

RESEARCH PAPER

Judicial Efficiency and Firms Growth: Evidence from Pakistan

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| PAPER INFO | ABSTRACT |
|----------------------|---|
| Received: | The current study aims to examine the effect of judicial efficiency |
| January 19, 2021 | on firm growth. The study has used a sample of 215 listed firms |
| Accepted: | from non-financial sector of Pakistan Stock Exchange from 2016 |
| March 01, 2021 | to 2019. The study has used panel data analysis for estimation of |
| Online: | results, where, the Hausman test support fixed effect better |
| March 15, 2021 | modeled the data. The results of the study showed that judicial |
| Keywords: | inefficiency is inversely related with growth of firms Such that |
| Agency Problem, | interficiency is inversely related with growth of fiffins. Such that |
| Firm Growth, | increase in judicial inefficiency in a particular district court, lower |
| Judicial Efficiency, | the growth rates of firms operating in that district. In addition, |
| Pakistan Firms | board size, board independence, firm size, leverage and ROA are |
| *Corresponding | inversely related with firm growth. On the other side |
| Author | independent audit committee is directly related with firm |
| | growth. Shareholders and managers of firms, government as a |
| hamidullah@icp.ed | borrower and as a regulator can take benefit of the results of the |
| u.pk | study. |

Introduction

Over the long period of history, the phenomenon of sustainable long-term growth remained a central debate amongst scholars. The scholars are trying hard to explore the relationship between growth, an effective legal system and efficient financial system. Despite the fact of enormous literature across the globe on this topic, yet the relationship amongst these factors remains an open question. As compared to the geographically large and diverse countries, the effectiveness of legal and financial systems has found to be significant in small countries. In addition, the focus of majority of studies in the world remained on large scale companies and economies (Spruk, & Kovac, 2019).

Banerjee and Duflo (2017) state that one of the major barriers for the investment in developmental projects for firms is financial friction. When firms are unable to find ways of raising funds in external market, it adversely affects their

ability to equip itself with modern technology and compete in market; Which in turn can dampen the overall productivity and finally reduce economic growth. Despite other factors responsible for the promotion of financial friction, one of the most significant factors is the poor legal system of a country. To illustrate, slow judicial trials impede the rights of creditors to claim their principal amount and return specially from financially constrained firms. This badly affects the efficiency of financial system. It is in the same argument that La Porta et al. (2013) suggest that the protection of rights of investors is one of the most significant factors that affect the performance of financial markets. The authors further argue that firms in better legal system and shareholders' right protection will have better financial markets and can raise funds at lower cost than others. We can find support for this argument in the study of Levine et. Al, (2005) where they stated that firms in better legal system and stronger investors' protection can grow faster as compared to firms in poor legal system.

In every country, firms in corporate sector have to rely on two sources of financing. These are bank based and stock market based sources. Stock market based source supplies the equity financing while bank based system supplies debt financing. Pakistan is an emerging economy with a fast growing capital market, yet the firms have to rely on bank based system for their financing because investors consider it less risky. Bank based system is backed by the judicial system of a country. In the presence of efficient judicial system, creditors will find it easy to recover their principal amount and return from borrowers. Similarly, firms will also get the capital on relax terms. On the other hand, weak judicial system in a country will discourage the investment intentions of corporate investors thus hindering the growth of firms and an economy. Just like other countries of the sub-continent, the performance of judicial system in our country is still at an infant stage. Very little attention has been paid to study the relationship between an efficient judicial system and the growth of a firm particularly in Pakistan. It is very hard to find even a single empirical study explaining this topic in Pakistan Stock Exchange. Therefore, the current study aims to investigate the relationship between the judicial efficiencyand firm growths particularly in firms of non-financial sector listed in Pakistan Stock Exchange (PSX). The paper focuses on answering the question of how judicial efficiency could affect the growth of firms in non-financial sector of PSX? The study is going to make the following contributions.

