



Impact of Stock Market and Bank Development on the Firm's Growth: Evidence from Pakistan

Qasim Khan*

Beijing Technology and Business University,
Beijing, China

MAO Xinshu

Beijing Technology and Business University,
Beijing, China

Muhammad Imtiaz Haider

Capital University of Science and Technology,
Islamabad, Pakistan

Afaq Haider Jaffari

Beijing University of Technology,
Beijing, China

Abstract: Aim: Despite years of empirical research, the nexus between banks development and the stock market with economic growth is still controversial. This study examined the impact of the stock market and banks development on the firm's growth in Pakistan. The sector of non-financial firms chosen for analysis and financial firms ignored because of different structure. The sample of 45 firms listed on the Pakistan Stock Exchange (PSX) from the period of 2014-2019 used for the analysis. The sample has been selected based on the firm's market capitalisation and random effect model to estimate both institution development and firm growth. We controlled the firm's profitability, interest, and inflation. The results are robust to the Estimated Generalised Least Squares (EGLS) method. Results showed that significant positive relation exists between stock market development and firm growth, while a negative association exists between banks development and firm growth. Furthermore, control variables (profitability, interest, and inflation) have a significant negative impact on firm growth. The findings contribution in literature with perspective to Pakistan because prior studies done related to developed countries. Policymakers may use this study for making policy related to firms and economic growth.

Keywords: Firm's growth, stocks market development, banks development, PSX, random effect model

Received: 11 November 2020; **Accepted:** 26 February 2021; **Published:** 30 April 2021

INTRODUCTION

Many underline models have reported that the well-functioning of intermediaries reduces information and transaction cost, which increase the efficient allocation of resources to firms that ultimately increases the growth of firms (Beck, Demirgüç-Kunt, & Maksimovic, 2005). A large number of empirical studies, such as (Bist, 2017; Bist & Bista, 2018; Bonhoure & Le Bris, 2019; Fowowe, 2017; Greenwood & Jovanovic, 1990; King & Levine, 1993b; Layyinaturrobaniyah, Masyita, & Sekartadjie, 2016; Levine, Loayza, & Beck, 2000; Levine & Zervos, 1998a; McCaig & Stengos, 2005; Ruiz, 2018; Yang, 2019) presented a positive association between stock market growth and economic growth. Most of the theories explain how these are banks and markets instead of one bank or market, which ameliorates the information and transaction cost for the firms. Rousseau and Wachtel (2000) show that both stock and bank development explain the subsequent growth.

*Correspondence concerning this article should be addressed to Qasim Khan, Beijing Technology and Business University, Beijing, China.
E-mail: qasi.raza@gmail.com

The financial system is important for the economy in many ways and greatly impacts its growth because it supports investment and development opportunities. Economies follow one of the financial systems, either it is bank-based or equity-based. It depends on country development; a bank-based system is best for developing countries because the financial structure is not well developed. The banking system supports low investment opportunities and microfinancing, which gradually improves the country's development process. Developed economies are mostly equity-based because the financial system is well organised and efficient, supporting financing activities. Pakistan is a bank-based economy, and the current government introducing many financial policies to make it sounder and less risky for the investor. The financial system is broadly divided among financial intermediaries (banks, insurance companies, and pension funds) and the markets (bond and stock market). In this broader division, banks and stocks markets are the most important institution to stimulate growth in the economy. Through these financial intermediaries and markets, many economic savings are intermediated and allocated to productive investments. Financial development can affect economic growth via two channels: capital accumulation and total factor productivity (Ang, 2008; Chung, Sun, & Vo, 2019).

The finance literature generally treats equity and debt financing as two different sources for the firms and suggests that the stock market serves an important function in those countries where the banking system is well efficient and organised. Stocks market provides information to creditors and investor; it provides the entrepreneurs with liquidity and opportunities. There is a contradiction in the association between institution development and economic development. Some research stated they are positively correlated, i.e., (Ang & Fredriksson, 2018; Bojanic, 2012), whereas some studies confirmed its negative association with the argument that it hampered the economic growth due to financial liberalisation in the absence of sound economic and financial policy and weak institutional settings (Ahmed, 2016; Durusu-Ciftci, Soytaş, & Nazlioglu, 2020).

Studies found a strong association between the accessibility of finance and the profits or sales growth of the firms. Bui (2020); Ruiz (2018) stated that the least cost and ease of financing helps organisations to grow more than those firms where financing constraints and hurdles are more. This increased uncertainty and liquidity issues in firms. Firms need funds to support long-term investment opportunities to sustain in a competitive market. If a company is growing at a certain level in a competitive market, it indicates the strength and stability of that firm in the longer term, for capital firm required the fund that is up to the firm how it composed the firm's capital structure either from debt or equity. Every company decides the portions of debt and equity according to the business's size and nature, but most businesses try to lessen the debt portion to minimise the risk and bankruptcy problem. Normally, it depends upon the company how it makes the best combination, but the firm does not decide it. Many factors limited the ability of the firm on borrowing capacity. Anton and Nucu (2020); Iqbal and Usman (2018) found a positive association between leverage and liquidity, investment, and growth activities.

Firms are the main determinant of the economy, and their growth has a large contribution and effect on economic development; the firm's growth will boost the economy. In short, firms accelerate the economy of any country. Both non-financial and financial sector firms are the important determinant of economic growth because they produce goods and earned revenue with exports, contribute to tax earnings to finance public expenditure and create job opportunities and GDP. Firms grow when they take long term and high return projects. For long term projects, firms need finance. Sometimes firms are financially good and can finance the projects with internal resources, but mostly it is not easy, and not all firms can manage in this way. So, to avail long term investment opportunities, firms need external finance. Banks and the stock market are big institutions for firms from where they can finance the projects. At the initial stage, firms raise finance from the banks and when they do not get loans from the banks, they can raise finance by IPO's or issuing shares in the stock market.

