Bank-Based and Market-Based Financial Systems Structure and Economic Growth in Saudi Arabia

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Abstract: The financial systems structure combines bank-based and market-based intermediation. But the mix of financial structure between the two intermediation channels varies across countries. This paper examines how the financial system structure, whether banking or market-oriented, affects economic growth in Saudi Arabia, using an ARDL testing approach. The empirical results of this study show that while market-based financial development has a positive impact on economic growth in Saudi Arabia, bank-based financial development has an unclear impact and statistically unacceptable, which requires studying the role of banks in Saudi economic growth more deeply. That is, the results of the study support market-based financial development perspectives. Therefore, the study recommends the necessity of moving forward with policies to develop the structure of the financial sector structure in Saudi Arabia in a way that enhances real economic growth.

Keywords: Financial structure, market-based financial development, market-based financial development, Saudi Arabia.

INTRODUCTION

The relationship between the financial system structure and economic growth is one of the most topics that has emerged in many researches in the financial economic field. This interest arose through the growth of financial markets and the growing role of the banking sector and other financial intermediaries. The importance of the financial system and economic growth has been demonstrated by the increasing linkage of the financial system with the main macroeconomic indicators in many economic models. (Mishra, & Narayan, 2015).

The main function of the financial system is to facilitate the transfer of savings from surplus to deficit economic units, so financial intermediaries and financial markets are essential for economic growth (Gambacorta, et al. 2014). Many economies have implemented a variety of financial liberalization that have led to significant changes in their financial system structure (Ahmed, & Ansari,998). However, some of these economies managed to achieve high rates of economic growth, while others lagged behind. Although the differences in their economic performance can be attributed to many factors, there is a growing belief among economists that financial system has played an important role in promoting a high rate of economic growth (Ahmed, & Ansari,998). Besides the financing role in the economic development, economists have debated the relative importance of the bank- and market-based financial system (Oima, & Ojwang, 2013).

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The empirical literature on this issue attempts to examine whether one type of financial system explains economic growth better than another. (Arestis, et al. 2005). Empirical models generally indicate that developed financial markets promote more efficient resource allocation and faster long-run growth through several channels (Durusu-Ciftci, et al. 2017). Financial structures mobilize savings, transfer risk, allocate capital, and absorb shocks, while banks intermediary and bear risks on their balance sheets based on close relationships with their clients. In contrast, markets channel resources directly from savers to borrowers, serving as platforms on which stocks and debt securities are priced, distributed and traded (Bats, & Houben, 2020). Banks and financial markets work to enhance economic growth not only through expanding bank lending or market-based financing, but also by moderating business cycle fluctuations. Banks and markets behave differently when business cycle fluctuations, banks, well capitalized ones, find it easier to keep lending than financial markets do (Bolton et al (2013)). Relying on their long-run relationships with customers, banks are more likely to extend credit during a recession. In contrast, transactional lenders, who do not invest in information about the borrower, typically withdraw during a recession. However, banks help cushion the shock, but when a recession coincided with a financial crisis, the impact on GDP was three times more severe in bank-oriented economies than in market-oriented economies (Gambacorta, et al. 2014).

The distinction between the different financial structure and their relative importance for economic growth is the focus of theoretical and practical discussion (Arestis, et al. 2010). In general, no agreement has been reached on the strengths and weaknesses of different types of financial structure in pro-

moting economic growth (Lin, et al. 2009). However, there is hardly any agreement on the applied superiority of one type of financial system over another.

In line with Saudi Vision 2030, the government is working to develop the financial sector to keep pace with the transformations it is witnessing, which aims to be among the largest financial centers in the world by 2030. In 2018, Saudi Arabia adopted the Financial Development Program to develop its financial sector, which is the main component of Vision 2030. The program seeks to develop the financial sector to be a diversified and effective sector to support economic growth, diversify sources of income, stimulate saving, and financing investment. The program also seeks to enable financial institutions to support private sector growth and develop the financial market. One of the main objectives of the program is to increase the total volume of financial assets to GDP, diversifying the financial services sector structure, in addition to increasing the share of capital market assets. It also aims to increase bank lending to small and medium enterprises and real estate financing. Moreover, Saudi financial technology (FinTech) companies have achieved remarkable development in recent years, their activities have expanded to include investment and financing activities, payments, electronic wallets, electronic payment, cloud storage, decentralized data centers, artificial intelligence, and other activities.

This paper contributes to the empirical literature on financial structure and economic growth, as we collect time series data on the financial structure in Saudi Arabia, which are oil-exporting and financially developed economies.

