to show weather stock market development has a direct impact on the macroeconomic situation in the Arabic world it will also provide a comparative study of the results between the GCC countries and countries that have a developed stock market to see if they have similar trends in the past which will give us a prediction on how the Arabic countries will perform in the future. It will be GCC countries as a lesson for the other countries in Arabic world[1] and explained in the light of developed countries[2]

For the past few decades there has been an interest in new stock markets which led Arabic countries to open their stock markets to foreign investors (United Arab Emirates, Egypt) that made the process of collecting the data feasible for previously it was close to impossible to gather any data about stock markets in the Arabic world especially from financial institutions such as the International Financial Corporation (IFC). The study will be using econometric techniques after gathering the panel data of the GCC countries, first we will calculate all countries together, the results will show us the correlation between the stock market and the economy from an international perspective the study will then compare the data obtained from the Arabic world and the developed world separately. By doing them separately we would obtain the ability to compare the Arabic world to the rest of the world meaning do they go in line with each other or are there different patterns. The conclusions of our findings from this study will show weather a strong and growing stock market in the Arabic world has a positive, negative or no impact at all. It would also show if the results are due to a normal growth cycle of any stock market in comparison to the developed world or does the Arabic world have different standards to economic growth in which the stock market has to direct effect on.

The main objective behind pursuing this study is to obtain an empirical result to conclude if the existence of a stock market in the GCC countries has any impact on it's over all GDP growth, it will identify the decline and peak cycles when the stock market was actually introduced into these countries, it will also illustrate the differences between how a developed country reacted historically to the introduction of the stock market in comparison to the GCC developing countries. The empirical results will also aid in future developments of the mentioned

[1] The Arabic countries are Saudi Arabia, United Arab Emirates, Kuwait, Bahrain, Qatar, Oman.
[2] The seven developed countries will basically be the G7 countries which are the United States, United Kingdom, Germany, France, Japan, Italy and Canada

counties for they will have a study showing them the historical and numerical results that might affect the growth of their economy.

Numerous studies have been implemented concerning weather the stock market has any role on the economic situation of a specific country. These studies usually were done taking developed countries and some emerging countries but usually did not include Arabic countries. The conclusions of their studies usually indicated that a strong and growing stock market does have a positive and strong impact on their respective economies. This study is done to show if stock markets in Arabic countries would show the same results.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

As mentioned earlier this study wants to identify if the introduction of the stock market in any of the GCC countries has any effect on its economic growth meaning that our fixed variable will be the Real GDP of the specified countries. The other variable used will be stock market indicators, the indicators of economic reform if any, inflation rates corresponding to fluctuation in the stock market, exchange rates "may not be used due to the fact that majority of the GCC countries have their currencies pegged to the dollar", the rate of employment in relation to stock market growth and finally stock market capitalization as a percentage of real GDP. As mentioned in the previous sections, allot of extensive studies have been implemented concerning stock markets and its effect on the economic growth of certain countries, regions and groups yet not allot has been done when it comes to the Arabic world.

The results from the studies done on the developed world lead to a clearer understanding of how a growth or decline in their respective stock markets can affect their economies meaning in the case of an expansion in the stock market they had a historical view on how to reinvest that excess capital whilst in the case of decline again due to the findings of past research the financial, economic and political institutions would have taken the necessary precautions to halt or curve the decline. This study should be researched for it gives the Arabic world something to look back on in order for them to handle any fluctuations in the stock market may they be positive or negative.

Over the past century the emergence of the stock market on the international arena and the effects of its activities opened a new wave of research on how its development affected economic growth (Arestis, Demetriades and Luintel, 2001) they used different time serious methods while collecting the data for mainly 5 developed countries, their study concentrated on understanding the relationship if any between the stock market index and actual economic growth their finding did support the fact that a progressing stock market does help economic growth but can also undermine economic growth stating that in several examples stock market has no impact on economic growth.

An empirical study on the role of spreading the financial instruments could cause greater savings Darrat (1999) the study was implemented on 3 Islamic countries which were Saudi Arabia, Turkey and the United Arab Emirates, his findings stated that as the financial services or instruments used in these markets increased the chances of a positive economic growth but also emphasized that the progressing of the financial industry affected some but not all parts of the economy.