This study aims to identify the micro and macro-economic channels through which the development of banks and stock markets drive firm growth. This study has used the measure developed by (Levine, 1997) for financial development. Some firm specific characteristics and macroeconomic factors also influence the firm's growth other than these variables like size, profitability, age, interest, and inflation. This study will also check the impact of the development of these institutions on firm growth by controlling those firm's specific characteristics. The analysis relies on the panel data of the firms of the non-financial sector of PSE. Our estimation is only based upon the non-financial sector, and we have excluded the financial sector due to the different structure and regulatory framework. We choose the fifteen firms from each sector of cement, food and chemicals that cover the time span of 2014-2019.

Research Objectives

Following are the objectives of the study:

To examine the relationship of the stock market and bank development with a firm's growth

To examine the impact of stock markets and banks' development on a firm's growth separately; and which one more stimulates the firm's growth than the other.

Originality

Literature has examined the effect of financial development on economic growth from the perspective of the overall economy. The economy combines many determinants and sectors; its growth depends on and associated with sectors development. In this study, we found sectoral impacts of financial development rather than the overall economy. Firms are the important determinant of the economy and contribute to its growth in many ways, like creating job opportunities, reducing unemployment, and increasing govt. Tax revenue to finance public and development projects, produce goods and increase exports etc. The consideration of a firm's growth is very important for economic growth. This study will check financial system development impact from the perspective of firms. It analysed the institutional development only on one determinant, not on the overall economy. So, this study will be helpful for policymakers to design policies for the most important determinant of the economy, which contributes to a major portion of GDP. It is also helpful for the government to design specific policies in the financial system and institutions developed to provide a sound, safe, well-efficient, risk-free and organised financial system. That system will ultimately make ease of financing for the firms and attracts FDI. It helps to boost monetary activities that gradually increase economic development and growth. This study is on Pakistan and can generalise it for policy development of developing countries. This study has analysed the development impact of both institutions on one sector rather than the whole economy. Does the development of these institutions have a significant relationship with the firm's growth in PSX Pakistan? Does the development of these institutions are significant and in the same direction with the firm's growth of Pakistan, such as in other developed economies like the USA, UK, Japan, and Australia?

LITERATURE REVIEW

A question raised on the importance and role of financial system development for economic growth (Levine, 1997; Lucas, 1988; Robinson, 1952). Particularly, Hassan, Sanchez, and Yu (2011) determines the role of financial markets and institutions in capital flow for individuals, business and the government. Adu, Marbuah, and Mensah (2013) focused that financial bankruptcy and distress are because of weak and depressing kind of financial system. Kose, Prasad, Rogoff, and Wei (2010) Determined that most economic development leaders focused on many others indicators and ignored the financial system as an economic growth indicator; this ignorance financial system is still weak and caused many financial crises like the Dot.com & mortgage crisis. The bank-based theory supports the belief that banks have a positive role in economic development because it helps mobilise resources and minimises the risk (Anwar & Cooray, 2012). The market-based theory discussed the financial market performances and their role to boost economic development and performance.

An abundance of the literature is present on the association between finance and economic growth (e.g., (King & Levine, 1993a; Levine, 1999, 2005)). First, a large number of literature presented by (e.g., (Boot & Thakor, 1997; Coccorese & Shaffer, 2021; Diamond, 1984; Silva, Tabak, & Laiz, 2021; Stulz, 2000; Yanik, Binte Osman, & Ozturk, 2020) on banks role and allocation of capital for economic development; very few studies conducted with the perspective of stock market uniqueness and role in the allocation of funds and boosting market performance (e.g., (Allen, Gale, et al., 2000; Arestis, Demetriades, & Luintel, 2001; Sulong, Saleem, & Ahmed, 2018)). In addition, the empirical shreds of evidence are limited for equity market development for market performances. Zingales (2015), found a very small number of studies in which equity markets spur economic growth.

There are two main sources of finance for firms (debt financing and equity financing), and both have unequal impacts (see, e.g., (Beck & Levine, 2004; Cournède & Denk, 2015; Demirguc-Kunt, Detragiache, & Merrouche, 2013; Langfield & Pagano, 2016)). At the same time, the nature and the use of financing matter (Chu & Cozzi, 2014) develop a financial model in which liquidity constraint matters for the optimality and performance of macro-economic policies. The impact of leverage on firms growth is still undetermined and ambiguous; some studies found negative relation (see (Ilyukhin, 2015; Iqbal & Usman, 2018)), and other support either positive or no significant relationship (see (Hamouri, Al-Rdaydeh, & Ghazalat, 2018)). Hamouri et al. (2018); Jeleel and Olayiwola (2017) conducted a series of studies

on the relationship between financial leverage and financial performance in Nigeria. The source of information for investors is that the analyst and market are profitable when its size increased; it observed that most of the investors found information and invest at that time.

Capital structure and growth are important for firms because they sustain themselves in the market, and firms need to invest in new opportunities. Firms need capital to support the innovative and new trend in the market. If a company is growing at a certain level in a competitive market, it indicates the strength and stability of that firm in the longer term. Every company decides the portions of debt and equity according to the business's size and nature; utmost of businesses prefer a low debt portion to minimise the risk and bankruptcy issues (Al-Slehat, 2020). Normally, it depends upon the company how it makes the best combination, but the firm does not decide it. Many factors limited the ability of the firm on borrowing capacity. Many factors step the borrowing capacity of firms like capital structure, debt capacity of the firm, future growth perspectives, internal sources of finance, etc. But normally, when firms increase their debt level, it positively impacts firms' growth because high leverage supports new investment opportunities, which ultimately generates revenue for the firm (Oliveira & Kayo, 2020).

