

# Effect of Financial Development on Economic Growth: An Empirical Analysis of Emerging Countries

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## Abstract:

Economic growth and financial development share a dynamic relationship. Financial development allows allocation and mobilization of savings towards productive investment, offers a range of financial services to diversify risks, easy access of financial services, fosters entrepreneurship and facilitates international trade and in this way financial sector contributes towards economic growth. This paper studies the effect of financial development (taking financial institutions and financial markets components) for 11 Emerging countries from 2007 to 2017. Using Random Effect Model we found that financial institutions represented by financial system deposits to GDP and number of branches of commercial banks per 1,00,000 adults have positive impact on economic growth but financial markets represented by stock market capitalisation and turnover ratio have negative impact on economic growth. The policy makers should continue to strengthen financial institutions but also should implement policies that make sure deeper integration of financial markets with financial institutions that will drive economic growth for these countries.

**Keywords:** Financial development, Financial markets, Financial Institutions, Economic Growth, Emerging Countries

## 1. Introduction:

Economic growth and financial development share a dynamic relationship. Economic growth is closely connected with the functioning and development of the financial sector. Many studies have been carried out for century to examine the relationship between financial development and economic growth. Schumpeter(1911) was among the first to highlight the productivity and growth enhancing effects of the services provided by a developed financial sector and role of financial intermediaries in economic growth. Built on this idea (King & Levine, 1993) also found strong association between financial development and economic growth. (Goldsmith, 1969) stressed the role of financial sector in economic development and (Shaw, 1973) posits that a liberalized financial system increases savings and investment, therefore promote economic growth.

Financial development is a multidimensional process. Financial development can be defined as improvements in the quality of five key financial functions: (1) producing and processing information about possible investments and allocating capital based on these assessments; (2) monitoring individuals and firms and exerting corporate governance after allocating capital; (3) facilitating the trading, diversification, and management of risk; (4) mobilizing and pooling savings; and (5) easing the exchange of goods, services, and financial instruments (Čihák et al., 2013). Financial development allows allocation and mobilization of savings towards productive investment, offers a range of financial services to diversify risks through insurance, derivatives, investment funds, easy access of financial services, fosters entrepreneurship by funding investment and innovation and facilitates international trade and investment and this way financial sector contributes towards positive cycle of economic growth (Murthy et al., 2014; Ahmad et al., 2016). Financial system is composed of two components financial institutions and financial markets (Nyasha & Odhianbo, 2014). Financial institutions include banks, insurance companies, mutual funds and financial markets include bond, derivative and stock market.

Financial development has played a significant role in economic development of emerging economies. These were the countries who were able to shield their economies from the threat of crisis because of their robust policies for regulation. And global financial crisis of 2007-08 made it very clear that how disastrous can be weak financial sector policies and their impact on economic development. According to IMF paper on “Emerging markets must balance overcoming the pandemic, returning to more normal policies, and rebuilding their economies” emerging economies are the countries these are countries “that have sustained market presence, progress in reaching middle income levels and greater global economic relevance” (Duttgupta & Pazarbosiglu, 2021). These emerging market countries account for 50.1% of global GDP and 60% global GDP growth for the past 10 years. The financial sector in these countries provided loans and credit guarantees to SMEs, broader access to banking services made access of social assistance and direct cash transfers easy, central banks lowered interest rates to provide liquidity to banks and allowed to raise funds through bonds and other instruments to provide capital for fiscal measures during pandemic. In these economies strong macroeconomic policies such as inflation targeting policies, financial sector reforms have played a big role in stabilizing these economies and protected them from various financial crisis. These countries have paid significant attention towards development of their financial sector and made sure it sustains various setbacks and act as a catalyst in expanding the economy.

## **2. Motivation:**

Emerging countries contribute more than 50% to global GDP growth and since 2008 financial crisis these countries have contributed to 80% of the global growth rate. Financial reforms of these countries acted as a catalyst for economic development by ensuring optimal allocation of capital, managing risks, mobilizing savings, ensuring stability and confidence in the economy and helping in stabilizing the economy in times of crisis.

## **3. Literature Review:**

### **3.1 Financial Institutions and Economic Growth**

Financial institutions play a crucial role in economic development (Zhuang et al., 2019; Louembe et al., 2023). These institutions act as financial intermediaries in easing the exchange of goods and services by providing payment services, mobilize and pool savings from large number of investors, acquire and process information about entrepreneurs and possible investment projects,

allocating savings for productive use, monitor and diversify liquidity and intertemporal risks (Khadraoui & Smida, 2012; Ahmad et al., 2016; Louembe et al., 2023). Financial institutions that performs its financial intermediation role effectively is able to redistribute financial resources.