- i. Unlike others, this study is having focus on the relationship between judicial efficiency and growth of a firm. In this way, it will be a baseline study for the literature of law and finance particularly in Pakistan Stock Exchange.
- ii. This study is going to extend the well-known agency cost or agency problem theory. It states that conflict of interest arises between managers and shareholders, if managers start to maximize their own personal interests and ignore the goal of firm. If judicial system of a country is efficient, managers are unlikely to exploit the shareholders' rights, therefore, firms operating in

efficient judicial system will have minimum agency problems than firms operating in inefficient judicial system. The remainder sections of the paper contain the review of related literature, followed by the methodology and finally the results and discussion section.

Literature Review

Theoretical Underpinning/ Framework of the Research

The theoretical foundation of this paper is based on certain theories such as Agency theory and the fear hypothesis of managerial theory. Agency theory identifies certain agency problems that arise because of the conflicting interests of shareholders, managers and creditors (Jensen &Meckling, 1976). In general, agency problems generate two types of costs. First are agency costs of equity. These are the costs faced by shareholders due to the self-centred managers. In a cross-country study, Dittmar et al. (2003) find that in weak corporate governance systems, managers have more discretionary powers that are detrimental to shareholders' wealth maximization. Second is the agency cost of debt. This cost arises due to the excessive borrowing by managers. Rajan and Zingales (1995) were the first to highlight that stronger creditor rights can be a serious threat to the survival of financially-distressed firms.

It is obvious that human capital in a firm is unique and specifically relates to that firm, therefore the value of this human capital reduced to a much greater extent when managers are fired from an organization. This phenomenon makes manager's risk averse because diversification of investment on human capital is impossible for them. This risk adverse attitude of managers compels them to opt for less debt ratios (Friend & Lang, 1988). In line with this view, Acharya, Amihud and Litov (2011) stated that where there is strong creditors' right protection by judicial system of a country, managers try to select less risky projects and acquire lesser debt due to their risk averse behaviour. Several other studies predict that improvement in judicial system results in reduction of investments, innovation and risk propensity. (Chava& Roberts, 2008; Nini, Smith, & Sufi, 2009; Acharya & Subramanian, 2009; Manso, 2011). These results support the view that an increase in judicial efficiency will maximize probability of bankruptcy and loss of jobs, as a result the agency problems will minimize. These results are in line with the supply side view of external finance, that improved judicial efficiency lessen agency conflicts between creditors and borrowers and increase supply of credit (Djankov, McLeish, & Shleifer, 2007).

Demand Side View of Improvement in Judicial Efficiency

Courts system is a major element of enforcement and implementation of law in a country. The processes and costs involved in pursuing legal claims through courts could influence willingness of aggrieved parties to sue their counterparties. Hence, if these processes or costs are considered efficient, then aggrieved parties are expected to readily lodge complaints to protect their legal rights. People in a society break a law when they know of the inefficiency in implementation of that law (Aziz, 2016). Judicial efficiency as a proxy of creditors' willingness to pursue legal actions against defaulters reflects a specific aspect of creditor rights. For the purpose of this study, judicial efficiency is defined as a system where creditors could easily and cheaply sue for the recovery of their funds e.g., lower cost of the judicial process, lesser number of procedures involved, and lesser time taken by a court in deciding a case. An efficient judicial system is vital in corporate sectors. Chemin(2010) supports this idea and states that the protracted trials in courts decreases the time value of punishment. Bae and Goyal (2009) report that in inefficient judicial systems, recovery rates are lower. Recently, the findings of the study conducted by Schiantarelli, Stacchini, and Strahan (2020) in Italy show that borrowers selectively delay payment to banks already weakened by past bad loans while continuing to pay healthier banks.