The Arab countries development calculus portrays economies full of potentials, as well as economies that can leap frog into sustained growth and development if the available human capital and material resources are optimized for the benefits of their citizens. The present economies of the newly industrialized countries known as the Asian Tigers (i.e. Taiwan, Hong Kong, Singapore, South Korea), who have maintained high levels of economic growth since the 1960s, were during the 1980s at the same level of development as most Arab countries such as Libya, Tunisia, Egypt, Bahrain, Jordan, Kuwait, Oman, Saudi Arabia, among others, and have collectively joined the ranks of the world's wealthiest nations.

Furthermore, it is noteworthy to state that the with regards to the stock market, the capital market is the long-term end of the financial market. It is made up of institutions which facilitates the issuance and secondary trading of long-term financial instrument. Unlike the money market, which functions basically to provide short term funds, the capital market provides funds to industries and governments to meet their long-term capital requirements, such as financing of fixed investments – buildings, plants, bridges, among other things.

The existing literatures clearly shows that developed economies had explored the two channels through which resources mobilization affects economic growth and development – money and capital markets (Samuel, 1996; Demirguc-Kunt & Levine, 1996).

Briefly, this study will examine the causality between the economy and the stock market, in addition to studying the possible co-integration relationships among these variables in the Arab Gulf Cooperation Council (AGCC) countries

The aim of this study is to investigate the impact of stock market growth on economic growth in GCC countries. To ascertain the significant relationship between the GCC stock market growth in relation to the economic growth of the member states of GCC.

To examine the relative effect of the volatility of the GCC stock market growth (i.e. stock indices) in relation to the asymmetry (i.e. acceleration or reversion) in economic growth with regards to the member states of GCC.

To provide policy recommendations that could help decision makers in the GCC countries in shaping economic policies related to stock indices and economic growth indices.

This study will add to the stock of literatures that have investigated the impact of stock market growth on economic growth in GCC countries. It shall also be of great benefit to social science as well as management students, practicing managers, academicians and anyone that is interested in the field of management as well as the study variables. The study shall seek to emphasize the role played by the stock market growth on economic growth. Also, this study shall serve as a wakeup call to all GCC countries in the Arab world to tailor their Gross Domestic Product (GDP) against the background of the dynamic nature of the Arab stock market. Nevertheless, it shall provide policy inputs for decision makers in the GCC countries to address the stock market asymmetry (i.e. acceleration or reversion) in the milieu.

From the above literature review, the issue of the interrelation between the stock market growth and economic growth is not brought out clearly as far as the variables under investigation are concerned. Moreover, even though a number of studies on the stock market growth and economic growth exist, which the researcher discovered as he embarked on this study; these literatures were seen to be lacking to some extent. However, many of these authors' works failed to address optimally the extent to which stock market growth impact on economic growth through various economic indices such as market capitalisation, GDP per Capita, Foreign Direct Investment (FDI), literary rate, population, among other economic indicators, and this is a gap in literature that requires further study, particularly in the banking industry. In addition, although many studies on stock market growth and economic growth abound in literature; however, there is no agreement whatsoever on the precise nature of the relationship between stock market growth and economic growth in the Arab Gulf Cooperation Council countries. As a result, the question of whether stock market growth affects economic growth is also still worthy of further research. In conclusion, there is however a lot that has not been done to establish the specific economic indexes that affect economic growth negatively. Stock market growth and economic growth research has not been effectively done in developing countries and in recent years especially in light of the Covid-19 pandemic which have brought about attendant economic recession in various parts of the world, hence a major gap in relevant literatures on AGCC countries as well as developing countries at large is seen to exist. This research intends to bridge this available gap in question too.

Based on the previous empirical literature the following hypothesis can be developed:

Hypothesis 1: The Stock market development proxied by market index significantly contributes to economic growth measured by GDP. Hypothesis is developed through the literature o the growing number of Arab nation development their own stock market.

Hypothesis 2: Credit risk is theoretically not expected to significantly impact the economy as the rate of default in credit will affect economy negatively.

Hypothesis 3: Liquidity risk asset is assumed to contribute positively and significantly to economic growth as economic crisis can be address with existing liquidity asset and maintain the stability of the economy.

Hypothesis 4: Bank size contributes positively and significantly to economic growth as part of the financial system of the countries.

