A Report

On

Financial Development and Economic Growth

By

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2017B3A70960H

in fulfilment of the course

ECON F266: Study Oriented Project

At

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

30 June 2020

Acknowledgement

I would like to thank ***Dr. Sunny Kumar Singh****, Assistant Professor, Department of Economics and Finance, BITS Pilani, Hyderabad Campus, for his guidance-cum-assistance in providing valuable inputs for this project.*

The project type course, namely ECON F266: Study Oriented Project, provided me with an opportunity to analyze financial development of an economy and its link with economic growth.

Abstract

Relationship between financial development and economic growth is a long-debated issue. This report provides and overview of financial system and the determinants of financial development followed by the approach to measurement of economic growth and financial development. At the end we have discussed the theories which support the fact that financial development is linked to economic growth.

Project Area:
Financial Development

1. Financial Institutions and Markets

The financial system of a country is an important tool for economic development of the country as it helps in the creation of wealth by linking savings with investments. It facilitates the flow of funds from the households (savers) to business firms (investors) to aid in wealth creation and development of both the parties. The institutional arrangements include all condition and mechanism governing the production, distribution, exchange and holding of financial assets or instruments of all kinds. The financial system comprises of the following -

1.1 Financial Institutions

A financial institution (FI) is a company engaged in the business of dealing with financial and monetary transactions such as deposits, loans, investments, and currency exchange. Financial institutions offer a wide range of products and services for individual and commercial clients.
Commercial Banks – Accepts deposits, offers checking account services, makes business, personal, and mortgage loans, and offers basic financial products like certificates of deposit (CDs) and savings accounts to individuals and small businesses.
Investment Banks - Investment banks specialize in providing services designed to facilitate business operations, such as capital expenditure financing and equity offerings, including initial public offerings (IPOs).
Insurance Companies - Protection of assets and protection against financial risk, secured through insurance products.
Brokerage Firms - Includes wealth management and financial advisory services.

1.2 Financial Markets

Financial market is a place where buyers and sellers engage themselves in a trade of assets which comprise stocks, bonds, currencies, derivatives.
Capital Market - It’s a platform where public and private sectors often sell their stakes to raise fund in order to feed their projects in hand. Primary Market : New issues called as IPOs (Initial Public Offerings) are made which refers to the first time a company publicly sells shares of its stock in the open market. It is also known as "going public." Secondary Market : Sometimes referred as aftermarket. It is a financial market where the previously issued stocks, bonds, and futures to

name a few are bought and sold.
Money Market - Securities and financial instruments with short-term maturities are traded. Financial assets like treasury bills, certificates of deposits, commercial paper and bankers' acceptance are some of the short-term debt securities traded in the money market.

1.3 Financial Instruments

Financial instruments are assets that can be traded, or they can also be seen as packages of capital that may be traded. Most types of financial instruments provide efficient flow and transfer of capital all throughout the world's investors. These assets can be cash, a contractual right to deliver or receive cash or another type of financial instrument, or evidence of one's ownership of an entity.

1.4 Financial Services

Financial Services is concerned with the design and delivery of financial instruments, advisory services to individuals and businesses within the area of banking and related institutions, personal financial planning, leasing, investment, assets, insurance.

Financial Development

It refers to fulfilment of the functions of the financial system in the best manner by eliminating the market distortions. This process of reducing costs of acquiring information, enforcing contracts, and executing transactions results in the emergence of financial contracts, intermediaries, and markets.

2. Determinants of Financial Development

2.1 Legal tradition

A legal and regulatory system, with property rights protection, good accounting practices, contract enforcement, and proper treatment of creditors and shareholders, has been recognized as fundamental for financial development. Legal traditions that adapt quickly to minimize the gap between the needs of the economy and the capabilities of the legal system will more effectively foster financial development than the more rigid legal traditions.

2.2 Institutions

Economic development in general and financial development in particular relies on good governance. Financial systems need to be well regulated and supervised to ensure that saver confidence is not undermined by bank failures and that savings are being channeled to the most productive investments rather than into the pockets of connected individuals, or gambled away on high-risk projects

2.3 Financial liberalization

The main components of financial liberalization are
- removal of credit controls,
- deregulation of interest rates,
- banking system independence,
- free entry into the banking sector, and
- privatization of the banking sector.

Liberalizing financial markets allows the market to determine the allocation of credit, so that the real rate of interest adjusts to its equilibrium level, low-yielding projects are not funded, and the efficiency of investment is enhanced.

2.4 Openness policies

Openness to international trade and capital flows has advantages for a country's welfare and at the same time could promote its financial and product markets.
- **Trade openness**: By expanding opportunities and increasing competition, openness promotes financial development. The presence of foreigners forces

domestic business practices to change because they receive support from financial institutions and markets in their own countries and so put pressure on domestic counterparts to change.