LITERATURE REVIEW

The empirical discussion has focused on the relationship between financial development and economic growth using financial development indicators, which can differ from financial structure indicators (Stulz, 2000). Therefore, some studies have emerged that distinguished between financial structure and financial development. The discussion about the financial structure and its role in the economy diversifies into four viewpoints: bank-based, market-based, financial services, and law and finance. Whatever the difference, the majority of financial economists believe that financial structure of all types, whether banking or market-based, is a necessary condition for achieving higher levels of economic growth, scholars have supported this, for example but not limited to: (Stulz, 2000; Fase, & Abma, 2003; Alfaro, et al. 2004; Arestis, et al. 2004; Luintel, et al. 2008; Song & Thakor, 2010; Kpodar & Singh, 2011; Lee, 2012; Oima, & Ojwang, 2013; Demirgüç-Kunt et al., 2013; Sahoo, 2014; Nyasha & Odhiambo 2019; Liu & Zhang, 2020). Others provide evidence that financial structure does not matter for real economic performance while financial development is important for high economic growth (Yonezawa & Azeez, 2010). the overall provision of financial services that is important for growth (Levine, 2002). Beck, and Levine, (2002) found that neither market-based nor bank-based hypothesis better at financing the expansion of industries, While the overall financial development promotes the growth of industry, the existence of a bank- or market-based system in itself does not seem to be very important. Another possibility is that the relationship is more complex and that the answer varies depending on a country's level of economic and financial development. that, as economies grow, economic output tends to become less sensitive to changes in bank development but more so to changes in financial market development (Demirgüç-Kunt et al (2011)). This suggests that the financial markets services become more important as countries grow. as well, Arestis, et al. (2010) found significant heterogeneity across the country in financial structure and growth dynamics. Moreover, Ergungor, (2008) suggested that there was a non-linear relationship between growth and financial structure. Countries with an inflexible judicial system grow faster when they have a more bank-oriented financial system

Proponents of Bank-based viewpoint emphasizes the positive role of banking sector in economic growth, by enhancing investment efficiency, managing liquidity risk, improving capital allocation efficiency, mobilizing capital to exploit economies of scale, and collecting and processing information (Levine, 2002). In other words, the main role of the banking sector is to allocate funds to the most productive opportunities, thus increasing economic efficiency (Fase, & Abma, 2003). Moreover, the bank-based viewpoint stresses the shortcomings of market-based financial systems. It argues that banks can finance development more effectively than markets in developing economies, in the case of state-owned banks, market failures can be overcome and allocation of savings can be undertaken strategically. This is particularly relevant in the early stages of economic development when the institutional background is weak to support market activities. Financial intermediaries have been shown to be more important than capital markets to economic growth (Choe, & Moosa, 1999). Ahmed, and Wahid, (2011) supported the view that higher levels of banking system development are positively associated with growth in capital accumulation and thus faster economic growth, as well, Chakraborty and Ray, (2006) confirmed that the bank-based system outperforms the market-based system, under a banks-based system, investment and per capita income are higher, and income inequality is lower, bank-based systems are also more suitable for large-scale manufacturing. While, Bolbol, et al. (2005) showed that the Bank-based financial development indicators have a positive impact on the growth of total productivity in Egypt only when it is associated with an increase in per capita GDP; Whereas, market-based indicators have a more pronounced impact on the growth of total productivity when it is associated with foreign capital inflows.

On the other hand, the market-based viewpoint highlights the advantages of well-functioning markets in promoting economic performance, and stresses the problems of bank-based financial systems. Big, liquid and well-functioning markets foster growth and profit incentives, enhance corporate governance, facilitate risk management, diversification and the customization of risk management devices. Market-based financial systems reduce the inherent inefficiencies associated with banks, thus, better in enhancing economic growth (Levine 1997). Nyasha, and Odhiambo, (2015) reviewed the theoretical and empirical literature on the relationship between market-based financial development and economic growth, the study concluded that the market-based

financial development is expected to precede the development of the real sector, where the direction of causality varies from one country to another, depending on various country-specific characteristics. In another study by the same authors in (2016) showed that market-based financial development has a positive effect on economic growth in the United Kingdom, while bank-based financial development has a clear negative effect. Similarly, Boadi, et al. (2019) confirmed that the market-based development positively affects economic growth. While the bank-based does not have a direct impact on development, but indirectly encourages investment, which promotes growth.

Yonezawa, and Azeez, (2010) indicated that a market-based financial system leads to more efficient capital accumulation while a bank-based and financially developed economy is more effective in enhancing productivity. The results of Uzunkaya, (2012) showed that the level of financial sophistication is important in the relative performance of market-based financial systems and banks. But market-based systems are better in financially developed economies, while bank-based systems are better in financially developing economies. Moreover, Deltuvaitė and Sinevičienė, (2014) showed that the development level in both the banking sector and financial markets is higher in countries with a higher level of per capita GDP, however financial markets become more important in the process of capital accumulation. Based on the results, the economic development level is higher in countries with a market-based financial system. Also, countries with market-based, mixed financial systems are better in terms of economic development. Likewise, Moradi, et al. (2016) indicated that the market-based financial system leads to better income distribution in developed countries, while the bank-based financial system reduces income inequality in developing countries. Kaufmann and Valderrama, (2004) also show that the state of the economy affects the way shocks propagate. Shocks are attenuated over time in bank-based financial systems, but in market-based systems only during periods of weak economic growth or limited liquidity conditions, during the period of economic recovery, the influence of market-based systems is also observed.