Supply Side View of Improvements in Judicial Efficiency

The supply side view predicts existence of a direct relationship between judicial efficiency and supply of capital. According to this view, improvements in judicial efficiency are expected to increase willingness of creditors to lend more and charge lower interest rates on loans. Creditors always prefer to ascertain rate of return on their investments. Therefore, ex- ante, if creditors are aware of the state of efficiency of judicial systems, they would adopt strategies, means and ways to protect their interests (Acemoglu & Johnson, 2005). If creditors have confidence regarding the protection of their rights and quick recoveries of their loans, they are expected to increase supply of credit with lower interest rates. However, if creditors know that they cannot efficiently enforce their rights through judiciary, they will try to protect their interests by charging higher interest rates, imposing restrictions on borrowers, and/ or asking borrowing firms to maintain more cash. In an inefficient judicial system, creditors will be reluctant to increase supply of credit as they would expect that borrowers might consider defaulting on loan as rational option. In the absence of efficient enforcement mechanisms of creditor rights, even solvent borrowers are said to choose to default (Eaton & Gersovitz, 1981; Jappelli, Pagano & Bianco, 2005).

According to Jappelli et al., (2005) efficient courts contribute towards development of the credit markets as they can induce solvent debtors not to default on their loans. They used district level data in Italy and report that judicial inefficiency negatively influences corporate leverage and debt-maturity structures. Shah (2011), in case of a sample of Pakistani firms reports similar findings with respect to judicial efficiency and debt-maturity structure of firms. He further adds that due to relatively higher information asymmetry issue, the negative influence of judicial inefficiency is more on debt-maturity structure of smaller firms. Stiglitz and Weiss (1981) state that in inefficient judicial systems lenders ration borrowers instead of charging higher interest rates. Several cross countries, cross states, and within country studies, report positive correlation between judicial efficiency and supply of external credit (Moya & Powell, 2001). They conclude that improvement in judicial

efficiency in courts could reduce cost of external financing. This is consistent with the argument of Bae and Goyal (2009) who state that uncertainty about the repayment of loan by the borrower increases with the degree of inefficiency of judicial system of a country.

Hypothesis Development

The Relationship between Judicial Efficiency and Firm Growth

The role of judicial efficiency in the prosperity of a firm is well documented by different researchers. For example, Shah, Smith and Labianca, (2015) investigated judicial efficiency and its influence on firms' corporate leverage. The authors found that efficient judicial system is related with lower debt ratios. Judicial efficiency of a country also has an impact on corporate cash holdings as documented in their study by Shah and Shah (2016). The authors found that improvement in judicial efficiency will raise the level of corporate cash holdings. Ghosh (2018) explored the variation in judicial efficiency across Indian states and shows that judicial inefficiency in a particular state causes lower investment ratios for financially constrained firms. A recent study by Miroshnychenko, Bozziy and Barontini (2019) states that judicial efficiency plays an important role in investment decisions of a firm. Schiantarelli, Stacchini, and Strahan (2020) provide evidence from Italian firms that weak financial position and inefficient judicial enforcement mechanisms reduces the probability of the borrower to repay their loans. They reveal that in case of weak enforcement of law the safest borrowers usually delay the repayment of loans to least monitored banks, hence the investors are unprotected. Thus, it can be proposed that initiating efficient legal enforcement mechanisms that is to improve the time of each case and certainty of judicial trials, due to which the creditors would be able to acquire the underlying collateral easily, and may lessen charges. All these and other relevant findings show that judicial efficiency could have significant influence on the growth of a firm. Therefore, the following hypothesis is framed.

H₁: Judicial efficiency significantly affect the growth of firms

In addition to the H₁ stated above, other testable hypotheses are framed as below.

- H₂: Board size significantly affect the firm's growth
- H₃: Board independence significantly affect the firm's growth
- H₄: Independence of audit committee significantly affect growth of firms
- H₅: Firm size significantly affect growth of firms
- H₆: Leverage significantly affect growth of firms
- H₇: Return on assets significantly affect growth of firms

Material and Methods

This section discusses data sources, sample, variable definitions, and statistical models of the study.

Data Sources and Sample

The listed firms of PSX are divided into two main clusters known as financial and non-financial sectors. The current study is focused on the non-financial sector of Pakistan Stock Exchange (PSX). Pakistan Stock Exchange (PSX) has 542 listed companies distributed amongst 35 sectors. The study includes 215 firms of the nonfinancial sector of PSX. Data for the study has been extracted from the annual reports from 2014 to 2019 of the respective firms.