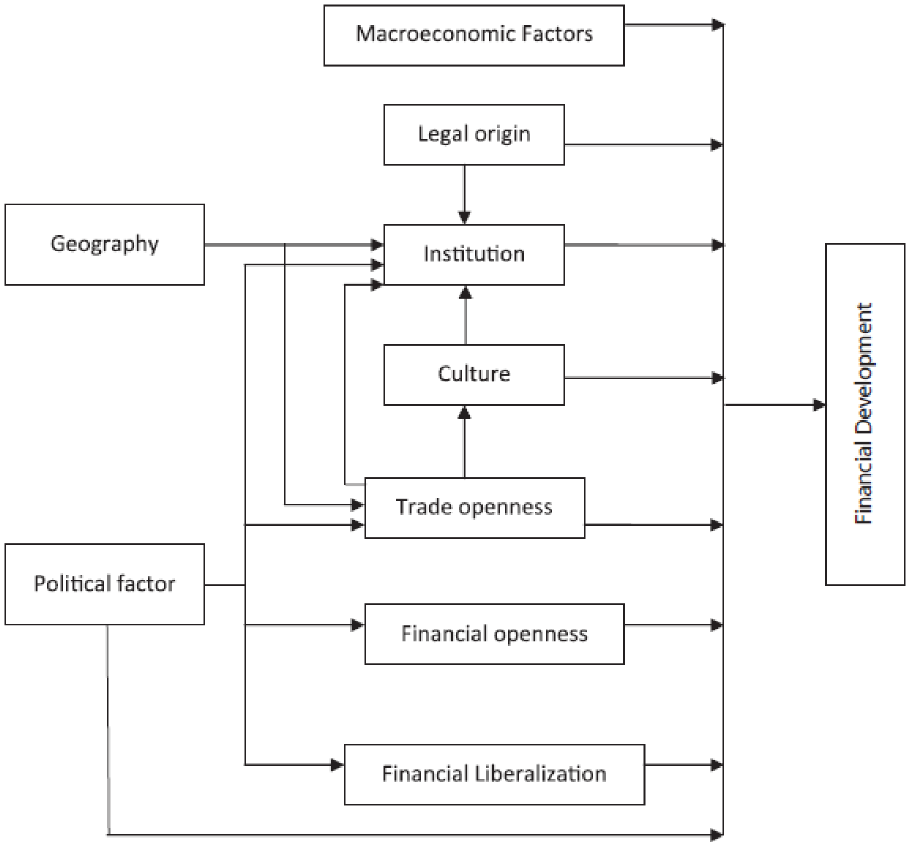
- **Financial openness**: Liberalization of capital markets can apply to both inflows and outflows of capital. Capital from developed countries that are well endowed with capital but have lower rates of return will flow to developing countries short of capital but with higher rates of return. removal of capital controls would allow domestic and foreign investors to engage in portfolio diversification. Moreover, financial openness weeds out inefficient financial institutions, which usually increases efficiency of the financial system.

2.5 Political economy factors

Unconstrained political power undermines financial accumulation. Even when government's role is limited, unaccountable institutions lead to regulatory capture, support the interests of connected incumbents, and undermine financial access and entry. Financial systems in centralized, closed, political systems, with little competition, and political structures without many checks on discretionary behavior are more poorly developed than in countries with more decentralized, open, competitive governments that face checks on legislative and executive power.

2.6 Other factors

Macroeconomic factors, such as inflation, investment, culture, geography income, and economic growth, have been documented as promoting financial development. An increase in the rate of inflation reduces the real return on money and assets. This reduction worsens existing credit market frictions, which results in the release of less credit.

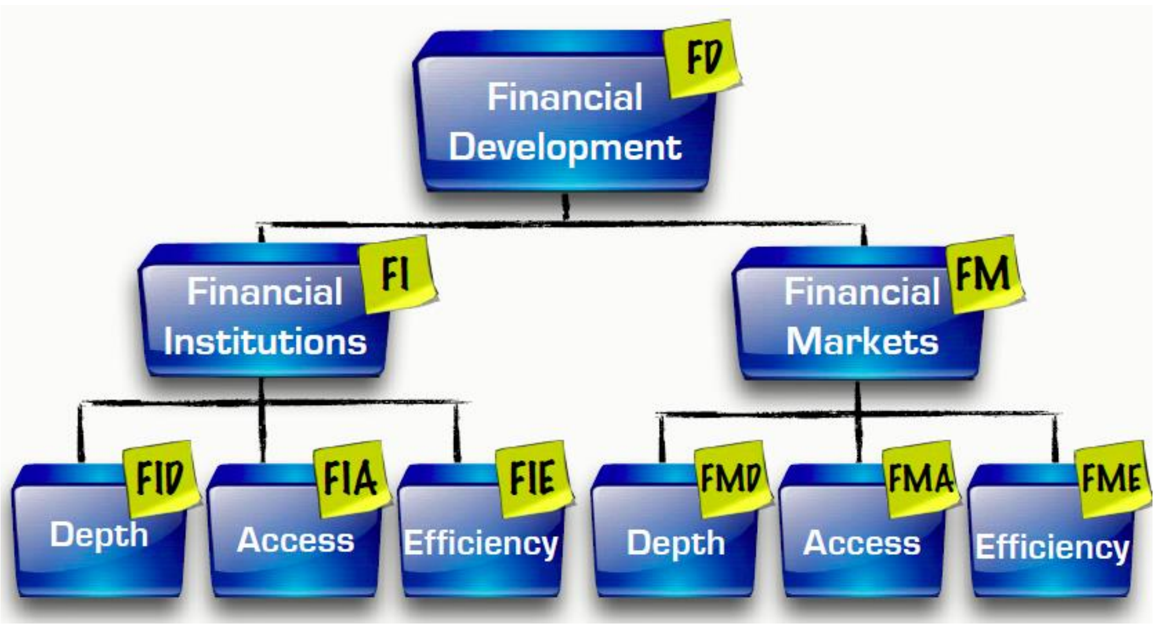


A summary of all the determinants of financial development

3. Measuring Financial Development

Financial development is defined as a combination of depth (size and liquidity of markets), access (ability of individuals and companies to access financial services), and efficiency (ability of institutions to provide financial services at low cost and with sustainable revenues, and the level of activity of capital markets).