Several studies have been conducted to find the relationship between firms leverage and growth. A study was conducted by Hamid, Hussain, and Ghafoor (2020) in which he took the high leveraged and l-leveraged firms and found the negative effect is high in the high-leverage firms and that leverage changes the decision about future investments in those firms. A negative relation is among the debt and growth opportunities of the firm (Bui, 2020) and stated that long term and short-term debt has different impacts on the firm's growth. Short term debt has a negative impact on the growth of firms, and it increases the liquidity risk that negatively affects the leverage. In 2000 a study conducted by Mohammad Nishat on the industry of Pakistan, in which he found highly leveraged industries had a stronger negative relation among returns and volatility change. Financial distress impacts the firms, and it can lead the firms to bankruptcy; many companies bankrupt during 1996-2006 in Pakistan due to financial distress.

The growth and survival of any firm depend upon how much that firm learns from the environment and links the changes of that environment with the strategies. This topic is more important because it has practical consequences for policy makers' decision (Wagner, 1993). Firms are the main determinant of the economy and can increase the employment level and economic activity. Demirguc-Kunt et al. (2013) have conducted a study in which they take the firms of different countries and found that firms with financial constraints have a slow growth output and are less productive. They also found in the study that it may be due to those financial intermediaries which provide the finance optimally to those firms which have a more growth and less to those whose growth prospects are less.

But this study will empirically investigate the impact of the stock market and bank development on the firm's growth because banks and the stock market are the two different sources of financing for firms. When firms do not get loans from the banks, they can issue the shares and get funding. Some researchers argue that stocks development stresses the performance of banks. But others also contradict this view by stating that these are two different institutions that do not substitute. Stocks and banks jointly enter the markets and employ their effects on the firm's growth. The findings are also consistent with the models that stated well-functioning intermediaries ameliorate the transaction and information cost. Many papers show that stocks and banks spur the growth of firms independently, but these results contradict some econometric models and specification.

DATA AND ECONOMETRIC METHODOLOGY

Data

The data type is panel because to check the firm's growth, and we selected 45 firms that covered the time from 2014-2019. The firm's data collected from annual financial statements and the balance sheet analysis of firms published by the State bank of Pakistan. The capitalisation of the firms is collected from the business recorder. The data of control variables, inflation, and interest rates are collected from the World Bank's Database (WDI).

Sample

The sector has been chosen based on capitalisation and numbers of companies, and the following sectors were on the top, including commercial banks, oil & gas, food producers, chemicals, construction, and textile. Among them, commercial banks were excluded because our study consists of the non-financial sector firms and the structure of financial companies is different from the non-financial companies, and oil & gas was not selected due to government firm's involvement. For study analysis, food producers, chemicals, and construction sectors were selected, and textile

was not selected because Pakistan has already done in this sector. The second major reason for selecting these three sectors is that in Pakistan previously, much work is not done on them. After selecting sectors, the firms are observed over six years from the 2014 to 2019 based on data availability. From every sector, 15 firms selected with the highest capitalisation. So, the final sample of the study is 45 firms that are listed on PSX.

Variables

The dependent variable is the firm’s growth that we will measure with the Total Asset (TA) growth of the firms, and the independent variables are the stock market development for which we use the ratio of Market Capitalisation to Total Assets (MKTCAPTA). The second variable is banks development, for which we use the measure of credit Provided to Private Sectors to Total Assets (CREDITTA). Some of the control variables are also used in the study, which includes Profitability (ROA), Interest (INT) and Inflation (INF).

Measurement of Variables

Firms growth: The study will measure the firm’s growth by the total assets. To measure the firm’s growth, we will take the natural log of total assets. [Degryse, de Goeij, and Kappert \(2012\)](#) Used this measure as the firm’s growth in different studies.

Stock market development: Different indicators used to measure stock market development, i.e., capitalisation to GDP, the value of share traded to GDP and value shares traded to capitalisation. Different measure indicators serve a specific purpose; for this study, I will use the capitalisation to GDP ratio because it compares the market to capitalisation. It determines how the market is growing relative to the economy. Many researchers used this indicator to measure their studies, i.e., ([King & Levine, 1993a](#); [Levine & Renelt, 1992](#); [Levine & Zervos, 1998b](#); [Pagano, 1993](#); [Rousseau & Wachtel, 2000](#)).

Banks development: For bank development measures are used liquid liabilities to GDP, domestic credit to the private sector to GDP, deposit bank domestic asset to GDP. But this study used credit to the private sector to GDP, and many researchers used this measure for bank development, i.e., ([Demirguc-Kunt et al., 2013](#); [King & Levine, 1993a](#); [Levine & Renelt, 1992](#)).

Analysis technique: To meet the objective of the present study, multiple least square regressions on panel data of the companies have been used to determine the regression coefficient and other statistical results. Firstly, fixed effect and Random effect are applied after that ([Hausman, 1978](#)) specification test has been conducted to determine whether FEM is appropriate or REM.