Measurement of Variables

The Dependent Variable (Firm Growth)

In this study, growth of firm is used as dependent variable. The literature of finance defines different proxies for the growth of a firm. Among these the most widely used proxies are growth in plant and fixed assets, growth in sales and increase in employees during a particular period (Audretsch et.al.,2014). Besides, the ratio of market to book value of assets, the ratio of market to book value of equity, and the price to earnings ratio are also indicated by Adam and Goyal (2008). According to Adam and Goyal (2008), the most appropriate proxy among these three is the ratio of market to book value of assets. This study, has used the increase in value of plant and fixed assets of the firm for the measurement of firm growth.

Independent Variables

Judicial Efficiency (JE)

Independent variable of the study is judicial efficiency. Different proxies are available for the measurement of JE. For example, the World Bank Ease of Doing Business data base uses the input/out ratio of cases in courts of a particular state. Another index is also available from the study of Kohling (2002), which states that it can be measured through the trail duration of a particular case in a court, wherein a lower value of trial duration indicates a better judiciary system. A third proxy is available which states that JE can be measured through cost of case as a percentage of total value of contract. Other studies have used more objective measures of judicial efficiency. For example, Fabbri (2002), Shah (2011) and Fabbri(2004) have used the fraction of pending cases to total settled cases or the fraction of pending cases to case started during a year. Shah and Shah (2016) have used three different measures of judicial efficiency which are (a) inverse of time in days that a judicial court takes in resolving a case (b) number of procedures involved in registering a case till the final decision is implemented by a court, and (c) costs incurred on a

judicial case as a percentage of the recovery amount. Due to data availability issues, we have used the proxy of judicial efficiency where pending cases are scaled by some base figure such as judicial cases decided in a year, total cases started in a year, or population of a district (Shah & Khan, 2016). Where, higher ratio of JE means increase in number of pending cases during a particular year in a given district which in turn leads to poor judicial performance and vice versa. Judicial efficiency is calculated by the following formula.

JE = <u>Number of cases pending in a given district at the end of a year</u>

Number of cases disposed-off during that year

The measurement and operationalization of the remainder of independent variable are given in the following table.

| Table 1 | | | | | |
|--------------------------------------|-------------------------------|--|--|--|--|
| Measurement of Independent Variables | | | | | |
| Variable Name | Denoted by Operationalization | | | | |
| Board size | BS | The number of board members of the firm | | | |
| Board indonendance | BI | The ratio of non-executive members to total | | | |
| board independence | DI | members of the board of a firm | | | |
| Independent audit | IAC | The number of non-executive members to total | | | |
| committee | IAC | members in audit committee of a firm | | | |
| Firm size | FS | The natural log of total assets | | | |
| Leverage | Lev | The ratio of total debt to total assets | | | |
| Return on Assets | ROA | Net profit/ Total assets | | | |

Specification of the Models

The current study focuses to explain the relationship between judicial efficiency and firm growth. The appropriate technique for such kind of studies is the multiple regression. So we have used multiple regression as main technique of analysis. The study uses panel data analysis for the results. Panel data analysis offers several advantages such as large number of observations and more degree of freedom available for analysis (Hsiao, 1986). This also allows us to study dynamic nature of relationships that evolve over time between dependent and independent variables. Furthermore, it allows us to purge out firm, industry, years, or region fixed effects (Baltagi, 2008). General form of the panel data model is as under;

$YY_{i,t} = \beta x_{i,t} + az_i + U_{i,t}$

In the equation *i* ranges from 1,2,3,4,5, N and *t* ranges from 1,2,3.... T. Y shows the dependent variable and shows the average percentage change in plant and assets of firm *i* at time *t*. while $U_{i,t}$ represent the error term or the effect of ignored variables $x'_{i,t}$ represents set of all other variables in the regression on the left hand side of the equation. The baseline model of our study is estimated as follow;

