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RESEARCH ARTICLE

Financial Development and Economic Growth: Empirical Evidence from Saudi Arabia

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ABSTRACT

The aim of this study is to analyze the relationship between financial development and economic growth in Saudi Arabia over the period 1990-2022).The integration results depict the existence of a long-term equilibrium relationship between financial development and economic growth. The findings of the study confirm strong positive and statistically significant relationship between financial development and economic growth in Saudi Arabia. Our regression result indicates that broad money is key factor of economic growth in Saudi Arabia. In addition, domestic credit to the private sector stimulates economic growth. The study recommends efficient financial and sound macroeconomic policies.

INTRODUCTION

Financial development refers to the policies, factors, and the institutions that lead to the efficient intermediation and effective financial market (Anan2009). The world bank defined financial sector as sa set of institutions, instruments, markets, as well as the legal and regulatory framework that permit transactions to be made by extending credit. The role of financial development in economic growth has attracted great attention of many researchers. Although there are conflicting views concerning the role that financial system plays in growth, a large body of study suggests that financial sector development plays a crucial role in enhancing economic growth. The most important roles are basically maintaining of liquidity and mobilization of capital. This means that they facilitate the flow of funds and helping to fuel economic growth. Therefore, policies to improve financial sector would expect to increase economic growth. It is argued that a well-developed financial sector is a key component of the growth. McKinnon (1973) investigated the relationship been financial system and economic development in many countries and concluded that better functioning financial system supports faster growth.

Saudi Arabia's economy is now witnessing is a transformation, as it implements basic reforms to reduce oil dependence, diversify source of income and enhance growth. More recently, Saudi Arabia began to implement Financial Sector Development Program with aim to cultivate diversified and efficient financial sectors that encourages saving and finance and enhance economic.

Research on the relationship between financial developments in economic growth has been influenced by a rapidly expanding endogenous growth model. An analytical explanation of the relationship between financial development and economic growth can be explained by the following simple production function.

$$yt = £(kt) \qquad (1)$$

Where:

yt = growth rate of output

kt = capital stock

output is assumed to depend only on capital stock

By taking the derivative to equation (1) and denoting the rate of output growth by $\bar{y}$, saving rate $\frac{d\text{kt}}{yt}$ by S, and the marginal productivity of capital by Q, we have

$\bar{y}\text{t} = \frac{d\text{kt}}{yt} f'(\text{kt}) = St\ \text{Q}$ (2)

Equation (2) indicates that growth rate of output is product of saving rate*S* and marginal productivity of capitalQ. The traditional endogenous growth model assumed that capital is subject to diminishing returns. This implies that output goes to zero as capital grows. However, new endogenous growth model assumed that capital is subject to increasing returns which implies that marginal productivity of capital does not go to zero as more capital is used. This indicates that output can grows endogenously i.e. without exogenous factor.

Early studies on the relationship between economic growth and financial development were based on cross country analysis. These studies find that cross country differences in financial development explain a significant portion of the cross-country differences in average growth rates (Khan and Sinai (2000)). The equation tested is as follow:

Yi = α+β1FDi +β2 xi+€

Where y is the growth rate of country i,FDiis an indicator of financial depth, xi is asset of control variables and € is error term.

Measurement of financial development (i.e. Financial depth) has gained a considerable attention in many studies. It is not easy to measure the financial development because the concept has many dimensions. As a result, many indicators of financial depth have been developed in the literature. As the financial sectors comprise a variety of financial institutions, markets and products, these indicators may not capture all aspect of financial development. Khan (2000) argues that different indicators will proxy different aspects of financial system. Many studies have used a variety of monetary aggregates to measure the relationship between financial development and economic growth. And in some cases, these indicators may be a poor proxy for financial development. McKinnon(1973) suggests that financial development is closely related to the interest rate. He added that a positive interest rate stimulates saving and hence investment and growth. Many researchers suggest that financial development can be measured by size, depth, access and soundness of financial system(Adnan 2009)

