



The Impact of Financial Depth and Banking Indicators on Economic Growth in the Gulf Countries: An Analytical Study

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Recognition of the main drivers of economic growth of a nation is crucial to implement sound policies and regulations that enable economies to improve and progress. One of the key drivers of any strategy for economic growth is the development of the financial sector. The financial sector and its institutions play a significant role in increasing economic growth by supporting creativity and innovation, accumulating private wealth, directing savings into beneficial investments, offering different opportunities for investors, enhancing productivity, and improving the stability of the economy. The present study identifies the role of financial depth and banking indicators as a development of the financial sector in determining economic growth in the Gulf Countries (GC) from 2000 to 2018. For this purpose, the Generalized method of moments (GMM) approach is used. The results indicate that Bank Credits to the private sector are significantly contributing to the economic growth but the bank cost and deposit money banks' assets hurt economic growth in GC. Since the negative impact of credit to government and state enterprises on growth is revealing the phenomenon of crowding out, it is recommended that the governments in GC should promote credit to the private sector instead of borrowing themselves to remove the crowding-out effect.

Keywords: *Financial indicators; economic growth; crowding out; financial depth; gulf countries.*

1. INTRODUCTION

Over the past decades, policymakers, and academia have shown increasing attention to the importance of economic growth. They have defined economic growth as the long-term steady increase in per capita real income [1]. Economic growth contributes to the reduction of the budget fiscal deficits, enhancement of the population's well-being, reduction of unemployment and poverty, and the rise in educational levels [2].

Recognition of the main drivers of the economic growth of a nation is crucial to implementing sound policies and regulations that enable economies to improve and progress. One of the key drivers of any strategy for economic growth is capital [3], hence the concept of financial depth has developed to represent the financial sector relative to the economy, such as the size of the banks, financial markets, and institutions in a country in comparison to a measure of economic output [4]. As a result, decision-makers and economists have shown increasing attention to the importance of financial depth and its role in economic growth. Economists have stressed that the role of financial depth on economic growth has evolved, showing diverse findings that remains an empirical and theoretical debate [5,6]. Some scholars found that development in the financial system has a positive impact on economic growth [5, 7] while others found a negative impact on growth [8,9].

The endogenous growth theory is a well-known theoretical method for studying financial development and sustainable economic growth. The model extends the endogenous growth models of Ang [10] and Chou [11], the main innovation of the model lies in the views of scholars such as Luintel and Khan [12], Sarma and Pais [13] who proposed that the financial development promote socio-economic development. The relationship between financial development and economic growth has always been a source of concern and debate among economists. There are also differences in the effects of financial development on economic growth and its conduction paths due to differences between theoretical models and statistical methods. Piano [14] claimed that financial development enhanced economic growth by boosting social capital's marginal productivity.

In fact, the majority of the empirical studies have acknowledged that the financial sector and its

institutions play a significant role in increasing economic growth by supporting creativity and innovation [15] accumulating private wealth, directing savings into beneficial investments, offering different opportunities for investors, enhancing productivity, and improving the stability in the economy [16]. Rojas-Ramírez and Molina-Vargas [17] have mentioned that the increase in productivity, per capita wealth, and jobs would lead to an improvement in welfare.

Furthermore, Levine [18] advised that the development of the financial system can be reached by increasing liquidity, reducing transaction costs, and supporting risk management, hence, encouraging investments. Ahmed [19] stated that financial institutions facilitate the creation of wealth and the formation of capital. The conclusion of Danuletiu et al. [20] is consistent with the economic theory that the financial sector development and growth has an important connection. Hence, the need for more financial depth [21]. Though these financial indicators are facing the number of obstacles that could impede their impact on the economy, some countries have addressed this issue by facilitating and providing the needed economic resources efficiently to increase economic growth [16].

Other researchers indicate that there is a unidirectional causality moving from growth to finance [7, Boulika and Trabelisi, 2002; Güray et al. [22] so the fast-growing economy forces the devotion of more investment in developing their financial system to reach a stable economic environment [23]. Regarding Robinson [24] "where enterprise leads, finance follows", thus, when an economy grows, the financial sector responds to the economy's demands.

On the other extreme are studies that suggest that the development of the financial system is anti-growth [25, 26], as it introduces risk amelioration and inefficient resource allocation; this might reduce savings and lead to lower growth [27]. Furthermore, it has been realised that interventions to enforce restrictions on the banking system, such as high reserve requirements and credit ceilings, have a negative effect on the financial sector development, which eventually reduces economic growth [28, 29].