 $Y_{it} = a + \beta_1(BS)_{i,t-1} + \beta_2(BI)_{i,t-1} + \beta_3(FS)_{i,t-1} + \beta_4(IAC)_{i,t-1} + \beta_5(LEV)_{i,t-1} + \beta_6(ROA)_{i,t-1} + \beta_7(JE)_{i,t-1} + \varepsilon_{it}$

Where Y_{it} shows growth of firm i in time t, a shows the constant term, β s show the coefficients of the respective variable, BS shows board size, BI shows board independence, FS shows firm size, IAC shows independent audit committee, LEV shows leverage, ROA shows return on assets, JE shows judicial efficiency, and ϵ shows the error term.

Results and Discussion

Descriptive Statistics

The below table (2) shows the description of data with some very important information and statistics. Descriptive statistics is one of those techniques which help us to study the nature and structure of data. Descriptive enables us to study the behavior and natural pattern of data. It is widely used for the preliminary analysis in quantitative research studies. One of the main advantages of the descriptive statistics is that it gives us a very quick and short look of the data for the presence of any kind of outliers. Looking at the below table (1.2) the mean value for FG is 0.03, JE (1.60), BS (8.09), BI(0.15), IAC (0.82), FS(5.18), LEV (0.56) and ROA (0.06). All these values lie in the same acceptable range and there is no probability of the presence of outliers in our data. The same can be confirmed from the minimum and maximum values for all these variables. In this way, the data satisfies the normality assumption.

| Table 2 Descriptive Statistics | | | | | |
|-----------------------------------|-----|------|-----------|-------|-------|
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| FG | 990 | 0.03 | 0.26 | -1.00 | 2.73 |
| JE | 990 | 1.60 | 0.40 | 1.19 | 2.13 |
| BS | 988 | 8.09 | 1.61 | 5.00 | 21.00 |
| BI | 988 | 0.15 | 0.13 | 0.00 | 0.90 |
| IAC | 970 | 0.82 | 0.19 | 0.00 | 1.00 |
| FS | 990 | 5.18 | 4.43 | 0.00 | 13.28 |
| LEV | 990 | 0.56 | 0.22 | 0.00 | 0.99 |
| ROA | 990 | 0.06 | 0.10 | -0.73 | 0.68 |

Correlation Matrix

Correlation shows the degree of linear association between two variables. Its value ranges from -1 to +1. The "coefficient of 0 correlation suggests no association between two variables, +1 shows perfect positive association while -1 represents perfect negative association between the two variables." The correlation analysis has been used to examine if there exist any association among the independent and dependent variables of the study. The correlation analysis serves two aims, the association among different variables and the direction of association.Looking at the below table 1.3, it can be observed that JE and FG are inversely related with each

other. The coefficient of correlation between JE and FG is -0.104 which means that one percent increase in JE will reduce FG by 0.014 percent. Similarly, FG and BS are positively associated with each other as denoted by the correlation coefficient of 0.025. Moving further in the table 1.3, it can be seen that BI (0.032), IAC (0.069), LEV (0.149) and ROA (0.098) are also directly associated with FG as denoted by their correlation coefficient. The correlation table serves one more important statistics known as the indication of multi co linearity among independent variables. The problem arises when correlation is more than 0.90 between two independent variables. From the below table 1.3, it can be seen that all the independent variables have acceptable correlation coefficients, hence there is no problem of multi co linearity among our explanatory variables.

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-----------|--------|--------|--------|--------|--------|--------|--------|-------|
| (1) FG | 1.000 | | | | | | | |
| (2) JE | -0.104 | 1.000 | _ | | | | | |
| (3) BS | 0.025 | 0.035 | 1.000 | _ | | | | |
| (4) BI | 0.032 | 0.142 | 0.184 | 1.000 | _ | | | |
| (5) IAC | 0.069 | 0.005 | -0.001 | -0.070 | 1.000 | _ | | |
| (6) FS | -0.007 | -0.026 | 0.060 | 0.102 | 0.019 | 1.000 | | |
| (7) LEV | 0.149 | -0.050 | -0.024 | -0.116 | 0.050 | -0.014 | 1.000 | _ |
| (8) ROA | 0.098 | 0.029 | 0.109 | 0.109 | -0.005 | 0.007 | -0.418 | 1.000 |