LITERATURE REVIEW

Many studies have dealt with different aspects of the relationship between financial development and economic growth at both theoretical and empirical levels. The theoretical work on relationship between financial development and economic growth has been largely introduced by Schumpeter (1936). One of the most influential empirical work is Levine (1997), which implies positive relationship between financial depth and growth. Robinson (1952) argues that financial development is followed by economic growth and financial development itself is not a leading factor to growth. Goldsmith (1997) found positive relationship between financial development and economic growth. Levine (1997) stated that financial development increases investment opportunities, reduces productive cost and mobilizes savings. Lucas (1988)highlights the overstressed role of finance in the existing literature. He argues that the role of financial sector on economic growth is overstressed.Guidotti and Gregorio (1992) examined the relationship between growth and financial development proxies by the ratio of bank credit to private sector as personage of GDP. Their findings indicate a positive effect of financial developmentoneconomic growth.Abebreseandothers (2017) analyzed the relationship between financial development and economic growth in Ghana. They concluded that the amount of credit to private sectors showed a positively significant nexus with growth in both short run and long. According to Nelson and Chandra (2009), financial development does not boost economic growth. Using a large ross -section sample

of countries,Khan and Sinai (1973)stated that the effect of financial development on economic growth is positive, and that the size of the effect varies with different indicators of financial development, estimation method and data frequency.Similarly,King and Levine (1993b) examined a panel data of 80 countries over the period 1960- 1989and concluded that various measures of financial development are strongly correlated with real per capita GDP growth.Abas (2013) investigated the relationship between financial development and economic growth in Saudi Arabia over the period 1989-2008. The findings indicate that the domestic credit to the private sector has significant and positive impact on economic growth in the long run, but insignificant and negative impact in the short run.Rioaj and Valve (2003) analyzed a panel data from 74 developed and developing countries using GMM techniques they found that finance has positive effect on productivity growth in developed countries. But, in less developed, the effect of finance of growth occurs primarily through capital accumulation. To sum up, most of these studies demonstrate a positive relationship financial development and economic growth.

Data and model Specification

The widespread of the empirical research offered many proxies to measure financial activities. This study applies GARCH models to analyze the impact of financial development on economic growth in Saudi Arabia over the period (1990-2022).The data for the study were obtained from the Saudi Central Bank and the Central Bureau of Statistics, and all variables were converted to logarithmic. A general standard model is used as follows

$$.\text{LnGDPP}_t = \beta_0 + \beta_1 \ln \text{GE}_t/\text{GDP} + \beta_2 \ln \text{LI}_t/\text{GDP} + \beta_3 \text{lBCP}_t/\text{GDP} + \beta_4 \ln \text{C}_t/\text{GDP} + \beta_5 \ln \text{OP}t/\text{GDP} + \varepsilon_t$$

where GDPP_t denotes per-capita GDP and used as a proxy for economic growth.GE/GDP denotes government expenditures as percentage of real GDP. LI/GDP denotes Liquid Liabilities as percentage of real GDP. Broadest money (M3) as a share of GDP is used to measure the liquid liabilities in the economy. The ratio of liquid liabilities as a share of GDP is called financial depth as it captures the size of financial sectors as a percentage of GDP.A higher liquidity ratio indicates higher intensity of banking system.BCP/GDP denotes private bank credit to private sector as percentage of GDP. Higher ratio of bank credit means higher development financial system/GDPdenotes capital as percentage of real GDP.fixed capital formation is used as a proxy of capital.OP denotes openness of the economy.

Unit Root Tests.

In empirical macroeconomic studies, it is important to asses time series to avoid spurious regression. Augmented Dickey Fuller (ADF) test was used to test the stationary of the series. It is clear from Table (1), and based on the Extended Dickey-Fuller (ADF) test, that all variables are not stationary at the level. Therefore, the unit root tests were re-conducted again, and after taking the first difference, the variables became stationary. Therefore, we say that the series are integrated of order one1(1).