Osoro, and Osano, (2014), concluded that the increase in the size of the market increases, the level of private sector lending in the Kenya economy due to its ability to mobilize capital and diversify risks. Furthermore, Bats, and Houben, (2020) indicated that market-based financial structures are more resilient to systemic risks. While Liu, et al. (2022) concluded that the market-based financial structure increases financial risk in China. Khan and Khan (2022) confirm that the development of financial institutions is equally important for venture capital markets as it reduces market frictions through communication and mediation skills.

Lee, (2012) proved that in the United States, the United Kingdom, and Japan, the stock market played an important role in financing economic growth, while the banking sector played a more important role in Germany, France, and Korea. The results showed that the banking sector played an important role in the early years of economic growth. Also, the banking sector and the stock market were complementary to each other in every country in the process of economic growth except for the United States, where the two sectors were moderately interchangeable. Likewise Oima, and Ojwang, (2013) for a selected countries of the Economic Community of West African States (ECOWAS). The study concluded that some countries are bank based financial systems, while others are market based, the general conclusion is that the financial structure is important for the economic growth of those countries.

Some of the results of the studies are not aligned with the market-and bank-based views; Instead, it is aligned with the views of financial services, law, and finance: (Yua, et al. (2022). The literature suggests that financial structure does not explain differential growth rates across countries. What matters for growth is the quality of financial services (Dolar, & Meh, 2002). the law and finance theory maintains that the role of the legal system in creating a growth promoting financial sector, with legal rights and enforcement mechanisms, facilitates both markets and intermediaries. It is, thereby, this view emphasizes that it is not the debate between bank -and market-based systems that really matters, but rather the legal environment where financial services are efficiently provided. Xiao, (2011) indicates that it is not advisable to distinguish between the type of financial system that is best focused on improving administrative efficiency and the effects on financial markets under distinct financial conditions.

In the case of Saudi Arabia, the literature about financial systems and economic growth focused on the importance of financial development using different financial indicators and methodologies. However, there is no consensus yet on the nature of this importance. Where different points of view were proposed. some of them supported the positive role of financial development, such as (Masih, et al. 2009; Ageli, & Zaidan, 2012; Ibrahim, 2013; Samargandi, et al. 2014; Alshammary, 2014; Al Mahish, 2016; Rehman, 2018).), on the other hand, others underestimated the role of the banking sector and the stock market in promoting economic growth, and justified that for several reasons, including: the dominance of the oil and the public sector on economic activities and the characteristics of the institutional environment of the private sector, as well as some functional and structural characteristics of the financial system that hindered its development: for example (Mahran, 2012; Chenafa, 2022)) . As well as Algaeed, (2021)) concluded that the capital market did not have an important contribution to economic progress. As Debbi, and Bouabdallah (2021) found that market liquidity contributed to the financing of real economic activity as well as economic growth, while market capitalization impeded economic growth. Furthermore, some studies dealt with financial intermediaries and came with different results: Alzyadat, 2021; Alzyadat, 2022) Supported the claim that expansion of bank credit promotes economic growth. Among the studies that dealt with the role of financial institutions is the study of (Alzyadat, 2020; Alzyadat, & Alwahibi, 2021), which sheds light on the role of insurance activities in the Saudi economy. However, insurance products are a productive factor in the long run, as insurance is a form of protection for companies, individuals and the economy. In addition to encouraging saving and investment in order to achieve economic growth

Finally, different perspectives have been proposed in the empirical literature on the importance of bank- or market-based financial systems for economic growth. But there is no consensus yet on the nature of this importance. Therefore, this study attempts to verify this relationship in the Saudi economy.

ECONOMETRIC METHODS SPECIFICATION

Most of the applied studies estimated the role of financial development in economic growth through the use of neoclassical growth theory to estimate the relationship between output, stock of physical capital, human capital and financial structure. The basic specification is the modified Cobb-Douglas production function version as follows (Luintel *et al.*, 2008; Ahmed, & Wahid, 2011; Liu, & Zhang, 2020):

$$Y = AL^{\alpha}K^{\beta}FS^{\gamma} \quad (1)$$

where, Y is output, L is human capital stock, K is physical capital stock, A: captures the level of technological progress (total factor productivity TFP). FS: is the financial structure. Where Financial structure (FS) provides a measure of the comparative role of the banks and financial markets in the economic growth. The economic model serves as the theoretical framework for investigating the effect of FS on economic growth, The corresponding econometric model is specified as follows:

$$GDP_t = a_t + \propto l_t + \beta k_t + \theta fb_t + \vartheta fm_t + \varepsilon_t \quad (2)$$

where GDP, L, K: denote real GDP per capita, labor force, and physical capital stock, respectively; Fm: measure the financial markets activities, the study uses stock market total value traded as a share of GDP, which is defined as total shares traded on the stock market exchange divided by GDP. Fb: measure the Banks activities, the study uses private credit by banks to GDP, which is defined as banks credit to the private sector divided by GDP. ε_t is the error term.