Table 3 Correlation Matrix

Results of the Main Effect Model

In panel data analysis, the first step is to decide whether to use pooled regression or random effect model. In order to decide a best fit model between pooled regression and random effect model, Breusch Pagan LM test has been performed. Here the decision criteria is the p value of the test. The test holds the hypothesis that pooled regression is an appropriate model for the study. If the p value of the test is less than 0.05, at 5% level of significance, the null hypothesis is rejected and random effect model is the suggested model for the study. If p value is greater than 0.05, we do not reject our null hypothesis and consider that pooled regression model is an appropriate model for the study. By looking at the table 1.4, it can be observed that the probability of chi² valuefor Breusch and Pagan Lagrangian multiplier is much less than 0.05, hence we reject the null hypothesis and conclude that random effect model is the appropriate model for the study.

| Main Effect Model | | | | | |
|-------------------|---|---|--|--|--|
| (Pool Effect) | (Random Effect) | (Fixed Effect) | | | |
| Growth | Growth | Growth | | | |
| 075*** | 076*** | 095*** | | | |
| (.016) | (.021) | (.021) | | | |
| .003 | .003 | 008 | | | |
| (.005) | (.005) | (.015) | | | |
| .047 | .047 | 011 | | | |
| (.061) | (.07) | (.137) | | | |
| .08* | .08* | .048 | | | |
| (.049) | (.043) | (.059) | | | |
| 001 | 001 | 003 | | | |
| (.002) | (.002) | (.002) | | | |
| 15*** | 153*** | 417*** | | | |
| (.055) | (.041) | (.11) | | | |
| .11 | .107 | 053 | | | |
| (.113) | (.092) | (.152) | | | |
| .273*** | .277*** | .549*** | | | |
| (.074) | (.069) | (.148) | | | |
| 968 | 968 | 968 | | | |
| .041 | | .048 | | | |
| 6.67 | 40.79 | 1 68 | | | |
| (0.02) | 40.79 | 4.00 | | | |
| (0.000) | (0.000) | (0.000) | | | |
| | 34 56 | | | | |
| | (0,000) | | | | |
| | (0.000) | | | | |
| | 75.99 |) | | | |
| | (0.000 |)) | | | |
| | (Pool Effect) Growth 075*** (.016) .003 (.005) .047 (.061) .08* (.049) 001 (.002) 15*** (.055) .11 (.113) .273*** (.074) 968 .041 6.62 (0.000) | (Pool Effect) (Random Effect) Growth Growth 075^{***} 076^{***} $(.016)$ $(.021)$ $.003$ $.003$ $(.005)$ $(.005)$ $.047$ $.047$ $(.061)$ $(.07)$ $.08^*$ $.08^*$ $(.049)$ $(.043)$ 001 001 $(.002)$ $(.002)$ 15^{***} 153^{***} $(.055)$ $(.041)$ $.11$ $.107$ $.113$ $(.092)$ $.273^{***}$ $.277^{***}$ $(.074)$ $(.069)$ 968 968 $.041$ $.000$ 6.62 40.79 (0.000) (0.000) | | | |

Table 4 Main Effect Model

Once it is established that pooled effect model cannot be used for the study, the next step is to decide a best fit model between random effect and fixed effect models. For this purpose, Hausman test has been performed, which holds the null hypothesis that random effect model is an appropriate model for the study. The decision criteria is p value of the hausmann test. At 5 % level of significance, if the p value is less than 0.05, we reject our null hypothesis and conclude that fixed effect model is an appropriate model for the study. If the p value is greater than 0.05, we dont reject our null hypothesis and conclude that random effect model is an appropriate model for the study. By looking at the above table 1.4, we can observe that the p value of Hausman test is 0.000 which is less than 0.05, hence the null hypothesis is rejected and it is concluded that fixed effect model is an appropriate model for our study.