Each of the financial functions can influence saving and investment decisions and the efficiency with which funds are allocated. As a result, finance affects the accumulation of physical and human capital and total factor productivity – the three factors that determine economic growth. To the extent that financial development reduces informational asymmetries and financial constraints and promotes risk sharing, it can enhance the ability of financial systems to absorb shocks.



A total of nine indices are constructed, which assess at varying levels of abstraction how developed financial systems are across countries. Starting from the bottom of the pyramid in Figure, six lower level sub-indices are constructed using a list of indicators to measure how deep, accessible, and efficient financial institutions and financial markets are. These sub-indices are called FID, FIA, FIE, FMD, FMA, and FME, where the letters I and M denote institutions and markets, and the letters D, A, and E denote depth, access, and efficiency. These sub-indices are aggregated into two higher level sub-indices, FI and FM, which measure how developed financial institutions and financial markets are overall. Finally, FI and FM sub-indices are aggregated into the overall measure of financial development – the FD index.

Table 1. Data Sources

CATEGORY	INDICATOR	DATA SOURCE
Financial Institutions		
Depth	Private-sector credit to GDP	FinStats 2015
	Pension fund assets to GDP	FinStats 2015
	Mutual fund assets to GDP	FinStats 2015
	Insurance premiums, life and non-life to GDP	FinStats 2015
Access	Bank branches per 100,000 adults	FinStats 2015
	ATMs per 100,000 adults	IMF Financial Access Survey
Efficiency	Net interest margin	FinStats 2015
	Lending-deposits spread	FinStats 2015
	Non-interest income to total income	FinStats 2015
	Overhead costs to total assets	FinStats 2015
	Return on assets	FinStats 2015
	Return on equity	FinStats 2015
Financial Markets		
Depth	Stock market capitalization to GDP	FinStats 2015
	Stocks traded to GDP	FinStats 2015
	International debt securities of government to GDP	BIS debt securities database
	Total debt securities of financial corporations to GDP	Dealogic corporate debt database
	Total debt securities of nonfinancial corporations to GDP	Dealogic corporate debt database
Access	Percent of market capitalization outside of top 10 largest companies	FinStats 2015
	Total number of issuers of debt (domestic and external, nonfinancial and financial corporations)	FinStats 2015
Efficiency	Stock market turnover ratio (stocks traded to capitalization)	FinStats 2015

The above table list down the ways data is collected for aggregating each of the 9 indices we are dealing with to analyze financial development.

4. Importance of Financial Development for Economic Growth

Financial development affects economic growth through savings and investments and it also enhances the efficiency of the function of medium of exchange. Here are the five theories which tries to establish the link between the financial sector or financial development with savings and investment. And finally, once the savings and investment get affected the economic growth process gets affected.

4.1 Prior Savings Theory

Savings is a prerequisite or a determinant of investment, it also advocates control of inflation and it is not good for the economy and economy should always try to keep inflation under control. It suggests a policy of reasonably high positive real interest rates to encourage savings by public. Financial institutions promote development by offering the following transformation services or functions

- Liability Asset Transformation
- Size Transformation
- Risk Transformation
- Maturity Transformation

4.2 Credit Creation Theory

Even if savings are not enough to some extent, the investment can take place because the financial sector can create the credit. Financial system plays a positive and catalytic role by providing finance or credit through creation of credit in anticipation of savings, so investment become independent of savings in a given period of time. Once the credit is created and that goes to the market for investment and obviously, the production increases and if the production increases that leads to the more income of the economy at a large.

4.3 Theory of forced Savings

It says investment is not determined by savings and investment can be increased autonomously through monetary expansion(Autonomous). Policies should focus on more investment which increases productivity and that will raise profits and savings. So, the investment will go up, then the output will go up, if the output will go up then the income will go up, if income will go up then; obviously, the savings will go up.

4.4 Financial Regulation Theory

Financial markets are prone to market failure so certain form of government intervention is required for proper functioning of financial institutions. The lowering of interest rates through government intervention improves the average quality of the pool of loan applications and improves the efficiency with which capital is allocated. Direct credit programs can encourage the lending to sectors which are usually shunned by the market. Government intervention provides public goods and stable payment system. Financial liberalization theory is opposite in agenda to this theory which says market will adjust itself with competition for maximum efficiency.

5. Economic Growth

Economic growth is a sustained increase, over a significant period, in the quantity of material goods and services produced in an economy. Increases in capital goods, labor force, technology, and human capital can all contribute to economic growth. Economic growth is commonly measured in terms of the increase in aggregated market value of additional goods and services produced, using estimates such as GDP.

5.1 Measurement

Economic growth is measured by using data on GDP, which is a measure of the total income earned by the people of a country through their participation in the production process.

We use time series data to compare the per capita income of a country over a number of years. Similarly, we use cross- section data to make an international comparison of income and living standard at a particular point in time. Sometimes we use panel data, viz., cross-section data over time, to compare the income and living standards of a number of countries over time.