Equation (2) used to test different hypotheses regarding the relationship between financial structure and economic growth. Specifically, if the coefficient estimates of θ is positive and significant, the bank -based view is supported. In contrast, if ϑ is significantly positive, the market-based view is supported.

EMPIRICAL ANALYSIS

To investigate the long- and short-run relationship between bank- and market-based financial structure and economic growth. This study adopts the autoregressive distributed lag (ARDL) bounds testing approach (Pesaran and Shin, 1998; Pesaran et al. 2001).

$$\Delta Y_t = \delta_{0i} + \delta_1 Y_{t-i} + \delta_2 X_{t-i} + \sum_{i=1}^{q} \alpha_1 \Delta y_{t-i} + \sum_{i=1}^{k} \propto_2 \Delta X_{t-i} + \varepsilon_{it} \quad (3)$$

The ARDL method that has been used in empirical research based on a number of advantages over other tests of cointegration: the ARDL does not impose the restrictive assumption that all variables under study must be integrated in the same order. Thus, the ARDL can be applied to test for a relationship between variables regardless of whether the regressions are combined of the same order or not; As long as it is integrated for no more than one. also, ARDL provides unbiased estimates of the long-run model and t-statistics that are valid even when some regression factors are endogenous. Third, the ARDL method only uses a single equation of reduced form. in addition to, ARDL fits the characteristics of the small sample. Therefore, ARDL is suitable for relationship analysis of the variables under study. The ARDL model used in this study is expressed as follows:

$$\Delta LinGDP_t = \gamma_0 + \gamma_1 LinGDP_{t-1} + \gamma_2 LinK_{t-1} + \gamma_3 LinL_{t-1} + \gamma_4 LinFB_{t-1} + \gamma_5 LinFM_{t-1} + \sum_{i=0}^{p} \delta_{61} \Delta LinGDP_{t-i} + \sum \delta_2 \Delta LinL_{t-i} + \sum_{i=0}^{p} \delta_3 \Delta LinK_{t-i} + \sum_{i=0}^{p} \delta_5 \Delta LinFB_{t-i} + \sum_{i=0}^{p} \delta_6 \Delta LinFM_{t-i} + \varepsilon_t \quad (4)$$

where:

GDP = growth rate of real gross domestic product a proxy for economic growth;

FB = credit provided to the private sector a proxy for bank-based financial development

FM = stock market traded value and stock a proxy for market-based financial development

K = gross fixed capital formation as a percentage of GDP;

L = labor force. $\gamma 0$ = constant; $\gamma 1$-$\gamma 5$; $\delta 1$-$\delta 6$ = regression coefficients; Δ = difference *p* = lag length; and ε_t = white noise-error term.

Following the ARDL model, the ARDL-based error correction model is specified as follows:

$$\Delta LinGDP_t = \gamma_0 + \gamma_1 LinGDP_{t-1} + \gamma_2 LinK_{t-1} + \gamma_3 LinL_{t-1} + \gamma_4 LinFB_{t-1} + \gamma_5 LinFM_{t-1} + \sum_{i=0}^{p} \delta_1 \Delta LinGDP_{t-i} + \sum + \delta_2 \Delta LinL_{t-i} + \sum_{i=0}^{p} \delta_3 \Delta LinK_{t-i} + \sum_{i=0}^{p} \delta_5 \Delta LinFB_{t-i} + \sum_{i=0}^{p} \delta_6 \Delta LinFM_{t-i} + \delta_7 ECM_{t-1} + \varepsilon_t \quad (5)$$

The annual data for the Saudi economy for the period 1990-2021, were obtained from the Saudi Central Bank.

ESTIMATION RESULTS

Before start regression analysis, the variables are tested for stationarity, using Dickey-Fuller unit root tests. allowing for both the intercept and trend. The null hypothesis is that the series has a unit root, The results of unit root for stationarity tests in Table **1**, show that all the variable are non-stationary in levels except one variable (k) with trend. However, after the first difference the of variables, all the variables were confirmed stationary. Although the ARDL does not require pre-testing of variables, the stationarity test provides guidance as to whether ARDL is appropriate or not, as it is only applicable the analysis of variables that are integrated of order 0 or 1. In this case, the variables are found to be integrated of either order I(1), therefore, ARDL technique can be used.

Table 1. Unit Root Augmented Dickey-Fuller Test.

Variable	Level		1st difference		Order of integration
	Intercept	Trend and Intercept	Intercept	Trend and Intercept	
GDP	-0.465672	-1.963835	-4.161084*	-4.026033*	I (1)
FB	1.771610	-0.969268	-1.826864	-3.588102*	I (1)
FM	-2.493311	-2.962678	-3.941155*	-3.846312*	I (1)
K	-0.402626	-3.889032*	-3.555840*	-3.436324*	I(0) I (1)
L	2.461780	-0.814361	-1.413061	-4.030845*	I(1)

* Means that it is significant at the level of 5%.