Table (1) ADF unit root test

Variable	**Intercept**			**Trend and Intercept**		
	ADF	p-value	Stationary	ADF	p-value	**Stationary**
GDP	-4.051	0.0039	I(1)	-4.431	0.0073	**I(1)**
GE	-4.258	0.0024	I(1)	-4.392	0.0083	**I(1)**
LI	-5.357	0.0001	I(1)	-5.284	0.0009	**I(1)**
BCP	-7.654	0.0000	I(1)	-7.653	0.0000	**I(1)**
OPEN	-4.746	0.0006	I(1)	-4.827	0.0027	**I(1)**
C	-9.462	0.0000	I(1)	-9.644	0.0000	I(1)

Source: Authors' Calculations (E-views 12)

Co-integration Test.

Table (2) provides the integration for financial development variables and economic growth in Saudi Arabia using Johansen Test of Co-integration. The test confirms the existence of three integrating vectors between the variables. This means existence of long run relationship between the variables at the 5% level of significance.

Table (2) Johansen Test of Co-integration

Hypothesized	**Eigenvalue**		**Critical 5%Value**	
None *	0.822122	167.9899	95.75366	0.0000
At most 1 *	0.706252	116.1901	69.81889	0.0000
At most 2	0.622378	79.43909	47.85613	0.0000
At most 3	0.583669	50.22325	29.79707	0.0001
At most 4 *	0.370970	23.93504	15.49471	0.0021

Source: Authors' Calculations (E-views 12).

4. GARCH Model estimation

The GARCHmodels have been widely used in economics and finance. Table (3) shows the result of estimating the P GARCH model (1, 2).This result indicates that the signs of the estimated coefficients for the variables suggesting a positive relationship between financial development (financial depth) and growth in Saudi Arabia. Our empirical evidence indicates statistically significant relationship between liquid liability (broad money) and economic growth. This means that liquid liability contributes to economic growth in Saudi Arabia. The liquid liability coefficient is (0.498872) indicating that an increase of 1% in the liquid liability will lead to an increase in economic growth by (0.5) %.Liquid liability is positively associated with growth in Saudi Arabia. This results consistent with many empirical studies. For example, Osabuohien and Ejemeyovwi (2021) argue that liquid liability is key factor of economic development in Nigeria. Also, the findings of Nelson and Chandra suggest that broad moneycauseseconomic growth with two-way causality in Sari Lanka.Domestic credit to private sector has significant positive influence on economic growth at 5%.This result is in line with findings of Sharma and Gouda (2013) who reported a positive impact of bank credit to private sector across six economies in the South Pacific. Domestic credit to private sector is widely used as a proxy for financial depth. A 10% increase in number of financial resources to private sectors would result in 0.8% increase in economic growth. Credit made available to private sector under Financial Sector Development Program and other policies has led to a rise in economic growth in Saudi Arabia. The coefficient of capital (0.07%)is positive and significant to growth indicating that capital is important in determining growth in Saudi economy. This is in line with other empirical studies (Ikhsan and Satrianto,2023). Government spending has a positive but insignificant impact on growth. This result is in contrast with the findings of Manikin and Scarth (2008).The coefficient of trade openness is positive and significant. The result suggests that increasing trade can support growth. This implies that higher trade with world has improved growth in Saudi Arabia. This result is in line with classical comparative advantage trade .

Table (3) model estimation

Variable	**Coefficient**	**Std. Errpr**	**Z -statistic**	**Proob**
C	14.45927	0.000419	34541.49	**0.0000**
LOG(GE/GDP)	0.005306	0.012262	0.432738	**0.6652**
LOG(LI/GDP)	0.498872	0.014623	34.11635	**0.0000**
LOG(BCP/GDP)	0.084400	0.014454	5.839218	**0.0000**
LOG(C/GDP)	0.070247	0.021074	3.333331	**0.0009**
LOG(OP/GDP)	0.030258	0.000688	43.97362	**0.0000**
R-squared	0.945			
Adjusted R-squared	**0.945**			

Source: Authors' Calculations (E-views 12)