The regression model under study as follows:

Firms Growth = F (Stock Market Development, Banks Development, Profitability, Interest, and Inflation).

$$G_{i,t} = \alpha_0 + \beta_1 S_{i,t} + \beta_2 B_{i,t} + \beta_3 P_{i,t} + \beta_4 INT_t + \beta_5 INF_t + w_{i,t} \dots \dots \dots (a)$$

$$Y [\ln(TA)_{i,t}] = \alpha_1 + \beta_1 (Mkt\ Cap / TA)_{i,t} + \beta_2 (Credit\ to\ Pvt.sector / TA)_{i,t} + \beta_3 (ROA)_{i,t} + \beta_4 INT_t + \beta_5 INF_t + w_{i,t} \tag{1}$$

Where:

$$W_{i,t} = \varepsilon_i + \mu_{i,t} \tag{2}$$

Here above, $W_{i,t}$ shows the combined error term, which consists of ε_i which represent the individual or specific error of each company, while $\mu_{i,t}$ represents the combined effects of the cross-section with time series. It is also sometimes called an idiosyncratic term because it changed with either cross-section unit or time. The assumptions underlying the Error Components Model (ECM) are:

$$\varepsilon_i \sim N(0, \sigma^2_\varepsilon)$$

$$\mu_{i,t} \sim (0, \sigma^2_\mu) \tag{3}$$

$$E(\varepsilon_i \mu_{i,t}) = 0; \quad E(\varepsilon_i \varepsilon_j) = 0; \quad (i \neq j)$$

$$E(\mu_{it} \mu_{is}) = E(\mu_{ij} \mu_{ij}) = E(\mu_{it} \mu_{js}) = 0 \quad (i \neq j); (t \neq s)$$

RESULTS

Below Table 1 represents the descriptive statistics of current study variables. It shows the mean, median, maximum, minimum, and standard deviation of the variables.

Table 1 *DESCRIPTIVE STATISTIC*

Statistics	LNTA	MKTCAPTA	CREDITTA	ROA	INT	INF
Mean	8.979	0.997	0.297	22.012	13.575	12.853
Median	9.025	0.425	0.260	15.360	13.780	12.785
Maximum	12.240	24.620	5.770	246.040	14.540	20.290
Minimum	6.210	0.020	0.000	-32.700	11.990	7.690
Stand. Devi.	1.277	2.088	0.390	31.068	0.894	3.977
Sum	2424.310	269.160	80.130	5943.180	3665.250	3470.400
Sum Sq. Dev.	438.359	1173.324	40.940	259636.0	215.098	4253.874
Observations	270	270	270	270	270	270

The mean value of LNTA is (8.9789). The dependent variable maximum value is (12.24) and the minimum value (6.21) that represent a range of (6.03) with a standard deviation of (1.2765). We can calculate the range by taking the difference of maximum and minimum value in the data.

There are two main regressors; one is stock market development and the other bank development. So, the mean value of market capitalisation to the total asset is (0.9968) with the minimum value (0.020) and maximum value of (24.62). The mean value represents that the firms of Pakistan mostly finance through stocks, and the development of stock markets is more important for a firm's growth. The range value is (24.6) that represent the high volatility in the market capitalisation to total assets. The large difference among variables represents high volatility, but the range is not a good predictor of volatility. We will consider the values of standard deviation. The standard deviation of this variable is (2.0884), and if we convert it into a percentage, then it more than 200% that represent the volatility of firms in the market capitalisation to total assets. Based on the standard deviation and range value, this is so high.

The second main regressor bank development mean value is (0.2967) with a minimum value (0.0000) and maximum value (5.77). The range value is also (5.77), and the standard deviation is (0.3901). Based on these values found less volatility in credit provided to the private sector to total assets. If we compare these values with the stock market values, we observed high volatility in the stock market compared to the banks in providing loans to the firms. The reason for high volatility is that the stock market sharply reacts to any news of the firms compared to the other institutions like banks. Shares prices are more volatile and react to the news.

Coming toward the control variables (ROA) is the control variable and represent the firm's profitability. The mean is (22.0117), minimum (-32.70) and maximum (246.04). If we look for range value, there is high volatility among the firms in profitability and it is true because some organisations perform better than others and earned good profits even in the same year. The interest is the second control variable and represents the borrowing rate of the firms. The mean value is (13.57), minimum (11.99) and maximum (14.54). The mean value represents that interest has more impact on borrowing. The range value is (2.55) and the standard deviation (0.8942). Inflation is our third and last control variable. The mean value is (12.85), minimum (7.69) and maximum (20.29). The range value is (12.6) and the standard deviation (3.9766). High volatility is observed in inflation as comparative to the interest; this is in the previous years' high inflation in Pakistan.

Correlation Analysis

Below Table 2 represent the results of the correlation analysis.

Table 2 CORRELATION ANALYSIS

Variables	LNTA	MKTCAPTA	CREDITTA	ROA	INT	INF
LNTA	1.000					
MKTCAPTA	-0.124*	1.000				
CREDITTA	0.098***	-0.060*	1.000			
ROA	-0.117*	0.514	0.006*	1.000		
INT	-0.036*	-0.150*	0.008*	-0.097*	1.000	
INF	-0.116*	-0.104*	0.190	-0.110*	0.193	1.000

Note: Values are significant at 1*, 5**, and 10*** percent of the significance level. Where LNTA is the natural log of total assets, MKTCAPTA is market capitalisation to total assets, CREDITTA is Credit provided to private sectors to total assets, ROA is the return on assets, Interest and inflation.

From the table, if we see the primary regressor of our study MKTCAPTA (-0.124) is negatively correlated with the asset growth and significant at the 1 percent level. The second main regressor, CREDITTA (0.098), is positively correlated with the asset growth and significant at 10 percent. This relationship matches with the theory of the firm by Jensen and Meckling (1976) and previous studies of Takeo (1994) and Wachtel (2001). Moving towards the control variables, ROA (-0.116) is negatively correlated with asset growth and significant at the 1 percent level. Interest is our second control variable and (-0.036) negatively correlated with the dependent variable and significant at the 1 percent level. Inflation is the third and last control variable and (-0.116) negatively correlated with the firm's growth and significant at the 1 percent level.