5.2 Importance

Economic growth can help various macroeconomic objectives -

- Reduction in poverty
- Reduced Unemployment
- Improved public services
- Reduced debt to GDP ratios

6. Literature Review

Economists have written about different opinions regarding the relationship between financial development and economic growth from different vantage points. Numerous studies have dealt with different aspects of this relationship at both the theoretical and empirical levels. At a basic level, several studies have attempted to establish whether financial deepening leads to improved growth performance, and have endeavored to analyze the strength of this relationship. Other studies have focused on identifying the channels of transmission from financial intermediation to growth. The original and early contributions to this literature all accord in suggesting that there is a strong positive correlation between the extent of financial development and economic growth. They emphasize on, however, different channels of transmission. While talking about industrialization and economic growth, Walter Bagehot (1873)[1] and John Hicks (1969)[2] have argued that financial investment has played a pivotal role in igniting industrialization in England by facilitating the mobilization of capital for "immense works". Other economists like Goldsmith (1969)[3] have focused on the relationship between financial development and the efficiency of investment, whereas McKinnon (1973)[4] and Shaw (1973)[5], influenced to a large extent by the success stories of South East Asia, emphasize the role played by financial liberalization in increasing savings and, hence, investment.

The possible directions of causality between financial development and growth are labelled by Patrick (1966)[6] as the supply-leading and demand-following hypothesis. The supply-leading hypothesis posits a causal relationship from financial development to economic growth, which means deliberate creation of financial institutions and markets increases the supply of financial services and thus leads to real economic growth. Numerous theoretical and empirical writings on this subject have shown that financial development is important and causes economic growth. King and Levine (1993a[7], b[8]), Neusser and Kugler (1998)[9] and

[1] BAGEHOT,WALTER. Lombard street. Homewood, IL: Richard D. Irwin, [1873] 1962 Edition.
[2] HICKS, JOHN. A Theory of Economic history. Oxford: Clarendon Press, 1969.
[3] Goldsmith, Raymond W., Financial Structure and Development (New Haven, CN: Yale University Press, 1969).
[4] McKinnon, Ronald I., Money and Capital in Economic Development (Washington, DC: Brookings Institution, 1973).
[5] Shaw, Edward S., Financial Deepening in Economic Development (New York: Oxford University Press, 1973).
[6] Patrick, H.T. 1966. Financial Development and Economic Growth in Underdeveloped Countries. Economic Development and Cultural Change 14, 174--89.
[7] King, R.G., Levine, R., 1993a. Finance and Growth: Schumpeter Might Be Right. Quarterly Journal of Economics 108, 717--38.

Levine et. al. (2000)[10] support the supply-leading phenomenon. On the other hand, the demand-following hypothesis postulates a causal relationship from economic growth to financial development. Here, an increasing demand for financial services might induce an expansion in the financial sector as the real economy grows (i.e. financial sector responds passively to economic growth). Gurley and Shaw (1967)[11], Goldsmith (1969)[12] and Jung (1986)[13] support this hypothesis. Apart from these two competing hypotheses, Patrick (1966) proposes the stage of development hypothesis. According to this hypothesis, supply-leading financial development can induce real capital formation in the early stages of economic development. Innovation and development of new financial services opens up new opportunities for investors and savers and, in so doing, inaugurates self-sustained economic growth. As financial and economic development proceed, the supply-leading characteristics of financial development diminish gradually and are eventually dominated by demand-following financial development.

In contrast, Joan Robinson (1952, p. 86)[14] declares that "where enterprise leads finance follows." According to this view, economic development creates demands for particular types of financial arrangements, and the financial system responds automatically to these demands. Moreover, some economists just do not believe that the finance-growth relationship is important. Robert Lucas (1988, p. 6)[15] asserts that economists "badly over-stress" the role of financial factors in economic growth, while development economists frequently express their scepticism about the role of the financial system by ignoring it (Anand Chandavarkar 1992)[16]. For example, a collection of essays by the "pioneers of development economics," including three Nobel Laureates, does not mention finance (Gerald Meir and Dudley Seers 1984)[17]. Furthermore, Nicholas Stern's (1989)[18] review of

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[8] King, R.G., Levine, R., 1993b. Finance, Entrepreneurship and Growth: Theory and Evidence. Journal of Monetary Economics 32, 513--42.

[9] Neusser, K., Kugler, M., 1998. Manufacturing Growth and Financial Development: Evidence from OECD Countries. Review of Economics and Statistics, forthcoming 1998.

[10] Levine, R., Loayza, N., Beck, T., 2000. Financial Intermediation and Growth: Causality and Causes," Journal of Monetary Economics 46, 31--77

[11] Gurley, J., Shaw, E., 1967. Financial Structure and Economic Development. Economic Development and Cultural Change 34, 333--46.

[12] Goldsmith, R.W., 1969. Financial Structure and Development. Yale University Press, New Haven CN.

[13] Jung, W.S., 1986. Financial Development and Economic Growth: International Evidence. Economic Development and Cultural Change 34, 336--46.

[14] ROBINSON,JOAN. "The Generalization of the General Theory," in The rate of interest, and other essays. London: Macmillan, 1952, pp. 67- 142.

[15] LUCAS, ROBERT E., JR. "On the Mechanics of Economic Development," J. Monet. Econ., July 1988, 22(1), pp. 3-42.

[16] CHANDAVARKAR,NAND. "Of Finance and Development: Neglected and Unsettled Questions," World Devel., Jan. 1992,20(1), p 133-42

[17] MEIER, GERALD M. AND SEERS, DUDLEY. Pioneers in development. New York: Oxford U. Press, 1984.

[18] STERN, NICHOLAS. "The Economics of Development: A Survey," Econ. J., Sept. 1989, 99(397), pp. 597-685.

development economics does not discuss the financial system, even in a section that lists omitted topics.