Several empirical works highlight the role of financial institutions in pooling savings, allocating financial resources, reducing information cost and promote innovation (Ahmad et al., 2016; Zheng & Yang, 2024). A positive relationship between financial development driven by financial institutions and economic growth has been established through positive and significant impact of variables such as bank deposits, private sector credit, liquid liabilities on economic growth supporting the supply leading hypothesis showing financial development causes economic growth (Apergis et al., 2007; Nyasha & Odhianbo, 2014; Zhuang et al., 2019; Setiawan et al., 2021; Louembe et al., 2023; Oroud et al., 2023; Shaddady, 2023) and when the economy grows the financial sector responds to demands of economy through financial intermediation causing financial development suggesting demand leading hypothesis (Purewal & Haini, 2022). So we can say presence of bidirectional causation between financial institutions and economic growth (Thangavelu et al., 2004; Sibindi, 2014).

Some studies highlighted a non-linear relationship between financial institutions development and economic growth or we can say an inverted u shaped relation suggesting that after a certain threshold level of financial development economic growth decreases, mostly because of lack of financial regulation, size of financial sector big as compared to economy, drainage of scarce resources from productive sector and dominance of consumption credit over investment (Machado et al., 2021; Shaddady, 2023). A negative association between financial institutions and economic growth was established in few studies because loans are not monitored, underdeveloped financial sector, weak financial structure and drainage of resources from productive investment (Ahmed et al., 2008; Wu et al., 2010; Cave et al., 2020; Zheng & Yang, 2024). This highlights the importance of a developed, well monitored financial sector to ensure positive influence on economic growth.

### **3.2 Financial Markets and Economic Growth:**

The prominence of financial market has been emphasized now for a long time for the growth of a nation and the proponents of financial market believe that it plays a pivotal role in the development of the economy of a country. There have been discussions concentrating on the growing intermediation part and functions of the financial market in encouraging liquidity, mobilizing and assembling savings, engendering information for prospective investments and capital allocation. It is assumed that the existence of active and stable financial market can stimulate the rate of economic growth (Azam et al., 2016).

Several empirical studies have confirmed association of financial market based development with economic growth. An expansion of the financial market induce the real economy to growth and, in turn, increases the demand for its resources. By facilitating liquidity, diversification of risk, aggregate and disseminating information about firms, promoting corporate control and monitoring, mobilising capital, and the financial market improve the efficiency of capital allocation and increase the productive capacity of the real sector (Thangavelu et al., 2004; Rioja & Valev, 2011; Zheng & Yang, 2024). With the expansion of economy demand for financial services increases, volume of savings increases, more investments are attracted contributing to advancement of financial market. Both financial market and economic growth influence each other (Masoud & Hardaker, Do financial market lead to Economic growth? A causality test in Jordan, 2013).

Stock market, a major part of financial market have shown positive association with economic growth through variables stock market capitalization, total value of shares traded, turnover ratio of shares(Wong & Zhou, 2011; Sehrawat & Giri, 2015;Bawazir et al., 2020). Some studies suggested that this positive link between financial market based variables and economic growth beyond a threshold level becomes negative, suggesting a non-linear or inverted u-shaped relation or we can say vanishing effect. Reasons for this non-linear relationship can be attributed to when stock market grows too high and too liquid it increases the size of financial system results in meltdown which was seen in 2008 financial crisis and lack of financial regulation and underdeveloped governance framework (Cave et al., 2020; Shaddady, 2023).

Contradictory to the positive impact of financial market on economic growth a few studies suggested a negative association between financial market based development and economic growth(Chakraborty, 2010; Bawazir et al., 2020;Setiwan et al., 2021). Mostly because of size and activity of financial market being too small to have a significant impact on economy, increase in liquidity in equity market increase the return to investment and decreases the demand of precautionary savings leading to less investment in long term projects and rise in investor myopia of investing in short term investment(Wu et al., 2010; Rioja & Valev, 2011). More attention towards expanding financial market activity along with quality and risk management practices, long-term investing incentives, and coordinated regulatory efforts can mitigate the negative impact of liquidity in economy.

#### 4. Research Gap:

Few studies were carried out to examine the influence of financial development on economic development for emerging countries. Also, there are not many studies which took financial institutions and financial markets variables together to study the relationship between financial development and economic growth. This paper is a modest attempt to study the effect of financial development on economic growth for the emerging countries.

#### 5. Objective of The Study:

In this paper we try to study the effect of financial development on economic growth for emerging countries.