Regression Analysis

Our regression model consists of the dependent variable (total assets) representing the firm's growth and two main regressors, stock market and banks development, and three control variables, ROA, interest and inflation.

$$G_{i,t} = \alpha_0 + \beta_1 S_{i,t} + \beta_2 B_{i,t} + \beta_3 P_{i,t} + \beta_4 INT_t + \beta_5 INF_t + \mu_{i,t} \quad (4)$$

$$Y [\ln(TA)_{i,t}] = \alpha_1 + \beta_1 (Mkt\ Cap / TA)_{i,t} + \beta_2 (Crdit\ to\ Pvt.\ sector / TA)_{i,t} + \beta_3 (ROA)_{i,t} + \beta_4 INT_t + \beta_5 INF_t + W_{i,t} \quad (5)$$

Where:

'i' and 't' show the cross-sections and time series, respectively. Ln (TA) represents the firm's growth, MktCap/TA stock market development, Credit/TA banks development, ROA profitability, INT_t interest, INF_t inflation and W_{i,t} composite random effect error term.

Table 3 REGRESSION ANALYSIS

Dependent Variable: LNTA

Method: Panel EGLS (Cross-Section random effect)

Variables	Coefficient	Standard Error	t-Statistic	Prob.
C	9.8073	0.2612	37.546	0.0000
MKTCAPTA	0.0233**	0.0113	2.0687	0.0395
CREDITTA	-0.4220*	0.0393	-10.718	0.0000
ROA	-0.0017*	0.0005	-3.1178	0.0020
INT	-0.0235*	0.0135	-1.7397	0.0831
INF	-0.028*	0.0031	-9.2212	0.0000

Note: $R^2 = 0.5396$, Adj. $R^2 = 0.5309$, F . Statistic = 61.90, Prob. (F . Stat = 0.0000), and D.W = 1.20

Values are Significant at: 1*, 5** and 10*** percent level of significance.

After the regression, we found that most of the variables are significant at 1 percent level, market capitalisation to total assets significant at 5 percent and interest significant at 10 percent. According to these results, only stock market development positively impacts the firm's growth of Pakistan. The other remaining variables are showing their negative impact on the growth of firms.

We will discuss each variable one by one. First, stock market development positively impacts the firm's growth and significant at the 5 percent level. This relationship is according to the expectations and similar to the studies of (Atje & Jovanovic, 1993) on the study of multiple countries (Arestis et al., 2001; Demircuc-Kunt et al., 2013) on the United States, (Liu & Hsu, 2006) on Taiwan manufacturing firms, (Caporale, Rault, Sova, & Sova, 2015) on European countries economy and (Hussain, 2011) on Pakistan textile firms. It is empirically proved that stock market development has a positive impact on the firm's growth. So, the results of my study predict that a 1% increase in stock market development will increase overall 2.3% in the firm's growth, and this relation is significant at a 5% level. So, in Pakistan, stock market development is very important and impacts a firm's growth.

The second regressor banks development results are a little bit different from the expectations. It is generally perceived; banks are the big financing source and normally portray a positive impact on both firms and the economy. This study variable matches the school of thoughts that treat banks and the stock market as a substitute. This result is also like the studies (Agarwal & Elston, 2001; Braun & Deeg, 2020; Cai & Zhang, 2011). The reason to be negative of this relation in Pakistan is because of the law-and-order situation. New investment not done by the firms because of uncertainty and terrorism activities during that period. The relationship is either positive or negative depends upon the financial and political system of the country.

Profitability is a control variable, and results determining a 1% change in profitability will affect -0.17 on the firm's growth. These results match with the previous studies (Dang, Vu, Ngo, & Hoang, 2019; Sinaga, 2016). Coad and Hölzl (2012); Markman and Gartner (2002) found no relationship between profitability and the firm's growth. In this study, a relationship exists but in a negative direction because of uncertainty in the business environment in Pakistan. Our last control variables are interest and inflation. These signs are according to the expectations and match with the previous studies of (Demircuc-Kunt et al., 2013; Hussain, 2011). The general perspective is also the same; high inflation and interest negatively affect the economy. Interest represents financing cost, and its rise will decrease firms borrowing. Inflation reduces the purchasing power of buyers that directly affect the firm's growth. In Pakistan from last few years there is high inflation and effect negatively.

CONCLUSION

This study examined the relationship between the stock market and banks development on a firm's growth listed on the PSX. The study chose 45 firms from the non-financial sector for empirical analysis between 2014-2019. By utilising panel data approach random and fixed effect model applied with EGLS techniques for empirical analysis. The Hausman test confirmed random effect model is best for this study data. We tested the relationship and empirical evidence found among the stock market variable, banks development, and firm's growth by controlling the effect of

firm-specific variables of profitability, interest, and inflation. All the results with their significance presented in the result section.

There is a significant positive relationship between the stock market development and the firm's growth in Pakistan. The relationships of a firm's growth with control variables are highly significant. Normally, profitability is good for firms because if firms are profitable, they will invest in long-term growth opportunities. But my study shows it impacts negatively not so strong, but in a negative direction; it is due to uncertainty during that period in the environment of Pakistan. The stock market development has a more significant impact on the firm's growth and development. For positive effects of bank development, corporate reorganisation procedures could be improved, reducing delays and uncertainty, so bankers feel greater confidence about receiving the full present value of their loans. The prominent role of legal reforms in stimulating the firm's growth by improving the banking system's functioning.

Limitations and Future Research Directions

Following are the limitations and future directions of the study:

- The present study uses only the stock market and banks development; it can be further increased by adding the other financial institutions like insurance companies, mutual funds, and pension funds; check the development of these institutions' growth impacts.
- This study is limited to Pakistan because of resources constraints. Future research can be extended over many countries, and a sample can be chosen in large number from developing countries.
- In this study, we have chosen only non-financial sector firms; in future research, we can also add firms from the financial sector.
- This study analysed the development impact of only two institutions, banks and the stock market; it can be further increased by adding more institutions like insurance companies, mutual funds, pension funds, financing companies etc.
- Further research could focus on what policies appropriately facilitate healthy stock market development.
- This research can also be carried out by applying the event study methodology to check before and after the global financial crisis, 2007 effects of the stock market and banks development on the firm's growth.