In the main effect model (Table 4), the regression results of the three models are presented i.e., pooled regression, random effect and fixed effect. But we are concren with the fixed effect model only. In the last column a set of two very important statistics has been shown for every independent variable. The top value shows the regression coefficient while the below value is the p value for every independent variable. In the table, the first value is for JE which is -0.095. The negative sign with JE coefficient actualy meansthat judicial inefficiency is inversly related with firm growth. The value of -0.095 shows that one unit increase in JE will decrease FG by 0.095 units. In other words ,we can say that increase in judicial inefficiency will lead to lower FG. Such that an increase in number of pendency of cases in a particular district high court will lower the growth rates of firms operating in that district. The reason for the lower growth rates is obvious, because firms operating in an inefficent judicial system will face limitted supply of capital by investors, hence their growths will be retarded. This result is significant at 5% level of significance and 10% level of significance as shown by the p value of 0.021. In this way, the null hypothesis is rejected and it is concluded that JE significantly affect FG.Our result is in line with the results of several other researchers. Such as Ghosh (2018) shows that high judicial inefficiency exhibit lower investment. A recent study by Miroshnychenko, bozziy and barontini (2019) shows that protection of rightsof investors through courts, contributes significantly to the growth of a firm. Schiantarelli, Stacchini, and Strahan (2020) provide support to this view. They found that in the presence of weak enforcement of law, even solvent borrowers try to delay their debt repayment, hence the growth of firms is adversely affected.

Next, we have the regression coefficient for the BS which is equal to -0.008. The negative sign indicates an inverse relationship between BS and FG which means that an increase in the number of board members will reduce the growth rates of a firm. The magnitude of change is such that if BS is increased by one unit, FG will decrease by 0.008 units. The result is significant as shown by the respective p value i.e., 0.015. Moving further, the coefficient value for BI is presented i.e., -.011. The relationship between BI and FG is inverse as indicated by the negative sign. It means that increasing the non-executive members in board of firm will inversely effect the firm growth. However, the result is insignificant as indicated by the p value of 0.137. In this way, we do not reject our null hypothesis and hold that BI insignificantly effect firm growth.

In the next row, the regression coefficient value for IAC is depicted which is equal to 0.048. The sign of coefficient is positive so the relationship between IAC and FG is direct. Such that an increase in independent audit committee will boost the growth rates of a firm. However, the result seems insignificant at 1% and 5% level of significance as shown by the p value of 0.059. In this way, we don't reject null hypothesis and conclude that IAC insignificantly effect FG. The next row shows the regression values for FS. The coefficient value is equal to -0.003 which indicates an inverse relationship between firm size and firm growth. Such that smaller firms will grow faster as compared to larger firms. The coefficient value shows that if FS increases by one unit, FG will decrease by 0.003 units. The results are significant as

shown in the p value of 0.002. In this way, we reject our null hypothesis and conclude that FS significantly affect FG. The final two rows show the regression coefficients for LEV (-0.417) and ROA (-0.53). The negative signs with these coefficients show that both these variables are inversely related with FG. It means that increase in debt in capital structure lower the FG. Similarly, ROA also negatively affect FG. However, the result doesn't seem significant as indicated by the p values of 0.11 and 0152 respectively. Therefore, we are failed to reject the null hypothesis for LEV and ROA and conclude that both these variables are insignificantly related with FG. These results are in line with the findings of Shah and Khan (2016)