Hypothesis 5: Leverage contributes significantly to GDP as a measure of economic growth

Hypothesis 6: Inflation does not have any positively significant relationship with GDP

Hypothesis 7: Oil price contributes positively and significantly to GDP

RESEARCH METHODOLOGY

The panel data collected in this study is for the individual GCC countries between 1980 – 2017 which give a 37-year data. This duration covers a similar duration to the study of Sun, Lu and Solaymani (2021); a significant period from oil boom, increase in profitability in international economy of oil to fluctuating oil price and inflation in the globalization era as a result of growing markets and banking system. It was collected from the individual countries' statistical database with United Nations, International Monetary Fund, International Financial Corporation statistical database and World bank indicators statistics. Subject to the theoretical model from different studies (Seetanah, 2008; Masoud 2013), the following model has been employed.

Table 1. Study model

Symbol	Variables	Proxy	Source
		Dependent variables	
GDP	Gross Domestic Product Growth (annual %)	GDP per capita growth (annual %)	World Bank
		Independent Variables **Bank specific variables:**	
Size	Bank Size	Size logarithm of total assets (log)	Orbis/ Bureau van Dijk
SMD	Stock Market Development	Each country market index	GCC Peru statistics
LEV	Leverage	Total liabilities / Total Equity	Orbis/ Bureau van Dijk
LR	Liquidity Risk	Liquid assets / Total Liabilities%	Orbis/ Bureau van Dijk
CR	Credit Risk	Loans / Total Assets(%)	Orbis/ Bureau van Dijk
		Macroeconomic variables:	
inf	Inflation rate	Annual inflation based on consumer price index	World Bank
OILP	Oil Price	Real price of OPEC basket (USD billion)	OPEC

Generalized Method of Moments

This procedure of GMM dynamics estimator used to make adjustments, which were developed by Arellano and Bond (1991). The dynamic GDP equation expressed as follow.

(1) $Yi,t - Yi,t-\theta = \tau\ (Yi,t- \theta\ ) + \beta\psi i,t- \theta\ + \varphi\ i + \xi\ t + \varepsilon\ i,t$

Where, Y i,t GDP I at year t, the independent factors are the initial GDPY i,t-1. ψ i,t-θ Represents bank determinants namely, stock market development (SMD), credit risk (CR), Liquidity ratio (LR), bank size (Size), leverage (LEV), Inflation (INFL), and oil prices (OILP) , φ i represents an anonymous and fixed individual related influence that may possibly influence economic growth. ξ t Represent an anonymous time-related influence lastly ε i,t exhibits stochastic error term. The linear functional model is implemented in order to diminish possible heteroscedasticity, Equation (1) can be structured as follow:

(2) $Yi,t = \boldsymbol{\lambda}\ (Yi,t- \theta\ ) + \beta\psi i,t- \theta + \varphi\ i + \xi\ t + \varepsilon\ i,t$

Where, the GDP regression above bears challenges acquiring the value of the unobserved time and specifically related influencers if estimated. These influencers reflect the dynamic nature of the regression.

While the relaxed strict heterogeneity assumes common assumptions, our instrumental variables method allows no variable ψ completely endogenous. Therefore, Arellano and Bond (1991) suggested that a differential equation of the second order serial correlation does not exist in the basic assumptions of the corresponding tests. Over-identification (a large number of instruments) model is expected at T = 7. Sargan test (Arellano and Bond 1991; Arellano and Bover 1995) to allow identification of the validity of excessive restrictions or instruments check. If the lagged values of explanatory variables are valid instruments, GMM estimation is consistent. To test the validity of the instrument as a whole, Sargan test is widely used. Second order a further test specification including the study of the first series related difference in the rest (Equation 3). To ensure the full specification of the model, serial correlation should be confirmed to confirm the first order, but in the second order serial correlation should be denied. Is a Known problem too many instruments in the GMM dynamic Panel data (Roodman 2009). According to Rodman, the number of instruments should be no more than N, which is the number of individuals. Otherwise, GMM will be inconsistent, and the ability to Sargan test can be reduced.

ANALYSIS AND RESULTS

The section presents the impact of the stock market development on the economic growth in the six Gulf Cooperation Countries which is examined through panel data analysis.

The analysis examined the relationship between economic growth represented by GDP as a dependent variable and stock market development proxied by the market index in the countries.

GMM Model Estimation, dependent variable GDP

Table 2. GMM Model Estimation

Wald chi^2 = (677.63)***

Variables	Coef.	P> I z I
SMD	.2193997	0.038
CR	-.217539	0.991
LR	17.67125	0.041
Size	5.011948	0.001
LEV	.0073467	0.046
INFL	.3880873	0.466
OILP	.0827499	0.004
_cons	7.124338	

The table shows the effect of stock market development with a significant percentage change impact on economic growth. Stock market index of the GCC countries will contribute a 3 percent increase in the economy overall. Firstly, the stock market development index is significant at 0.038 which less than 0.05 showing that there is a significant relationship between the SMD and economic growth. The bank size, oil price and liquidity risk asset also show significant relationship at p value of 0.001, 0.004 and 0.041 respectively. However, the unexpected result with significant relationship with economic growth is the leverage total liability which is at p value of 0.046. However, credit loans and inflation have not significant relations with economic growth as expected.