Policy Implications

Based on the above empirical results and findings, we can draw the following important policy implication:

- The governments and policymakers need to design an effective and efficient financial framework that boosts economic activity and the firm's growth and provides a safe and riskless financial system to increase investment.
- The financial markets help firms in capital financings, and this external financing carry a cost for the firms. So, financial must materialise this cost effect by facilitating investment process to spur monetary activities.
- Policies support low investments; otherwise, without them, long-run growth is impossible.
- Increase financial institutions development to accelerate the transfer of credit to the private sector.

REFERENCES

- Adu, G., Marbuah, G., & Mensah, J. T. (2013). Financial development and economic growth in Ghana: Does the measure of financial development matter? *Review of Development Finance*, 3(4), 192–203. doi:<https://doi.org/10.1016/j.rdf.2013.11.001>
- Agarwal, R., & Elston, J. A. (2001). Bank–firm relationships, financing and firm performance in germany. *Economics Letters*, 72(2), 225–232. doi:[https://doi.org/10.1016/S0165-1765\(01\)00427-X](https://doi.org/10.1016/S0165-1765(01)00427-X)
- Ahmed, A. D. (2016). Integration of financial markets, financial development and growth: Is Africa different? *Journal of International Financial Markets, Institutions and Money*, 42, 43–59. doi:<https://doi.org/10.1016/j.intfin.2016.01.003>
- Allen, F., Gale, D., et al. (2000). *Comparing financial systems*. London, UK: MIT press.
- Al-Slehat, Z. A. F. (2020). Impact of financial leverage, size and assets structure on firm value: Evidence from industrial sector, Jordan. *International Business Research*, 13(1), 109–120. doi:<https://doi.org/10.5539/ibr.v13n1p109>
- Ang, J. B. (2008). What are the mechanisms linking financial development and economic growth in Malaysia? *Economic Modelling*, 25(1), 38–53. doi:<https://doi.org/10.1016/j.econmod.2007.04.006>

- Ang, J. B., & Fredriksson, P. G. (2018). State history, legal adaptability and financial development. *Journal of Banking & Finance*, 89, 169–191. doi:<https://doi.org/10.1016/j.jbankfin.2018.02.009>
- Anton, S. G., & Nucu, A. E. A. (2020). The effect of financial development on renewable energy consumption. A panel data approach. *Renewable Energy*, 147, 330–338. doi:<https://doi.org/10.1016/j.renene.2019.09.005>
- Anwar, S., & Cooray, A. (2012). Financial development, political rights, civil liberties and economic growth: Evidence from South Asia. *Economic Modelling*, 29(3), 974–981. doi:<https://doi.org/10.1016/j.econmod.2012.02.009>
- Arestis, P., Demetriades, P. O., & Luintel, K. B. (2001). Financial development and economic growth: The role of stock markets. *Journal of Money, Credit and Banking*, 33(1), 16–41. doi:<https://doi.org/10.2307/2673870>
- Atje, R., & Jovanovic, B. (1993). Stock markets and development. *European Economic Review*, 37(2-3), 632–640. doi:[https://doi.org/10.1016/0014-2921\(93\)90053-D](https://doi.org/10.1016/0014-2921(93)90053-D)
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance*, 60(1), 137–177. doi:<https://doi.org/10.1111/j.1540-6261.2005.00727.x>
- Beck, T., & Levine, R. (2004). Stock markets, banks, and growth: Panel evidence. *Journal of Banking & Finance*, 28(3), 423–442. doi:[https://doi.org/10.1016/S0378-4266\(02\)00408-9](https://doi.org/10.1016/S0378-4266(02)00408-9)
- Bist, J. P. (2017). Stock market development and economic growth in Nepal: An ARDL representation. *Journal of Finance and Economics*, 5(4), 164–170. doi:<https://doi.org/10.12691/jfe-5-4-2>
- Bist, J. P., & Bista, N. B. (2018). Finance–growth nexus in Nepal: An application of the ARDL approach in the presence of structural breaks. *Vikalpa*, 43(4), 236–249. doi:<https://doi.org/10.1177/0256090918813211>
- Bojanic, A. N. (2012). The impact of financial development and trade on the economic growth of Bolivia. *Journal of Applied Economics*, 15(1), 51–70. doi:[https://doi.org/10.1016/S1514-0326\(12\)60003-8](https://doi.org/10.1016/S1514-0326(12)60003-8)
- Bonhoure, E., & Le Bris, D. (2019). Did french stock markets support firms of the second industrial revolution? *Business History, Special Issue*, 1–21. doi:<https://doi.org/10.1080/00076791.2019.1657409>
- Boot, A. W., & Thakor, A. V. (1997). Financial system architecture. *The Review of Financial Studies*, 10(3), 693–733. doi:<https://doi.org/10.1093/rfs/10.3.693>
- Braun, B., & Deeg, R. (2020). Strong firms, weak banks: The financial consequences of Germany's export-led growth model. *German Politics*, 29(3), 358–381. doi:<https://doi.org/10.1080/09644008.2019.1701657>
- Bui, T. N. (2020). How does financial development affect the employment? Evidence from Asean countries. *Journal of Management Information and Decision Sciences*, 23(1), 1–6.
- Cai, J., & Zhang, Z. (2011). Leverage change, debt overhang, and stock prices. *Journal of Corporate Finance*, 17(3), 391–402. doi:<https://doi.org/10.1016/j.jcorpfin.2010.12.003>
- Caporale, G. M., Rault, C., Sova, A. D., & Sova, R. (2015). Financial development and economic growth: Evidence from 10 new European union members. *International Journal of Finance & Economics*, 20(1), 48–60. doi:<https://doi.org/10.1002/ijfe.1498>
- Chu, A. C., & Cozzi, G. (2014). R&D and economic growth in a cash-in-advance economy. *International Economic Review*, 55(2), 507–524. doi:<https://doi.org/10.1111/iere.12059>
- Chung, P. T., Sun, S., & Vo, D. T. H. (2019). How does financial development interact with economic growth in five ASEAN countries? *The Singapore Economic Review*, 64(03), 441–460. doi:<https://doi.org/10.1142/S0217590816500120>
- Coad, A., & Hözl, W. (2012). Firm growth: Empirical analysis. In *Handbook on the economics and theory of the firm*. Cheltenham, UK: Edward Elgar Publishing.
- Coccorese, P., & Shaffer, S. (2021). Cooperative banks and local economic growth. *Regional Studies*, 55(2), 307–321. doi:<https://doi.org/10.1080/00343404.2020.1802003>
- Cournède, B., & Denk, O. (2015). *Finance and economic growth in OECD and G20 countries* (Working papers no. 1223). Paris, France: OECD Publishing.
- Dang, H. N., Vu, V. T. T., Ngo, X. T., & Hoang, H. T. V. (2019). Study the impact of growth, firm size, capital structure, and profitability on enterprise value: Evidence of enterprises in Vietnam. *Journal of Corporate Accounting & Finance*, 30(1), 144–160. doi:<https://doi.org/10.1002/jcaf.22371>
- Degryse, H., de Goeij, P., & Kappert, P. (2012). The impact of firm and industry characteristics on small firms capital structure. *Small Business Economics*, 38(4), 431–447. doi:<https://doi.org/10.1007/s11187-010-9281-8>
- Demirguc-Kunt, A., Detragiache, E., & Merrouche, O. (2013). Bank capital: Lessons from the financial crisis. *Journal of Money, Credit and Banking*, 45(6), 1147–1164. doi:<https://doi.org/10.1111/jmcb.12047>