5. CONCLUSION AND RECOMMENDATION

The aim of this study is to provide reviews of the literature as well as empirical evidence on the relationship between financial development and economic growth in Saudi Arabia over the period(1990-2022). The findings of this study support pervious empirical evidence on the positive relationship between financial development and economic growth.Johansen procedure was used to tests the integration between economic growth and financial development. The cointegration results depict the existence of a long-term equilibrium relationship between financial development and economic growth GARCH model (1, 2) I applied is applied and the results indicate that the sign of the estimated coefficients of variables indicating a positive relationship between financial development (financial depth) and growth. This result confirms that financial sectors play an active role in stimulating and accelerating growth in Saudi Arabia. The liquid liability coefficient ispositive and statistically significant indicating that broad money contributes to economic growth in Sudi Arabia. Domestic credit to private sector has significant positive influence on economic growth. Domestic credit to private sector is widely used as a proxy for financial depth. The coefficient of capital is positive and significant to growth indicating that capital increases growth.

On the basis of the results, it is recommended that the authority must concentrate on efficiency of financial system so as to facilitate the flow of funds and helping to fuel economic growth. Furthermore, for Said Arabia to maintain its growth, effective monetary policy is highly recommended. Finally, and because of globalization, the analysis between domestic financial markets and growth needs to be linked with international financial markets.

The authordeclaresnoconflictsofinterestregardingthepublicationofthispaper.

Data availability

statementhttps://database.stats.gov.sa/home/landinghttps://www.sama.gov.sa/en-us/pages/contactus.asp

REFERENCE

King., and Levier., (1993b) ,Finance and Growth, The Quarterly Journal of Economics, Vol. 108, No. 3 (Aug., 1993), pp. 717-737.

Schumpeter, J.A., (1934), The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle, New Brunswick (U.S.A) and London (U.K.): Transaction Publishers.

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

Goldsmith, R.N. (1969) Financial Structure and Development. Yale University Press, New Haven.

Lucas, R.E. (1988) "On the Mechanics of Economic Development," Journal of Monetary Economics, 22: 3-42.

Robinson, J. (1952) The Generalization of the General Theory, in the Rate of Interest, and Other Essays. 2nd Edition, Macmillan, London.

Khan., 1973) and Senhaji,A.,(2000),Financial development and economic growth ,IMF working paper ,WP/00/209.

McKinnon, R., (1973) Money and Capital in Economic Development, (Washington D.C.: Brookings Institution.

Shaw, E., 1973) Financial Deepening in Economic Development, (New York: Oxford University Press.

Jose De Gregorio and Pablo E. Guidotti (1992) Financial Development and Economic Growth,MF Working Papers.

https://doi.org/10.5089/9781451852455.001.

Abebrese,G.,Pickson,R.,Diabah,T.,(2017),Financial Development and Economic Growth: Additional Evidence from Ghana, Modern Economy,ISSN Online: 2152-7261.

Abaca.,(2013),Financial Development and Economic Growth in Saudi Arabian Economy,Applied Econometrics and International Development, Vol. 13-1 (2013

Rioja, F., and Even T.,(2003) Finance and the Sources of Growth at Various Stages of EconomicDevelopment: https://ssrn.com/abstract=438261 or http://dx.doi.org/10.2139/ssrn.438261.

Osabuohien,T., and Ejemeyovwi,J.,(2021) Earth and Environmental Science, Volume 665, International Conference on Energy and Sustainable Environment 23-25 June 2020, Covenant University, Nigeria.

Ikhsan,A.,and Satrianto,A.,(2023),The effect of financial development on economic growth in high-income countries,Asian Economic and Financial Review, 2023, 13(3):
202-215
Adnan.,(2009), Measurement of Financial Development: A Fresh Approach, 8th International Conference on Islamic Economics and Finance.
P. Sharma and N. Grounder (2012),Determinants of Bank Credit in Small Open Economies: The Case of Six Pacific Island Countries, SSRN Electronic Journal
DOI:10.2139/ssrn.2187772