Popov [30] revealed that the positive impact of finance on growth disperses beyond a threshold level of financial development and that some forms of finance, such as mortgage credit, are

noticeably less beneficial to economic growth than other forms of finance, such as enterprise credit. Arcand et al., [31] determined that when the credit to the private sector reaches 100 percent of GDP, the financial depth begins showing a negative impact on growth. Moreover, Lucas [9] states that finance is an “overstressed” factor of economic growth and proposed that the relationship between financial system development and economic growth doesn’t exist. A recent study has been conducted by Alktrani [16] highlighted a weak contribution of the Iraqi banking system to economic growth, concluding that the role of the banking sector on growth is invalid.

Another issue has arisen in the literature regarding the causality of the relationship. Nyasha and Odhiambo [32] conclude that “the causal relationship between financial development and economic growth is not so clear-cut and that the notion that financial development leads automatically to economic growth is merely based on prima facie or superficial evidence”. In a study of 18 Latin American countries, Blanco [33] finds that only economic growth causes financial development, but not the opposite. Also, Patrick [34] argues that the causality relationship between the two concepts appears to change over time.

The above-mentioned evidence revealed the divergence in the impact of financial depth on economic growth. These results vary because of the changing dynamics of each country’s financial policies, the development level, as well as the response of the economies to the different policies [35].

These divergent results provide enough purposes to examine the impact of financial depth on economic growth in the Gulf Countries (GC). Moreover, this study distinguishes itself in some respects; firstly, it uses several indicators of financial depth, which assist in capturing the different aspects of financial depth in each country. Secondly, his paper will contribute to the literature by incorporating the latest data as a way to capture the recent situation in each country. Thirdly, recognition of the impact of financial depth and other crucial financial indicators that reflect the banking sector has a strong link to economic growth because it supports investments and savings. Fourthly, to the best of our knowledge, no study has been conducted before on the impact of financial depth on economic growth in the GC. Accordingly, this

study intends to investigate the impact of selected indicators that represent the financial depth of the Gulf countries’ economic growth for the period 2000 to 2018 by using the GMM approach. The selected financial depth variables are Bank Credits to Bank Deposits, Bank Deposits to GDP, Bank Cost to Income Ratio, Credit to government and state-owned enterprises to GDP and Deposit money banks assets to GDP.

The structure of the paper is as follows. The research method and data are discussed in Section 2. Section 3 provides the results and discussion. Section 4 presents the conclusions and policy recommendations.

2. RESEARCH METHOD AND DATA

Our estimation is based on the Generalized Method of Moments (GMM), as it is one of the most widely used methods for estimation in economics. The balanced panel data has been used for estimating the impact of financial indicators on economic growth. The GMM technique is proved to be a better technique when dealing with panel data [36]. The study covers a time period ranges from 2000 to 2018. Growth is our dependent variable since it has been agreed that growth is an essential tool when comparing the development across countries. In order to estimate the impact of financial banking indicators on growth, the empirical regression is as follows:

$$Y = \gamma_i + \beta_1 BCIR_{it} + \beta_2 BCBD_{it} + \beta_3 BDG_{it} + \beta_4 CG_{it} + \beta_5 DPM_{it} + \mu$$

Where, Y is GDP growth taken as a dependent variable. The financial indicators are (the operating expenses of a bank measured by the Bank Cost to Income Ratio (%) (BCIR), the money provided to the private sector measured by the bank credit to bank deposits (%) (BCBD), the total value of deposits as a share of GDP measured by the Bank Deposits to GDP (%) (BDG), the ratio of credit given by the domestic banks to government and state enterprises measured by the credit to government and state-owned enterprises to GDP (%) (CG), and the total assets in banks as share of GDP measured by the Deposit money banks assets to GDP (%) (DPM).

Where, Y is GDP growth taken as a dependent variable. The variable BCIR represents the Bank Cost to Income Ratio (%) that measures the

operating expenses of a bank. The BCBD represents the bank credit to bank deposits (%) and it measures the money provided to the private sector. The variable BDG represents the Bank Deposits to GDP (%) and it shows the total value of deposits as a share of GDP. The variable CG represents the credit to government and state-owned enterprises to GDP (%) and it measures the ratio of credit given by the domestic banks to government and state enterprises. The variable DPM represents the Deposit money banks assets to GDP (%) and it shows the total assets in banks as share of GDP.

2.1 Data and Variable Description

The dependent variable is the human development index established by the United Nation Development Programme (UNDP). The data on financial variables has been collected from World Development Indicators (WDI) by the World Bank. The study includes six Gulf countries, namely Qatar, Bahrain, Kuwait, Oman,

United Arab Emirate (UAE) and Saudi Arabia. The banking financial indicators that have been included are Bank Credits to Bank Deposits (%), Bank deposits to GDP (%), Bank Cost to Income Ratio (%), Credit to government and state owned enterprises to GDP (%) and Deposit money bank assets to GDP (%). The study covers the period from year 2000-2018.