Bounds test uses to examine the long-run relationship between the variables in the model, the ARDL bounds- *F*-test approach test the existence of a cointegration relationship, which tests the null hypotheses of no cointegration relationship, against the alternative hypotheses. The calculated *F*-statistic is compared with the upper and the lower-bound critical values. If the calculated *F*-statistic is above the upper bound level, the null hypothesis of no cointegration is rejected at the corresponding significance level; so, the variables are cointegrated. However, if the calculated *F*-statistic is below the lower-bound level, the null hypothesis of no cointegration is accepted; and it concluded that the variables are not cointegrated. However, if the calculated *F*-statistic falls within the upper and the lower-bound levels, the results are inconclusive. The results of the ARDL bounds test for cointegration in Table 2 show that the calculated *F*-statistic is 8.7575 which found to be greater than the upper bound, so the null hypothesis of no cointegration relationship is rejected at 1%, 25%, 5%, and 10% levels of significance. therefore, the bounds test proves that the variables in the specified model are cointegrated. thus, the existence of a long-run relationship between the economic growth and the underlying variables in the model.

Table 2. F-Bounds Test Results.

F-Bounds Test		Null Hypothesis: No Levels Relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	8.75753	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Since the variables are cointegrated, the ARDL technique was used to estimate the model, the optimal lag-length that selected automatically by applying AIC the Akaike information criterion. The Selected Model: ARDL (2, 2, 3, 3, 1). The long-run and short-run results of the selected model are reported in Table **4** and **5** respectively.

The short-run coefficient reported in Table **3** show that the coefficient of bank based financial development is positive and statistically insignificant, However, this effect becomes negative and statistically significant with a time lag of two periods. this implies that in the KSA, bank-based financial development has a negative impact on economic growth in the short run. Therefore, the bank-based financial development in the KSA did not clearly contribute to increasing the short run economic growth. The coefficient of market-based financial development is positive and statistically significant, as expected. This indicates that, market-based financial development has a positive impact on the short run economic growth in the KSA. But this effect appears weak, since the value of the coefficient is 0.0512 compared to the physical capital coefficient of 1.966.

The ECM is negative and significant. The ECM coefficient is −1.75, this statistically indicated that the disequilibrium from the previous year shock will be removed in the current term. which means that the economic growth in KSA moves to its equilibrium due to the changes in the variables (human capital stock, K is physical capital stock, and financial structure development). This means that there is a long run relation between all variables under consideration.

Table 3. ARDL short run and Error Correction Regression.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	0.834693	0.184101	4.533896	0.0007
D(L)	0.039771	0.040934	0.971586	0.3504
D(L(-1))	-0.332629	0.071773	-4.634448	0.0006
D(K)	0.241636	0.196326	1.230785	0.2420
D(K(-1))	1.968211	0.489913	4.017470	0.0017
D(FB)	0.207320	0.209983	0.987317	0.3430
D(FB(-1))	-0.398874	0.270170	-1.476381	0.1656
D(FB(-2))	-0.797344	0.278405	-2.863967	0.0142
D(FM)	0.051221	0.010472	4.891345	0.0004
CointEq(-1)*	-1.740698	0.271975	-6.400224	0.0000
R-squared	0.869186	Mean dependent var		43328.88
Adjusted R-squared	0.792237	S.D. dependent var		68550.94
S.E. of regression	31246.25	Akaike info criterion		23.82391

Sum squared resid	1.66E+10	Schwarz criterion		24.34728
Log likelihood	-322.5347	Hannan-Quinn criter.		23.98391
Durbin-Watson stat	2.172092			
* p-value incompatible with t-Bounds distribution.				

The long-run coefficient in Table 4 show that the coefficient of bank-based financial development is negative and statistically insignificant, while the long-run economic impact of market -based financial development on economic growth is positive and statistically significant. The result indicates that, market-based financial development has a positive impact on the short and long run economic growth in the KSA, While the impact of bank-based financial development was negative on economic growth in the short and long run and was not statistically significant. this means that the role of banks in economic growth was not clear based on the results.