Research on the relationship between financial development and growth has received a new source of inspiration from the rapidly expanding “endogenous growth” literature. By focusing on cases where the marginal product of capital always remains positive, this literature provides a natural framework in which financial markets affect long run, and not just transitional, growth. Models in this spirit by Bencivenga and Smith (1991)[19], and Greenwood and Jovanovic (1990)[20] for instance, emphasize how the creation and growth of financial institutions lead to a positive relationship between financial intermediation and economic growth. Most of these studies tend to emphasize the role of financial intermediation in improving the efficiency of investment, rather than its volume. That is, financial intermediaries play a central role in allocating capital to its best possible use.

[19] Bencivenga, Valerie and Bruce D. Smith, “Financial Intermediation and endogenous growth,” The Review of Economic Studies, Vol. 58, No. 2 (April 1991). pp. 195-209.

[20] Greenwood, Jeremy and Boyan Jovanovic, ‘Financial development, growth, and the distribution of income,” Journal of Political Economy, Vol. 98, No. 5 (October 1990), pp. 1076-1108.

7. Determinants of Financial Development: An Empirical Study

7.1 Introduction

Among the profound evolutions in development economics in recent decades has been the renewed interest in, and growing contributions on, the role of financial systems in economic development. While it is clear that a positive effect exists between financial depth and economic growth, the questions of what determines financial development and how to develop financial markets remain imperfectly understood.

As in section 2 we have discussed the possible determinants of financial development, in this section we have constituted data which can account for the plausible factors, for 173 countries ranging across the spectrum of per capita income band and for the year 2017. The **research area** also focuses around the different determinants of financial development for developed nations and developing nations.

7.2 Literature Review

Anthony and Frank (2013) studied the commercial bank's credit rationing behavior in Ghana. The log it model was used and odd ratios were calculated. The results suggested that even though interest rates might be liberalized to ensure the proper credit allocation, the commercial banks would still ration out credit due to moral hazards & adverse selection. It was therefore suggested, that government and central bank should play their active role in the financial sector and forced the commercial banks to improve their credit systems to reduce default rate rather than using the traditional methods.

Rubaszek and Serwa (2012) formulated a life cycle model for credit to household sector and linked it with individual income uncertainty. The dynamic life-cycle general equilibrium model is used for 36 countries from period 1990-2005. The results showed that decrease in deposit and savings from individuals and rising spread rate persistently reduced the level of credit to household sector.

Djankov et. al (2005) tried to estimate the determinants of private credit by using date set on legal creditor's rights and registration of private and public credit in 129 countries. The study found that both creditors' protection through the legal system and information sharing institutions were associated with higher ratios of private credit to GDP, but that the former was relatively more important in the richer countries. An analysis of legal reforms also showed that credit to private sector arose after improvements in creditor's rights and in information sharing.

Rotherford (2000) quantified the socioeconomic characteristics of financial sector in 38 Sub Saharan African countries. The study found that the range of financial products was limited and became a big hurdler in banking sector growth. The study calculated different money multiplier and then linked them with banking sector growth.

Kosmidou et al (2002) studied the interrelationship between bank performance, financial structure and macroeconomic indicators. The study used unbalanced panel data on 32 commercial banks and stock market during the period 1995-2002 in U.K. The study found that the banks had to compete with NFBIs and stock market in rapidly challenging environment. The proxies of bank performance as Return of Average Asset, Return of Equity and Net Interest Margin, Capital, Cost to income ratio suggested that only cost efficient and well-equipped banks could grow faster. Further, the rising GDP growth rate and low inflation positive affected the bank performance.

Yassin (2012) analyzed financial health of 25 insurance companies in Jordan from 2002 -2007. The study used leverage, liquidity, age, size and management competitive index to measure their performance. The time series analysis depicted that managerial skills, investment opportunities and normal profits made them competitive markets. Moreover, the presence of insurance companies not only improved the role of financial sector but also enhance economic growth and well being through proper allocation of financial resources.

Maleya (2013) studied the financial health of listed companies during the 2006-2012 in Kenya. Most of the firms took financial facility from banks in short run to fulfill their current and operational expenses. The study found that the size, age, return on assets, liquidity had positive effect on firm's performance. However, the increasing leverage, debt and operating cost level led to firm towards bankruptcy and diseconomies of scales. In this situation, the firms focused on stock market for financial assistance that would be made them cost effective, competitive and stable in long run.

7.3 Data and Methodology

Dependent Variable – Measure of Financial Development	
Financial Development Index	It summarizes how developed financial institutions and financial markets are in terms of their depth (size and liquidity), access (ability of individuals and companies to access financial services), and efficiency (to provide financial services at low cost and with sustainable revenues).
Independent Variables – Potential Determinants	
Financial Liberalization	
Commercial bank branches (per 100,000 adults)	Commercial bank branches are retail locations of resident commercial banks and other resident banks that function as commercial banks that provide financial services to customers and are physically separated from the main office but not organized as legally separated subsidiaries.
Foreign direct investment, net (% of GDP)	It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments.
Ease of doing business score (0 to 100)	It represents the best performance observed on each Doing Business topic across all economies. It is indicated on a scale from 0 to 100, where 0 represents the lowest performance and 100 the best.
Trade Openness	
Trade (% of GDP)	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.
Institutions and Political Economy	
Government Effectiveness (-2.5 to 2.5)	It captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
Regulatory Quality (-2.5 to 2.5)	Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
Rule of Law (-2.5 to 2.5)	Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
Political Stability and Absence of Violence(-2.5 to 2.5)	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.
Macroeconomic factors	
GDP per capita, PPP (constant 2017 international $)	GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates.
Inflation, GDP deflator (annual %)	Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole.
Gross savings (% of GDP)	Gross savings are calculated as gross national income less total consumption, plus net transfers.