3. RESULTS AND DISCUSSION

This section starts with the descriptive statistics (see Table 1). We calculated the mean, maximum, and minimum followed by the standard deviation of the variables. The time period that has been used for calculating the descriptive statistics ranges from 2000 to 2018. The descriptive results indicate that the average GDP Growth in Qatar is 9.21 followed by 3.71, 3.48, 4.36, 3.65 and 4.57 for Kuwait, Oman, UAE, Saudi Arabia and Bahrain. The highest standard deviation for GDP growth is found in Qatar and the minimum value is found in Bahrain.

Table 1. Descriptive statistics

	GDP Growth	BCBD (%)	BDG (%)	BCIR (%)	CG(%)	DPM(%)
Qatar						
Mean	9.21	67.50	60.60	28.99	36.73	84.52
Max	26.17	90.89	100.91	36.15	66.51	165.41
Min	-1.49	45.34	41.89	23.21	11.83	47.82
S.D	7.63	14.10	16.96	3.51	18.16	38.09
Kuwait						
Mean	3.715	89.38	71.99	29.70	11.62	79.498
Max	17.32	104.18	103.25	37.12	31.80	115.13
Min	-7.07	63.62	51.79	22.01	3.04	58.56
S.D	5.828	12.40	15.63	4.32	9.60	17.60
Oman						
Mean	3.48	116.50	35.40	46.94	6.89	51.54
Max	9.13	134.92	56.13	55.58	15.90	92.03
Min	-2.66	90.49	21.1	41.33	2.69	33.69
S.D	3.08	10.76	9.48	3.82	4.17	17.54
UAE						
Mean	4.36	91.42	60.57	33.40	17.31	72.49
Max	10.85	110.59	88.67	36.85	33.37	117.26
Min	-5.24	79.49	30.52	23.33	4.29	36.05
S.D	3.78	9.68	18.15	3.26	9.65	27.52
Saudi Arabia						
Mean	3.65	145.26	26.34	35.48	13.12	52.46
Max	11.24	192.91	40.35	43.94	21.81	68.95
Min	-2.81	120.75	16.13	27.35	7.86	41.78
S.D	3.82	21.43	8.50	3.73	4.01	8.66
Bahrain						
Mean	4.57	82.02	68.88	36.93	17.78	76.44
Max	8.29	97.96	82.95	43.71	34.46	107.317
Min	1.98	66.84	53.76	21.40	7.14	49.96
S.D	1.88	10.340	9.99	5.70	10.24	21.95

Table 2. Impact of financial indicators on economic growth

Dependent Variable: GDP Annual Growth				
Method: Panel Generalized Method of Moments				
Cross-sections included: 06				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Bank cost to income ratio (%)	-0.414894	0.157468	-2.634786	0.0091
Bank credit to bank deposits (%)	0.213062	0.093913	2.268710	0.0244
Bank deposits to GDP (%)	0.081691	0.110752	0.737600	0.4617
Credit to government and state-owned enterprises to GDP (%)	-0.222438	0.090329	-2.462530	0.0147
Deposit money banks' assets to GDP (%)	-0.148249	0.088291	-1.679092	0.0948
Total observations	197			
R-squared	0.684334			
J-statistic	0.000170			
Prob(J-statistic)	0.989606			
IM Test (P-value)	0.35			
Breusch–Godfrey test (P-value)	0.20			

The maximum value for the Bank Credits to Bank Deposits is found for Saudi Arabia. The Bank Credits to Bank Deposits shows the financial resources provided to the private sector by the domestic money banks. However, the minimum value for this ratio is found for Kuwait, which means that the financial resources provided to the private sector are much lower than other GC.

The mean value for the Bank Deposits to GDP is found to be much higher in Kuwait as compared to other GC. Also, Kuwait has the maximum value for this ratio followed by Qatar, Bahrain, UAE, Saudi Arabia, and Oman. Then, the mean value for the Bank Cost to Income Ratio; which shows the operating expenses of the bank as a share of the sum of net-interest revenue and other operating income; is found to be the highest in Oman and the lowest in Qatar as compared to other GC..

Moreover, the CG explains the credit to government and state-owned enterprises. The highest mean value for this ratio is found in Qatar, while the lowest value is found in Oman. The low value of 2.69 in Oman highlights that the ratio between credit given by domestic banks to the state-owned enterprises is much lower than other GC. Qatar has shown another highest value of deposit money banks assets to GDP variable, as well as the maximum value as compared to other GC. Then Oman shows the value of 33.69, which is the minimum value as compared to other GC.

The GMM approach is used in this study to examine the influence of financial indicators on economic growth. Due to the possibility of endogeneity being a concern when examining bank-related factors, the GMM was applied [37].