- Diamond, D. W. (1984). Financial intermediation and delegated monitoring. *The Review of Economic Studies*, 51(3), 393–414. doi:<https://doi.org/10.2307/2297430>
- Durusu-Ciftci, D., Soytaş, U., & Nazlıoğlu, S. (2020). Financial development and energy consumption in emerging markets: Smooth structural shifts and causal linkages. *Energy Economics*, 87, 1-17. doi:<https://doi.org/10.1016/j.eneco.2020.104729>
- Fowowe, B. (2017). Access to finance and firm performance: Evidence from African countries. *Review of Development Finance*, 7(1), 6–17. doi:<https://doi.org/10.1016/j.rdf.2017.01.006>
- Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. *Journal of Political Economy*, 98(5, Part 1), 1076–1107. doi:<https://doi.org/10.21034/wp.446>
- Hamid, K., Hussain, Z., & Ghafoor, M. M. (2020). Abnormal returns, corporate financial policies and the dynamics of leverage: Empirical evidence from non-financial sector of Pakistan. *Review of Economics and Development Studies*, 6(1), 153–166.
- Hamouri, B., Al-Rdaydeh, M., & Ghazalat, A. (2018). Effect of financial leverage on firm growth: Empirical evidence from listed firms in Amman stock exchange. *Investment Management and Financial Innovations*, 15(2), 154–164. doi:[https://doi.org/10.21511/imfi.15\(2\).2018.14](https://doi.org/10.21511/imfi.15(2).2018.14)
- Hassan, M. K., Sanchez, B., & Yu, J.-S. (2011). Financial development and economic growth: New evidence from panel data. *The Quarterly Review of Economics and Finance*, 51(1), 88–104. doi:<https://doi.org/10.1016/j.qref.2010.09.001>
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 46(6), 1251–1271. doi:<https://doi.org/10.2307/1913827>
- Hussain, I. (2011). Growth and financing behaviour of firms of textile industry in Pakistan: A panel data analysis. *The Pakistan Development Review*, 50(4), 699–714. doi:<https://doi.org/10.30541/v50i4Ipp.699-714>
- Ilyukhin, E. (2015). The impact of financial leverage on firm performance: Evidence from Russia. *Corporate Finance*, 9(2). doi:<https://doi.org/10.2139/ssrn.2589013>
- Iqbal, U., & Usman, M. (2018). Impact of financial leverage on firm performance: Textile composite companies of Pakistan. *SEISENSE Journal of Management*, 1(2), 70–78. doi:<https://doi.org/10.33215/sjom.v1i2.13>
- Jeleel, A., & Olayiwola, B. (2017). Effect of leverage on firm performance in Nigeria: A case of listed chemicals and paints firms in Nigeria. *Global Journal of Management and Business Research*, 17(2), 15-24.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. doi:[https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- King, R. G., & Levine, R. (1993a). Finance and growth: Schumpeter might be right. *The Quarterly Journal of Economics*, 108(3), 717–737. doi:<https://doi.org/10.2307/2118406>
- King, R. G., & Levine, R. (1993b). *Financial intermediation and economic development*. Cambridge, UK: Cambridge University Press. doi:<https://doi.org/10.1017/CBO9780511752056.011>
- Kose, M. A., Prasad, E., Rogoff, K., & Wei, S. J. (2010). Financial globalization and economic policies. In *Handbook of development economics*. New York, NY: Elsevier. doi:<https://doi.org/10.1016/B978-0-444-52944-2.00003-3>
- Langfield, S., & Pagano, M. (2016). Bank bias in Europe: Effects on systemic risk and growth. *Economic Policy*, 31, 51-106. doi:<https://doi.org/10.1093/epolic/eiv019>
- Layyinaturrobaniyah, Masyita, D., & Sekartadje, G. (2016). Fundamental and technical analyses for stock investment decision making. *Journal of Administrative and Business Studies*, 2(1), 1-17. doi:<https://doi.org/10.20474/jabs-2.1.1>
- Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35(2), 688-726.
- Levine, R. (1999). Law, finance, and economic growth. *Journal of Financial Intermediation*, 8(1-2), 8-35. doi:<https://doi.org/10.1006/jfin.1998.0255>
- Levine, R. (2005). Finance and growth: Theory and evidence. *Handbook of Economic Growth*, 1, 865-934. doi:[https://doi.org/10.1016/S1574-0684\(05\)01012-9](https://doi.org/10.1016/S1574-0684(05)01012-9)
- Levine, R., Loayza, N., & Beck, T. (2000). Financial intermediation and growth: Causality and causes. *Journal of Monetary Economics*, 46(1), 31-77. doi:[https://doi.org/10.1016/S0304-3932\(00\)00017-9](https://doi.org/10.1016/S0304-3932(00)00017-9)
- Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *The American Economic Review*, 82(4), 942-963.