To assess the relationship between determinants and financial development, the following model is estimated using OLS method–

$$Y_i = \beta_0+\beta_1 x_{i1}+\beta_2 x_{i2}+\ldots+\beta_p x_{ip}+\epsilon$$

where, for $i=n$ **observations:**
y_i = dependent variable
x_i = explanatory variables
β_0 = y-intercept (constant term)
β_p = slope coefficients for each explanatory variable
ϵ = the model's error term (also known as the residuals)

7.3 Results

After successfully running regression using R-Studio, we could gather following results -

```
Coefficients:
                          Estimate Std. Error t value Pr(>|t|)    
(Intercept)              1.705e-01  7.717e-02   2.209 0.028599 *  
GDPperCapita             3.855e-06  6.994e-07   5.513 1.38e-07 ***
Inflation               -2.022e-03  1.415e-03  -1.430 0.154775    
Trade                   -6.282e-04  1.734e-04  -3.624 0.000389 ***
BankBranches             3.059e-03  6.801e-04   4.499 1.30e-05 ***
NetFDIFlow               4.274e-05  5.742e-04   0.074 0.940756    
Savings                  1.489e-04  8.095e-04   0.184 0.854315    
GovernmentEffectiveness  8.408e-02  2.912e-02   2.888 0.004413 ** 
PoliticalStability      -6.644e-02  1.333e-02  -4.985 1.59e-06 ***
RegulatoryQuality        2.340e-02  2.814e-02   0.831 0.406940    
EaseOfDoingBusiness      1.518e-03  1.222e-03   1.243 0.215838    
RuleOfLaw                3.322e-02  2.623e-02   1.267 0.207081    
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Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.09679 on 161 degrees of freedom
Multiple R-squared:  0.8127,	Adjusted R-squared:  0.7999 
F-statistic: 63.52 on 11 and 161 DF,  p-value: < 2.2e-16
```

All Countries – Regression Summary

```
Coefficients:
                         Estimate Std. Error t value Pr(>|t|)
(Intercept)             2.720e-01  1.369e-01   1.987  0.05029 .
GDPperCapita            2.875e-06  1.097e-06   2.621  0.01046 *
Inflation              -4.343e-03  3.470e-03  -1.251  0.21437
Trade                  -9.438e-04  2.674e-04  -3.529  0.00069 ***
BankBranches            3.280e-03  1.106e-03   2.966  0.00397 **
NetFDIFlow              3.730e-04  7.228e-04   0.516  0.60721
Savings                 1.895e-03  1.693e-03   1.120  0.26609
GovernmentEffectiveness 1.771e-01  5.582e-02   3.173  0.00214 **
PoliticalStability     -1.058e-01  2.455e-02  -4.308  4.6e-05 ***
RegulatoryQuality      -2.118e-02  5.086e-02  -0.417  0.67813
EaseOfDoingBusiness     1.846e-04  2.104e-03   0.088  0.93031
RuleOfLaw               4.209e-02  5.735e-02   0.734  0.46506
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1131 on 81 degrees of freedom
Multiple R-squared:  0.7544,    Adjusted R-squared:  0.721
F-statistic: 22.61 on 11 and 81 DF,  p-value: < 2.2e-16
```

Developed Countries – Regression Summary

```
Coefficients:
                         Estimate Std. Error t value Pr(>|t|)
(Intercept)             9.006e-02  7.164e-02   1.257 0.213048
GDPperCapita            1.206e-05  2.539e-06   4.750 1.09e-05 ***
Inflation              -6.438e-04  9.297e-04  -0.692 0.491002
Trade                   7.480e-06  1.558e-04   0.048 0.961862
BankBranches            2.401e-03  6.462e-04   3.716 0.000411 ***
NetFDIFlow              1.906e-04  1.037e-03   0.184 0.854697
Savings                 3.956e-05  5.408e-04   0.073 0.941894
GovernmentEffectiveness 5.984e-03  2.133e-02   0.281 0.779883
PoliticalStability     -4.243e-02  1.010e-02  -4.202 7.88e-05 ***
RegulatoryQuality       5.548e-02  2.800e-02   1.982 0.051548 .
EaseOfDoingBusiness     8.009e-04  1.132e-03   0.708 0.481597
RuleOfLaw               2.177e-02  1.811e-02   1.203 0.233329
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05121 on 68 degrees of freedom
Multiple R-squared:  0.7185,    Adjusted R-squared:  0.6729
F-statistic: 15.78 on 11 and 68 DF,  p-value: 9.636e-15
```