Moreover, banks may show a high level of consistency in their results [38]. As a result, empirical studies of bank performance undertaken in a static situation may result in findings that are inconsistent and biased [39]. To account for both persistence and endogeneity, the research employs the GMM estimator, which produces consistent estimates and allows us to draw conclusions about the bank's performance across a variety of economic and institutional circumstances [40].

The present study applies the GMM estimator to correct the problem of endogeneity. This study uses the test proposed by Dumitrescu & Hurlin [41] to check the endogeneity in the selected variables. The endogeneity test value reveals that the P-value is less than 5%, so the null hypothesis; of variables are exogenous is rejected. The study applies the lags of independent variables as instruments variables since the current level of financial indicators depend on the previous level and financial depth in the past.

The results of the empirical model is provided in Table 2. It is indicated that the Bank Cost to Income Ratio is negatively related to GDP growth. One percent increase in bank cost to income ratio decreases the GDP annual growth by 0.41 points. The Bank credit to bank deposit shows a positive relationship with GDP growth. The one percent increase in bank credit to bank deposits increases the GDP growth by 0.21 points. The bank deposits to GDP show a positive relationship with the GDP growth. One percent increase in bank deposits to GDP will increase the GDP growth by 0.081 points. The credit to government and state-owned

enterprises shows a negative relationship with GDP growth. One percent increase in credit to government and state-owned enterprises to GDP decreases the GDP growth by 0.22 points. The deposit money banks assets to GDP variable shows a negative relationship with the GDP growth. One percent increase in deposit money bank assets to GDP will decrease the GDP growth by 0.14 points. The findings of the present study are consistent with the previous studies that confirm a positive impact of financial development on economic growth [42, 43, 44]. Further, the present study applies diagnostic tests of heteroscedasticity and autocorrelation. For heteroscedasticity and autocorrelation, we apply IM and Breusch–Godfrey test respectively. The p-value of both tests is greater than 5 percent and we failed to reject the null hypothesis, which indicates that there is no heteroscedasticity and autocorrelation problem.

4. CONCLUSION

This research considers the financial and banking sector as the key driver of strategy for economic growth. The study covered the period of 2000 to 2018 for six Gulf countries, namely, Kuwait, Saudi Arabia, Qatar, Oman, UAE and Bahrain, and employed the GMM. The main findings of the study is that Bank Credits to the private sector are significantly contributing to the economic growth in GC. However, the bank cost and deposit money banks' assets hurt economic growth in GC. Further, the negative impact of credit to government and state enterprises on growth has revealed crowding out impact in GC. Thus, it is recommended that governments should promote credit to the private sector instead of borrowing themselves to eliminate the crowding out.

The financial sector is considered as the primary generator of economic growth, allowing economies to improve and progress. As a result, decision-makers and economists should be aware of the relevance of financial depth and its impact on economic growth, and formulate policies appropriately. Authorities in the region should focus their efforts on institutional and regulatory reforms that benefit the whole financial system, rather than worrying about the relative weight of banks versus capital markets. This can be expressed that the most effective financial development institutions and policies are those that have a favourable impact on both banks and capital markets. More precisely, the region must continue to improve its institutional infrastructure,

which is made up of two primary components: strong legal and regulatory frameworks, as well as best-practice accounting and auditing standards and procedures. An improved infrastructure allows for the rapid and accurate dissemination of information, effective corporate governance, and proper risk management. Strengthening shareholder and creditor rights, for example, improves corporate governance. A strong institutional infrastructure benefits the whole financial system, making overall financial development easier.

Moreover, access to financial services for both consumers and producers will continue to be a top policy objective for financial development. Aggregate financial depth metrics, such as the bank credit-to-GDP ratio, can mask significant inequalities across people and businesses in the economy. When the financial system is limited to the urban elite, for example, a large portion of the population may be unable to obtain credit. Similarly, huge private businesses and state-owned enterprises may have easy access to capital, but SMEs and sole proprietors may be financially disadvantaged. For medium- and long-term growth, financial access is important because it fosters equality of opportunity. If impoverished but brilliant people don't have access to financing, they won't be able to invest in their education or establish new firms. Further, access to credit encourages the introduction of new businesses and creative activities, which boost competitiveness and efficiency. Since the results drawn in this study show that Gulf nations' overall access to finance remains significantly lower than that of developed countries, it is recommended that governments promote equality of opportunities, policies, and institutions that increase the reach of finance, which contribute to more inclusive growth and decrease inequality in the region.

5. LIMITATION AND FURTHER STUDY

The time span of the study can be increased upto 30 years in future studies, but due to the non-availability of the data, the study covers the period of 2000-2018. Another point that can be taken under consideration in future research is developing Financial Depth Index, as this wasn't applicable in this study.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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