Arrelano-Bond autocorrelation test

Table 3. Diagnosis tests

Sargan test of overid. restrictions: chi^2(1)	= 9.49 Prob > chi^2 = 0.002
Arellano-Bond test for AR(1) in first differences: z =	1.50 Pr > z = 0.133
Arellano-Bond test for AR(2) in first differences: z =	2.71 Pr > z = 0.007

As seen the table presented, the Sargans test validates that there is significant relationship among the instruments that have been examine wit Pro >chi^2 which a value of 0.002 which is greater than 0.05. While the first AR (1) show 0.133 with expectation that there is no order correlation, the AR (2) shows that there is second order correlation and therefore null hypothesis that the instruments, due to differences, are not autocorrelated is rejected. Hence, the instruments and the model specification are valid and accepted.

Therefore, stock market development is an economic growth conducive variable alongside increase in banking size, oil price and liquidity asset as their coefficient show positive values towards economic growth.

Table 4. GCC hypothesis testing

	Hypotheses	**Commentary**
Hypothesis 1	SMD contributes significantly to GDP	Accept
Hypothesis 2	CR contributes significantly to GDP	Reject
Hypothesis 3	LR significantly contributes GDP	Accept
Hypothesis 4	Bank Size contributes to GDP	Accept
Hypothesis 5	Lev does not contribute to GDP	Reject
Hypothesis 6	Inflation does not contribute to economic growth	Accept
Hypothesis 7	Oil-price contribute to economic growth	Accept

DISCUSSION AND CONCLUSION

The findings in this study shows that the study of GCC countries contributes significantly to better understand the dynamics of relationship between the stock market development and economic growth. Several factors have been identified in other parts of the world as contributing to the economic growth since 1980 in several regions around the world which includes expansion of private sector in all economic sector , improving the technological advancement in the business sector and finances to facilitate the speed of production and rendering services. Other have focused on political factors that changes the government to accelerate development. Most of these variables which are not popular in the case of the GCC have been recommended for economic development and the results are expected to be measured. However, it is important to consider the GCC group of countries to introduce new variable such as oil price into the GDP equation. In GCC countries, no study has examined more specific areas such as the oil price and bank size which are major sector among the GCC countries. The liquidity risk asset, total leverage liability, credit risk loan are factors that are unique and connected to the stock market development.

To begin with the least, most result have shown that inflation would not contribute to economic growth and therefore Inflation was not expected to show a positive coefficient towards GDP. The growing prices of cost of production which is placed on the products and services does not support the economy in GCC just as it has been recognized in other countries.

However, unlike the study of least developed countries in Latin America or Africa that shows that despite the oil producing capacity of some of these countries, the oil price does not lead to economic growth neither does the expansion of stock market boost the economy. The GCC oil price from the increase in oil price in the 1980 has boosted the economies of GCC. The banking and financial sector which boost the economies of the well-developed countries such as the United States and European countries also make the same contribution to the economy of the GCC. Other Arab nations have engaged in the establishment of stock market with limited reference for key factors that significantly contribute to economic growth.

As the evidence from this study represents suing GMM model estimation, the GCC countries studies shows other Arab nations the level of impact that the stock market development can contribute to their economies alongside other specific economic sector development like the Bank size and oil price. Banking and Oil price present the expected hypothesis of supporting GDP. As the Arab nations have increasing develop the stock market, the expansion of the banking size is therefore recommended as a complementing force to economic growth. While the oil price is regulated by OPEC, increasing oil price at any point will boost the economies of the Arab nations. National and regional economic policy makers should therefore push towards taking advantage of the variables that are contributors to GDP to boost the economies of their countries. Future studies can compare the impacts of different factors on economic grow within countries where all these factors can be collectively compared. Since the GCC is currently expanding in its production and service rendering to the global economy, this study serves as a basis for testing how these emerging factors will contribute to the economic growth of GCC and basis for comparison. Lastly, other economy constellations of such as the G7 can also examine these factors among themselves to observe how these variables produces different result in different cases.

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