Table 4. The Results of ARDL Long Run Test.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
L	0.098267	0.027435	3.581769	0.0038
K	1.418441	0.378640	3.746144	0.0028
FB	-0.234855	0.256300	-0.916329	0.3775
FM	0.049619	0.011994	4.136862	0.0014
C	685606.2	135836.7	5.047282	0.0003
EC = RGDP - (0.0983*LF + 1.4184*K -0.2349*BC + 0.0496*VST + 685606.2289)				

CONCLUSION

The study focused on exploring the relative impact of bank- and market-based financial development on economic growth in Saudi Arabia during the period from 1990 to 2021. Although a number of studies have been conducted in an attempt to investigate the relationship between financial growth and economic growth, and even in cases where studies involving bank- and market-based financial development have been conducted, the empirical results have been largely inconclusive in different countries and with different techniques; There were no studies on Saudi Arabia in particular that included bank- and market-based financial development. Using the ARDL bounds testing technique, the empirical results of this study show that in Saudi Arabia there is a positive relationship between market-based financial development and economic growth in the long run and in the short run. while there is a negative relationship between bank-based financial development economic growth in the long and in the short run, but this relationship is unclear and statistically unacceptable, which requires studying the role of banks in Saudi economic growth in more depth. Therefore, the results of the study support market-based financial development views. Studies have confirmed the strength of the stock market in the Saudi Arabia during the Covid-19 pandemic (Alzyadat, & Asfoura, 2021; Alzyadat, et al. 2021). The result aligned with, Nyasha, and Odhiambo, (2016) showed that market-based financial development has a positive effect on economic growth in the United Kingdom, while bank-based financial development has a clear negative effect. Similarly, Boadi, et al. (2019) confirmed that the market-based development positively affects economic growth. While the bank-based does not have a direct impact on development, but indirectly encourages investment, which promotes growth. Therefore, the study recommends the need to follow market-based financial sector development policies in the Kingdom of Saudi Arabia - in order to promote real economic growth.

REFERENCES

Ageli, M. M, Zaidan, SM (2012) Saudi Financial Structure and Economic Growth: A Macroeconometric Approach. International Journal of Economics and Finance, 5(3). http://dx.doi.org/10.5539/ijef.v5n3p30

Ahmed, A. D., & Wahid, A. N. (2011). Financial structure and economic growth link in African countries: a panel cointegration analysis. Journal of Economic Studies, 38(3), 331-357. https://doi.org/10.1108/01443581111152436

Ahmed, S. M., & Ansari, M. I. (1998). Financial sector development and economic growth: The South-Asian experience. Journal of Asian Economics, 9(3), 503-517. https://doi.org/10.1016/S1049-0078(99)80100-6

Al Mahish, M. (2016). The impact of financing on economic growth in Saudi Arabia. International Journal of Economics and Finance, 8(8), 1-10.

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: the role of local financial markets. Journal of international economics, 64(1), 89-112 . https://doi.org/10.1016/S0022-1996(03)00081-3

Algaeed, A. H. (2021). Capital market development and economic growth: an ARDL approach for Saudi Arabia, 1985–2018. Journal of Business Economics and Management, 22(2), 388-409. https://doi.org/10.3846/jbem.2020.13569

Alshammary, M. (2014). Financial development and economic growth in developing countries: Evidence from Saudi Arabia. Corporate Ownership and Control, 11(2), 718-742.

Alzyadat, J. A. (2020). Macroeconomic environment effects on demand for insurance in Saudi Arabia: An empirical analysis. International Journal of Management, 11(8). 148-162. https://iaeme.com/Home/article_id/10.34218/IJM.11.8.2020.015

Alzyadat, J. A. (2021). Sectoral banking credit facilities and non-oil economic growth in Saudi Arabia: application of the autoregressive distributed lag (ARDL). The Journal of Asian Finance, Economics and Business, 8(2), 809-820. https://doi.org/10.13106/jafeb.2021.vol8.no2.0809

Alzyadat, J. A., & Alwahibi, B. S. (2021). The Role of Insurance Activities In Stimulating Economic Prosperity In Saudi Arabia. Academy of Strategic Management Journal, 20(5), 1-12.

Alzyadat, J. A., & Asfoura, E. (2021). The effect of COVID-19 pandemic on stock market: An empirical study in Saudi Arabia. The Journal of Asian Finance, Economics and Business, 8(5), 913-921. https://doi.org/10.13106/jafeb.2021.vol8.no5.0913

Alzyadat, J. A., Abuhommous, A. A. A., & Alqaralleh, H. (2021). Testing the conditional volatility of saudi arabia stock market: Symmetric and asymmetric autoregressive conditional heteroskedasticity (garch) approach. Academy of Accounting and Financial Studies Journal, 25(2), 1-9.

Alzyadat. J. A. (2022) Bank Credit Maturity Structure and Economic Growth in Saudi Arabia. vol.20. available at: https://refpress.org/ref-vol20-a82/ doi.org/10.55365/1923.x2022.20.82

Arestis, P., Luintel, A. D., & Luintel, K. B. (2004). Does financial structure matter?. Levy Economics Institute Working Paper No. 399, Available at http://dx.doi.org/10.2139/ssrn.488284

Arestis, P., Luintel, A. D., & Luintel, K. B. (2005). Financial structure and economic growth. Center of Economic and Public Policy Working Paper No. 06, 5.