#### 6. Data Analysis:

**6.1 Variable:** Here we are studying the influence of financial development on economic growth for 11 emerging countries for a period of 11 years from 2007 to 2017. Economic growth is captured through the variable GDP per capita and it is taken as dependent variable. Financial institutions aspect is captured by variables like financial system deposits to GDP and commercial bank branches per 100000 adults and financial market is captured by stock market capitalization to GDP and stock market turnover ratio, these four variables are taken as the independent variables. Here all the variables are taken in their logarithm form as it provides efficient and consistent results and handles the problem of heteroscedascity (Tripathy, 2018).

**6.2 Source:** The data for all variables for period of 2007 to 2017 for 11 emerging countries (Argentina, Brazil, Egypt, Indonesia, India, Malaysia, Mexico, Philippines, South Africa, Thailand, Turkey) has been collected from World Development Indicators (World Bank).

**Table: 6.1: Profile of Variables**

Variable	Definition	Source
LGDP (Logarithm of GDP per capita)	GDP per capita is gross domestic product divided by midyear population	World Development Indicators (World Bank)
LGDEP (Logarithm of Financial system deposits to GDP)	Demand, time and saving deposits in deposit money banks and other financial institutions as a share of GDP	
LGBRAN (Logarithm of Commercial Bank Branches per 100,000 adults)	Number of commercial bank branches per 100,000 adults.	
LGCAP (Logarithm of Stock market capitalization to GDP)	Total value of all listed shares in a stock market as a percentage of GDP.	
LGTURN (Logarithm of Stock market turnover ratio)	Total value of shares traded during the period divided by the average market capitalization for the period.	

**Author's Compilation**

**6.3 Methods:** First a multicollinearity test was conducted to check whether the independent variables (LGDEP, LGBRAN, LGCAP, and LGTURN) are correlated with each other. As we dealing with panel data, so a F statistic test is conducted to decide between Pooled OLS regression and Fixed Effect Model or Random Effect model. From F statistic test we found Pooled OLS regression is not appropriate. Then Hausman test was conducted to decide between Fixed Effect Model and Random Effect Model. From the results of the Hausman test we found Random Effect Model to be appropriate for the analysis.

**6.4 Sample:** The study is conducted for 11 emerging countries i.e. Argentina, Brazil, Egypt, Indonesia, India, Malaysia, Mexico, Philippines, South Africa, Thailand, Turkey from 2007 to 2017.

**7. Findings:****7.1 Multicollinearity Test****Table: 7.1: Multicollinearity Test**

LGDEP	LGBRAN	LGCAP	LGTURN
3.355456	1.793188	2.905279	1.506324

Table: 7.1 shows the results of multicollinearity test conducted for the variables in the model. Since the VIF (Variance Inflation Factor) for the four independent variables (LGDEP, LGBRAN, LGCAP and LGTURN) is less than 4, on the basis of rule of thumb of 4 all these variables can be included for the analysis (O'Brien, 2007).

**7.2 F statistic Test****Table:7.2: F statistic Test**

F statistic			
data: LGDP ~ LGDEP + LGBRAN + LGCAP + LGTURN			
F = 3.6849	df1 = 40	df2 = 66	p-value = 1.358e-06

To decide between Pooled OLS regression and Fixed or Random Effect Model we conducted F statistic test with null hypothesis ( $H_0$ ) as Pooled OLS is appropriate and alternative hypothesis

( $H_1$ ) Fixed or Random Effect model is appropriate. Since p-value is less than 0.05 (i.e. p-value = 1.358e-06), we accept the alternative hypothesis that Fixed or Random Effect model is appropriate.

**7.3 Hausman Test**

**Table: 7.3: Hausman Test**

Hausman Test		
data: LGDP ~ LGDEP + LGBRAN + LGCAP + LGTURN		
chisq = 6.4101	df = 4	p-value = 0.1705

The Hausman test (Table: 7.3) is conducted to decide between fixed effects and random effects models. The null hypothesis ( $H_0$ ) for Hausman test here states that Random Effect Model is preferred and alternate hypothesis ( $H_1$ ) states that Fixed Effect Model is preferred. Since p-value is greater than 0.05 (i.e. p-value=0.1705) then we accept the null hypothesis that Random Effects Model is preferred (Bayar, 2014).