Developing Countries – Regression Summary

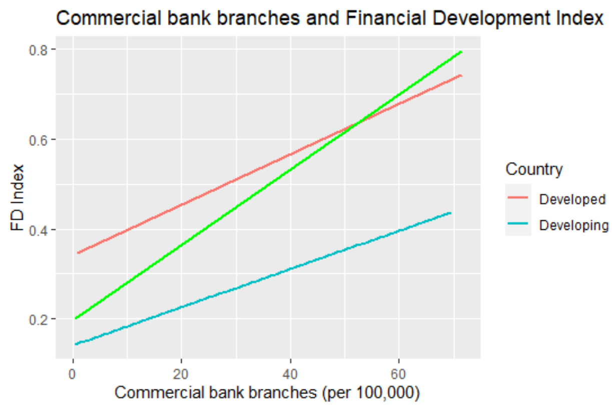
- Significant Determinants are –

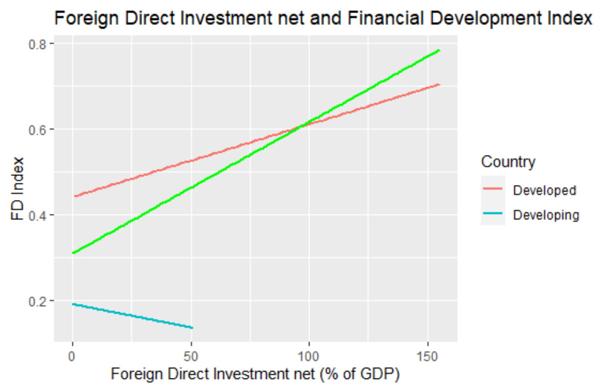
Potential Determinants	**All Countries**	**Developed**	**Developing**
Financial Liberalization			
Commercial bank branches (per 100,000)	Significant	Significant	Significant
Foreign direct investment,	Not Significant	Not Significant	Not Significant

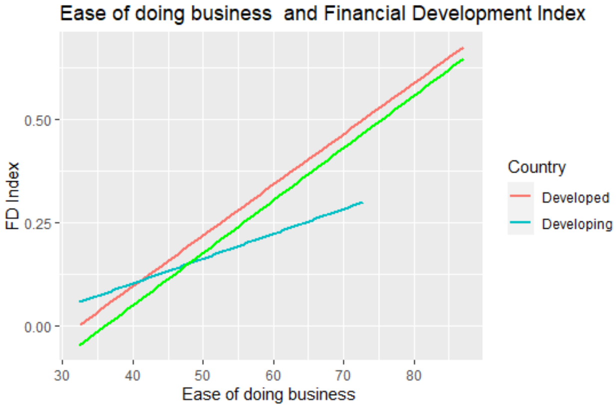
net (% of GDP)			
Ease of doing business score (0 to 100)	Not Significant	Not Significant	Not Significant
Trade Openness			
Trade (% of GDP)	Significant	Significant	Not Significant
Institutions and Political Economy			
Government Effectiveness (-2.5 to 2.5)	Significant	Significant	Not Significant
Regulatory Quality (-2.5 to 2.5)	Not Significant	Not Significant	Significant
Rule of Law (-2.5 to 2.5)	Not Significant	Not Significant	Significant
Political Stability (-2.5 to 2.5)	Significant	Significant	Significant
Macroeconomic factors			
GDP per capita, PPP (constant 2017 $)	Significant	Significant	Significant
Inflation, GDP deflator (annual %)	Not Significant	Not Significant	Not Significant
Gross savings (% of GDP)	Not Significant	Not Significant	Not Significant

- Financial Development vs Potential Determinants (Green ---- line signifies All countries)