- Levine, R., & Zervos, S. (1998a). Stock markets, banks, and economic growth. *The American Economic Review*, 88(3), 537-558.
- Levine, R., & Zervos, S. (1998b). Stock markets, banks, and economic growth. *American Economic Review*, 88(3), 537-558. doi:<https://doi.org/10.1596/1813-9450-1690>
- Liu, W.-C., & Hsu, C.-M. (2006). Financial structure, corporate finance and growth of Taiwan's manufacturing firms. *Review of Pacific Basin Financial Markets and Policies*, 9(1), 67-95. doi:<https://doi.org/10.1142/S0219091506000653>
- Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1), 3-42. doi:[https://doi.org/10.1016/0304-3932\(88\)90168-7](https://doi.org/10.1016/0304-3932(88)90168-7)
- Markman, G. D., & Gartner, W. B. (2002). Is extraordinary growth profitable? A study of inc. 500 high-growth companies. *Entrepreneurship Theory and Practice*, 27(1), 65-75. doi:<https://doi.org/10.1111/1540-8520.271004>
- McCaig, B., & Stengos, T. (2005). Financial intermediation and growth: Some robustness results. *Economics Letters*, 88(3), 306-312. doi:<https://doi.org/10.1016/j.econlet.2004.12.031>
- Oliveira, R. L., & Kayo, E. K. (2020). Leverage and investment opportunities: The effect on high growth firms. *Revista Contabilidade & Financas*, 31, 302-317. doi:<https://doi.org/10.1590/1808-057x201909140>
- Pagano, M. (1993). Financial markets and growth: An overview. *European Economic Review*, 37, 613-622. doi:[https://doi.org/10.1016/0014-2921\(93\)90051-B](https://doi.org/10.1016/0014-2921(93)90051-B)
- Robinson, J. (1952). The generalization of the general theory. In *The rate of interest, and other essays*. London, UK: Macmillan.
- Rousseau, P. L., & Wachtel, P. (2000). Equity markets and growth: Cross-country evidence on timing and outcomes, 1980-1995. *Journal of Banking & Finance*, 24(12), 1933-1957. doi:[https://doi.org/10.1016/S0378-4266\(99\)00123-5](https://doi.org/10.1016/S0378-4266(99)00123-5)
- Ruiz, J. L. (2018). Financial development, institutional investors, and economic growth. *International Review of Economics & Finance*, 54, 218-224. doi:<https://doi.org/10.1016/j.iref.2017.08.009>
- Silva, T. C., Tabak, B. M., & Laiz, M. T. (2021). The finance-growth nexus: The role of banks. *Economic Systems*, 45(1), 100762. doi:<https://doi.org/10.1016/j.ecosys.2020.100762>
- Sinaga, A. P. D. S. J. (2016). The effect of capital structure, firm growth and dividend policy on profitability and firm value of the oil palm plantation companies in Indonesia. *European Journal of Business and Management*, 8, 123-134.
- Stulz, R. M. (2000). Financial structure, corporate finance and economic growth. *International Review of Finance*, 1(1), 11-38. doi:<https://doi.org/10.1111/1468-2443.00003>
- Sulong, S., Saleem, Q., & Ahmed, Z. (2018). The role of stock market development in influencing the firms performance: A study based on Pakistan stock market. *International Journal of Economics and Finance*, 10(12), 104. doi:<https://doi.org/10.5539/ijef.v10n12p104>
- Takeo, H. (1994). *The economic role of corporate groupings and the main bank system*. Oxford, UK: Clarendon Press.
- Wachtel, P. (2001). Growth and finance: What do we know and how do we know it? *International Finance*, 4(3), 335-362. doi:<https://doi.org/10.1111/1468-2362.00077>
- Wagner, H. (1993). Reconstruction of the financial system in East Germany: Description and comparison with Eastern Europe. *Journal of Banking & Finance*, 17(5), 1001-1019. doi:[https://doi.org/10.1016/0378-4266\(93\)90068-0](https://doi.org/10.1016/0378-4266(93)90068-0)
- Yang, F. (2019). The impact of financial development on economic growth in middle-income countries. *Journal of International Financial Markets, Institutions and Money*, 59, 74-89. doi:<https://doi.org/10.1016/j.intfin.2018.11.008>
- Yanik, R., Binte Osman, A., & Ozturk, O. (2020). Impact of manufacturing PMI on stock market index: A study on Turkey. *Journal of Administrative and Business Studies*, 6(3), 104-108. doi:<https://doi.org/10.20474/jabs-6.3.4>
- Zingales, L. (2015). Presidential address: Does finance benefit society? *The Journal of Finance*, 70(4), 1327-1363. doi:<https://doi.org/10.1111/jofi.12295>