Arestis, P., Luintel, A. D., & Luintel, K. B. (2010). Financial structure and economic growth: evidence from time series analyses. Applied Financial Economics, 20(19), 1479-1492.

https://doi.org/10.1080/09603107.2010.508716

Bats, J. V., & Houben, A. C. (2020). Bank-based versus market-based financing: Implications for systemic risk. Journal of Banking & Finance, 114, 105776. https://doi.org/10.1016/j.jbankfin.2020.105776

Beck, T., & Levine, R. (2002). Industry growth and capital allocation:: does having a market-or bank-based system matter?. Journal of financial economics, 64(2), 147-180. https://doi.org/10.1016/S0304-405X(02)00074-0

Boadi, I., Osarfo, D., & Boadi, P. (2019). Bank-based and market-based development and economic growth: An international investigation. Studies in Economics and Finance, 36(3), 365-394. https://doi.org/10.1108/SEF-12-2017-0346

Bolbol, A. A., Fatheldin, A., & Omran, M. M. (2005). Financial development, structure, and economic growth: the case of Egypt, 1974–2002. Research in International Business and Finance, 19(1), 171-194. https://doi.org/10.1016/j.ribaf.2004.10.008

Bolton, P, X Freixas, L Gambacorta and P Mistrulli (2013): "Relationship and transaction lending over the business cycle", BIS Working Papers, no 417.

Chakraborty, S., & Ray, T. (2006). Bank-based versus market-based financial systems: A growth-theoretic analysis. Journal of Monetary Economics, 53(2), 329-350. https://doi.org/10.1016/j.jmoneco.2005.01.003

Chenafa, D. (2022). The impact of financial development on economic growth in the Kingdom of Saudi Arabia using the ARDL model during the period (1990-2020). Journal of Financial, Accounting and Managerial studies, 9(1). 381-410

Choe, C., & Moosa, I. A. (1999). Financial system and economic growth: the Korean experience. World Development, 27(6), 1069-1082. https://doi.org/10.1016/S0305-750X(99)00042-X

Debbi,M & Bouabdallah A (2021). The impact of stock market development indicators on economic growth, a case study in Saudi Arabia (1992-2019). Journal of Business and Trade Economics, 6(2), 123-140.

Deltuvaitė, V., & Sinevičienė, L. (2014). Research on the relationship between the structure of financial system and economic development. Procedia-Social and Behavioral Sciences, 156, 533-537. https://doi.org/10.1016/j.sbspro.2014.11.235

Demirgüç-Kunt, A, E Feyen and R Levine (2011): "The evolving importance of banks and securities markets", World Bank, Policy Research Working Paper, no 5805.

Demirgüç-Kunt, A., Feyen, E., & Levine, R. (2013). The evolving importance of banks and securities markets. World Bank Economic Review, 27(3), 476–490.

Dolar, V., & Meh, C. (2002). Financial structure and economic growth: A non-technical survey (No. 2002-24). Bank of Canada.

Durusu-Ciftci, D., Ispir, M. S., & Yetkiner, H. (2017). Financial development and economic growth: Some theory and more evidence. Journal of policy modeling, 39(2), 290-306. https://doi.org/10.1016/j.jpolmod.2016.08.001

Ergungor, O. E. (2008). Financial system structure and economic growth: Structure matters. International Review of Economics & Finance, 17(2), 292-305. https://doi.org/10.1016/j.iref.2006.09.001

Fase, M. M., & Abma, R. C. N. (2003). Financial environment and economic growth in selected Asian countries. Journal of Asian economics, 14(1), 11-21. https://doi.org/10.1016/S1049-0078(02)00237-3

Gambacorta, L., Yang, J., & Tsatsaronis, K. (2014). Financial structure and growth. BIS Quarterly Review March. https://ssrn.com/abstract=2457106

Ibrahim, M. A. (2013). Financial development and economic growth in Saudi Arabian economy. Applied Econometrics and International Development, 13(1), 133-144.

Kaufmann, S., & Valderrama, M. T. (2004). The role of bank lending in market-based and bank-based financial systems. Monetary Policy & the Economy, (2), 88-97.

Khan, M. Z., & Khan, Z. U. (2022). Venture Capital In Bank-Based and Market-Based Financial Systems: A Cross-Country Analysis. City University Research Journal, 12(2).171 – 191.

Kpodar, K., & Singh, R. (2011). Does financial structure matter for poverty? Evidence from developing countries. World Bank Policy Research Working Paper No. 5915

Lee, B. S. (2012). Bank-based and market-based financial systems: Time-series evidence. Pacific-Basin Finance Journal, 20(2), 173-197.

Levine, R and S Zervos (1998): "Stock markets, banks and economic growth", American Economic Review, vol 88, pp 537–58.

Levine, R. 1997. "Financial Development and Economic Growth: Views and Agenda." Journal of Economic Literature 35: 688-726.