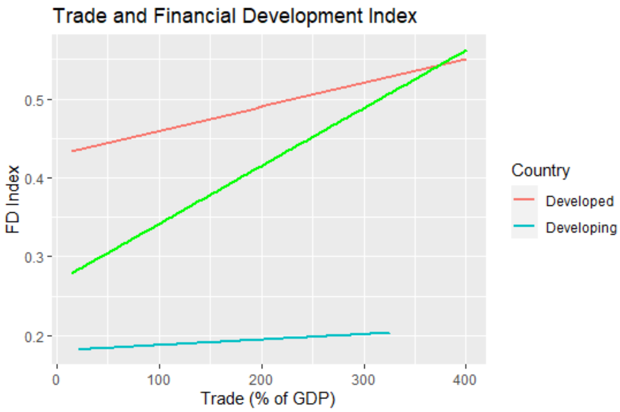
Financial Liberalization



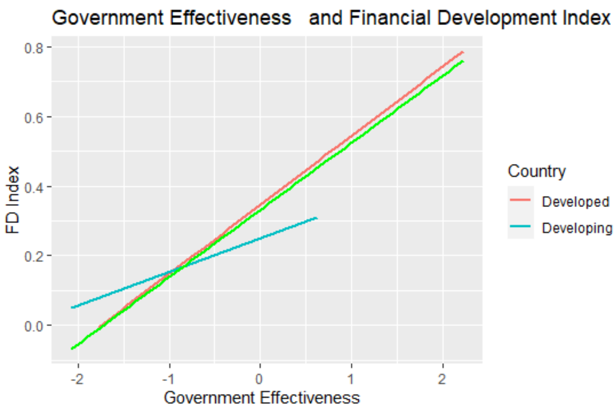


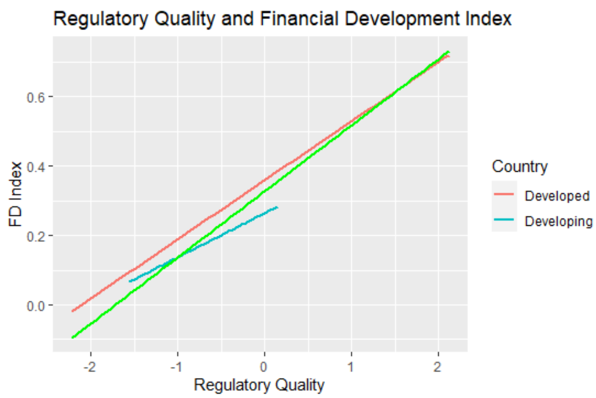


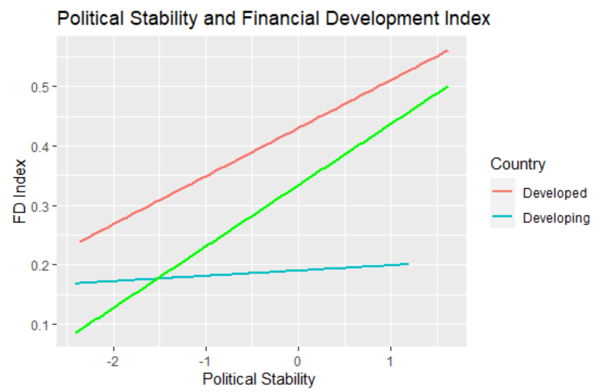
Trade Openness



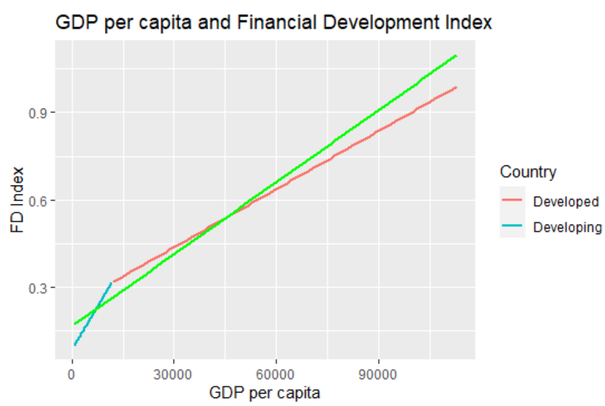
Institutions and Political Economy

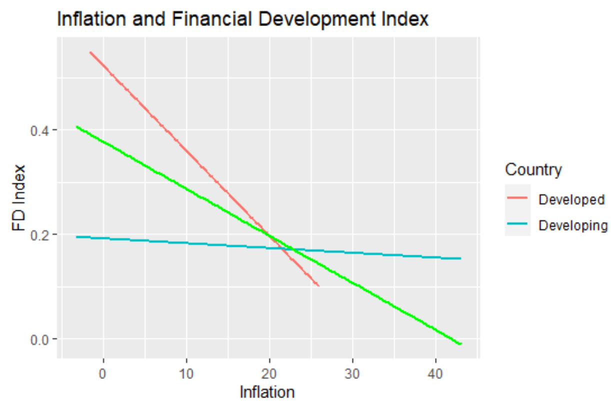


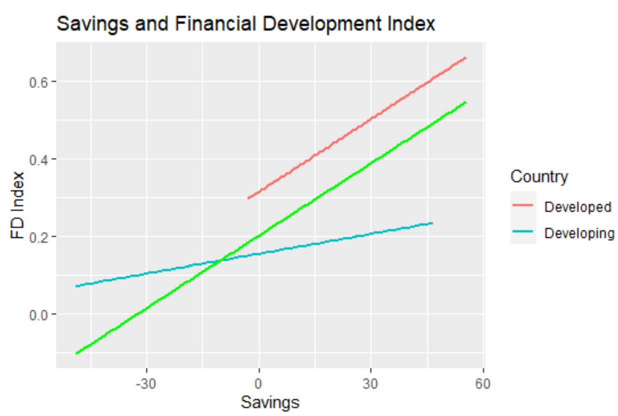




Macroeconomic factors







7.4 Interpretation

Potential Determinants	**Developed**	**Developing**
Trade (% of GDP)	Significant	Not Significant
Regulatory Quality (-2.5 to 2.5)	Not Significant	Significant
Rule of Law (-2.5 to 2.5)	Not Significant	Significant

From the table extracted from above results, we can clearly see that Trade openness significantly impact the level of financial development in a positive manner, and the exports and imports of goods and services is much more important to developed nations. The reason for this could be trade between a wealthy and a poor country causes the financially dependent sectors and the financial system in the wealthy country to grow. In contrast, trade causes the financially intensive sectors in the poor country to decline and demand for external finance fall, so that the domestic financial system declines. Moreover, specialization and economies of scale lower-costs and helps in more accessible export and import financing which may assist entrepreneurs to initiate profitable projects.

For developing nations regulatory quality and rule of law in the country plays significant part to grow positively for financial development. This describes that implementation of sound policies and regulations that permit and promote private sector development should be encouraged along with the confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence are to looked upon. This particularly suggests that sentiment in the developing country of a safe environment in the financial institutions and financial markets are much for significant for financial development.

8. Conclusion

Financial sector development is important as it makes available funds for the development of the country by efficient allocation of financial resources. In this paper we our objective was to analyze the measurement of Financial Development in both the domains of institutions and markets across access, depth and efficiency. Through our empirical study of 173 countries for the year 2017 by using the plausible indicators of potentials determinants such as legal traditions, quality of institutions, financial openness, political environment and other macroeconomic variables we found out that GDP per capita PPP, commercial bank branches per 100000 adults, political stability, govt effectiveness and trade openness significantly affect Financial Development of a nations positively.

Also, after a contrasting study we found out that Trade openness significantly impact the level of financial development in a positive manner, and the exports and imports of goods and services is much more important to developed nations than developing nations because wealthy nations have more trade dependent financial sectors. For developing nations regulatory quality and rule of law in the country plays significant part to grow positively for financial development so as to cultivate a safer environment promising for cultivating financial needs of nation.

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