**7.4 Random Effect Model Test**

**Table: 7.4: Random Effect Model Test**

Balanced Panel: n = 11, T = 11, N = 121				
Effects:				
	var	Std.Dev	share	
idiosyncratic	0.001114	0.033376	0.018	
individual	0.061638	0.248269	0.982	
theta:0.9595				
Residuals:				
Min.	1st Qu.	Median	3rd Qu.	Max.
-0.0763111	-0.0207538	0.0018735	0.0213080	0.1053573
Coefficients:				
	Estimate	Std. Error	z-value	Pr(> z )
(Intercept)	3.079177	0.170415	18.0687	< 2.2e-16 ***
LGDEP	0.262751	0.083949	3.1299	0.0017449 **
LGBRAN	0.318404	0.051892	6.1359	8.469e-10 ***
LGCAP	-0.041310	0.022326	-1.8503	0.064272 .
LGTURN	-0.055829	0.028803	-1.9383	0.052589 .
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				
Total Sum of Squares: 0.23231				
Residual Sum of Squares: 0.13432				
R-Squared: 0.4218				
Adj. R-Squared: 0.40186				
Chisq: 84.6235 on 4 DF, p-value: < 2.22e-16				

The p-value associated with LGDEP is 0.0017449, indicating statistically significant at 0.01 level of significance. The financial system deposits to GDP have positive and significant effect on GDP per capita. This suggests that one unit increase in financial system deposits to GDP

will increase the GDP per capita emission by 0.262751 units. The p-value of LGBRAN is  $8.469e-10$ , indicating statistically significant at 0.01 level of significance. The commercial bank branches per 100000 adults have positive and significant effect on GDP per capita. This indicates that one unit increase in commercial bank branches per 100000 adults increases GDP per capita by 0.318404 units. The p-value for LGCAP is 0.064272 which is greater than 0.05 indicating that LGCAP is not statistically significant at 0.05 level of significance and as it has a negative value it means the stock market capitalization to GDP has negative effect on GDP per capita. This suggests that stock market capitalization does not act as strong driver in decreasing economic growth and one unit increase in stock market capitalization leads to decrease in GDP per capita by 0.041310 units. The p-value associated with LGTURN is 0.052589 indicating it is not statistically significant at 0.05 level of significance. The stock market turnover ratio has negative effect on GDP per capita. This shows that one unit increase in stock market turnover ratio decreases the GDP per capita by 0.055829.

## 8. Findings and Discussion:

From the findings we say that that financial institutions represented by variables like financial system deposit to GDP and number of branches of commercial banks per 100,000 adults have a positive and significant impact on GDP per capita. Increase in financial system deposits allows financial institutions use the funds in form of deposits with them to lend it to individuals, businesses and governments for investment purpose who help in capital formation which contributes in economic growth. Further, financial institutions also diversify the risk ensuring reduction in financial instability. Expansion of bank branches makes access to financial services easy, facilitates financial transaction, promotes financial inclusion, enhances credit availability, mobilizes savings, improves payment efficiency and hence lays foundations for economic growth. Stock market capitalization to GDP and Stock market turnover ratio has a negative impact on GDP per capita. Diverting resources from productive sectors, prioritizing by investors of short term speculative trading over long term productive investment, increase in liquidity in equity market increase the return to investment and decreases the demand for precautionary savings and thereby leading to less investment and having negative impact on economic growth by financial markets (Wu a et al.,2011).

## 9. Conclusion and Suggestions:

This paper studies the effect of financial development on economic growth for 11 emerging countries for 11 years from 2007 to 2017. Financial system deposits to GDP, number of branches of commercial banks per 100,000 adults in the analysis show a positive and significant impact on economic growth. These shows that financial institutions help in increasing economic growth. But stock market capitalization to GDP and stock market turnover ratio had a negative impact on economic growth. Since these two variables captures financial market we can say that financial market reduces economic growth in our sample.

Suggestions are based on the random effect model test findings. The result of the study shows that variables capturing the financial market aspect have a negative impact on economic growth. To mitigate the negative effects of stock market capitalization and stock turnover ratio on economic growth, financial markets can provide incentives such as tax concessions, capital gains exemption or preferential treatment for long term investments to encourage long-term investment horizons, setting higher margin requirements for trading can limit excessive speculation and reduce the risk of market manipulation. By implementing these measures policy makers, market regulators and market participants can reduce these negative impacts of

financial market on economic growth and ensure stable, efficient financial market contributing significantly to economic growth. The policy makers should continue to strengthen financial institutions but also should implement policies that make sure deeper integration of financial markets with financial institutions that will drive economic growth for these countries.

#### 10. Limitations of the Study:

As we all know research is an on going process and hence here are some of the limitations of this work. Firstly, financial institutions comprise of banks, mutual funds, investment banks, etc. but here in the study, we could only capture the banking sector. Similarly, financial markets comprise of the stock, derivative and bond market but we only took variables concerning stock. Moreover, this study only takes 11 emerging countries for 11 years due to the constraint of data availability.

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