Levine, R. 2002. "Bank-based or Market-based Financial Systems: Which is Better?" Journal of Financial Intermediation 11 (4): 398-428. https://doi.org/10.1006/jfin.2002.0341

Lin, J. Y., Sun, X., & Jiang, Y. (2009). Toward a theory of optimal financial structure. World Bank Policy Research Working Paper, (5038). Available at SSRN: https://ssrn.com/abstract=1471136

Liu, C., Fan, Y., Xie, Q., & Wang, C. (2022). Market-based versus bank-based financial structure in China: from the perspective of financial risk. Structural Change and Economic Dynamics, 62, 24-39. https://doi.org/10.1016/j.strueco.2022.03.013

Liu, G., & Zhang, C. (2020). Does financial structure matter for economic growth in China. China Economic Review, 61, 101194. https://doi.org/10.1016/j.chieco.2018.06.006

Luintel, K. B., Khan, M., Arestis, P., & Theodoridis, K. (2008). Financial structure and economic growth. Journal of Development Economics, 86(1), 181-200. https://doi.org/10.1016/j.jdeveco.2007.11.006

Mahran, H. A. (2012). Financial intermediation and economic growth in Saudi Arabia: An empirical analysis, 1968-2010. Modern economy, 3(05), 626.

Masih, M., Al-Elg, A., & Madani, H. (2009). Causality between financial development and economic growth: an application of vector error correction and variance decomposition methods to Saudi Arabia. Applied Economics, 41(13), 1691-1699. https://doi.org/10.1080/00036840701320233

Mishra, S., & Narayan, P. K. (2015). A nonparametric model of financial system and economic growth. International Review of Economics & Finance, 39, 175-191. https://doi.org/10.1016/j.iref.2015.04.004

Moradi, Z. S., Mirzaeenejad, M., & Geraeenejad, G. (2016). Effect of bank-based or market-based financial systems on income distribution in selected countries. Procedia Economics and Finance, 36, 510-521. https://doi.org/10.1016/S2212-5671(16)30067-3

Nyasha, S., & Odhiambo, N. M. (2015). Economic growth and market-based financial systems: A review. Studies in Economics and Finance, 32(2), 235-255. https://doi.org/10.1108/SEF-03-2014-0053

Nyasha, S., & Odhiambo, N. M. (2016). The impact of bank-based and market-based financial development on economic growth: Time-series evidence from the United Kingdom. Global Economy Journal, 16(2), 389-410. https://doi.org/10.1515/gej-2015-0036

Nyasha, S., & Odhiambo, N. M. (2019). Do financial systems spur economic growth in the USA?: An empirical investigation. Panoeconomicus, 66(2), 165-185. https://doi.org/10.2298/PAN160517012N

Oima, D., & Ojwang, C. (2013). Market-based and bank-based financial structure on economic growth in some selected Ecowas countries. International Journal of Education and Research , 1 (2).

Osoro, J., & Osano, E. (2014). Bank-based versus market-based financial system: Does evidence justify the dichotomy in the context of Kenya? KBA Centre for Research on Financial Markets and Policy Working Paper Series. (No. 10).

Pesaran, M. H., & Shin, Y. (1998). An autoregressive distributed-lag modelling approach to cointegration analysis. Econometric Society Monographs, 31, 371-413.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. Journal of applied econometrics, 16(3), 289-326. https://doi.org/10.1002/jae.616

Rehman, M. Z. (2018). Banking sector development, stock market development and economic growth evidence from Saudi Arabia. Academy of Accounting and Financial Studies Journal, 22(4), 1-15.

Sahoo, S. (2014). Financial intermediation and growth: bank-based versus market-based systems. Margin: The Journal of Applied Economic Research, 8(2), 93-114. https://doi.org/10.1177/0973801013519998

Samargandi, N., Fidrmuc, J., & Ghosh, S. (2014). Financial development and economic growth in an oil-rich economy: The case of Saudi Arabia. Economic modelling, 43, 267-278. https://doi.org/10.1016/j.econmod.2014.07.042

Song, F., & Thakor, A.V. (2010). Financial system architecture and the co-evolution of banks and capital markets. Economic Journal, 120(547), 1021–1055.

Stulz, R. M. (2000). Financial structure, corporate finance and economic growth. International Review of Finance, 1(1), 11-38. https://doi.org/10.1111/1468-2443.00003

Uzunkaya, M. (2012). Economic Performance in Bank-Based and Market-Based Financial Systems: Do Non-Financial Institutions Matter?. Journal of Applied Finance and Banking, 2(5), 159.

Xiao, X. (2011. Bank-based versus market-based financial systems: Effect on financial markets. In 2011 International Conference on Management and Service Science (pp. 1-4). IEEE.

Yonezawa, Y., & Azeez, A. A. (2010). Financial systems and economic performance: a cross country analysis. Global Economy and Finance Journal, 3(2). 107 – 121. http://archive.cmb.ac.lk:8080/xmlui/handle/70130/2227

Yua, H., Epor, S. O., & Cross, O. D. (2022). The Influence of Market-Based and Bank-Based Financial Systems on Economic Growth: An Evaluation of Nigeria and South Africa's Data. World Scientific News, 174, 85-98.

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