Conclusion

In this paper, we have investigated the effect of judicial efficiency of district high courts in Pakistan on growth of 215 listed firms of non-financial sector of PSX. The main line regression model of the fixed effect shows that judicial inefficiency is inversely related with growth of firms. Such that increase in judicial inefficiency in a particular district court, lower the growth rates of firms operating in that district. This result is significant at 5% level of significance. In addition, board size, board independence, firm size, leverage and ROA are inversely related with firm growth. On the other side independent audit committee is directly related with firm growth. Furthermore, board size, and firm size significantly affect firm growth. The result of the study has an impact on agency problem between managers and shareholders of the firms. It means that judicial inefficiency causes retarded growth of firms which leads to the agency problem. This argument is supported by another dimension of the study which shows that there exists a positive relationship between judicial efficiency and firm growth. In this way it will have an impact on shareholders' wealth maximization goal of the firm. The study will have a direct impact on financing decisions of a firm i.e., it will alter the capital structure decisions of a firm. Improved judicial efficiency will gain the investors' confidence thereby improving the supply of capital. The availability of capital at lower cost will have an impact on key significant attributes of firms like WACC, profitability, liquidity, EPS as well as the chances of bankruptcy. Moreover, the results of the study will have an impact on the investing decisions of a firm. Improved JE will increase the investors' confidence. In this way they will be more willing to advance funds to firms which will eliminate the problem of financial friction. The study will also influence the risk and return equation of a firm via judicial efficiency.

Policy Implications

The government of a country plays different important roles in the corporate world. On the regulatory side, the study will provide benefits to the government policy makers. By improving judicial efficiency of a country, the firms and industries can grow which will in turn contribute to the growth of an economy. On the other side, the study will have an impact on government's financing decisions. Similarly, judicial efficiency will have an impact on firm growth so government will have to improve judicial efficiency for the growth of firm, industry and economy.

References

- Banerjee, A., Duflo, E. (2017). Do credit constraints limit entrepreneurship? Heterogeneity in the returns to microfinance. *Heterogeneity in the Returns to Microfinance (September 1, 2017). Global Poverty Research Lab Working Paper*, (17-104).
- Boubakri, N., & Saffar, W. (2016). Culture and externally financed firm growth. *Journal of Corporate Finance*, 41, 502-520.
- Brei, M., Gadanecz, B., & Mehrotra, A. (2020). SME lending and banking system stability: Some mechanisms at work. *Emerging Markets Review*. Elsevier, vol. 43(C).
- Chemin, M. (2020). Judicial efficiency and Firm Productivity: Evidence from a World Database of Judicial Reforms. *Review of Economics and Statistics*, 102(1), 49-64.
- Ghosh, S. (2018). Corporate investment and political federalism: does judicial efficiency matter? *Indian Economic Review*, 53(1-2), 263-285.
- Giacomelli, S., & Menon, C. (2017). Does weak contract enforcement affect firm size? Evidence from the neighbour's court. *Journal of Economic Geography*, 17(6), 1251-1282.
- Giordano, R., Lanau, S., Tommasino, P., &Topalova, P. (2020). Does public sector inefficiency constrain firm productivity? Evidence from Italian provinces. *International Tax and Public Finance*, 27(4), 1019-1049.
- Fadic, M., Garda, P., &Pisu, M. (2018). The effect of public sector efficiency on firmlevel productivity growth: The Italian case. OECD Economics Department Working Papers 1573, OECD Publishing.
- Ippoliti, R., &Tria, G. (2020). Efficiency of judicial systems: model definition and output estimation. *Journal of Applied Economics*, 23(1), 385-408.
- Krasikov, I., &Lamba, R. (2020). A theory of dynamic contracting with financial constraints. SSRN
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2013). Law and finance after a decade of research. In *Handbook of the Economics of Finance* (Vol. 2, pp. 425-491). Elsevier.
- Lepore, L., Paolone, F., Pisano, S., & Alvino, F. (2017). A cross-country comparison of the relationship between ownership concentration and firm performance: does judicial system efficiency matter? *Corporate Governance: The International Journal of Business in Society.*

- Levine, R., Loayza, N., & Beck, T. (2005). Financial intermediation and growth: Causality and causes. *Journal of monetary Economics*, 46(1), 31-77.
- Miroshnychenko, I., Bozzi, S., &Barontini, R. (2019). Firm growth and legal environment. *Economic Notes: Review of Banking, Finance and Monetary Economics*, 48(1), 12116.
- Rahim, I., & Shah, A. (2019). Corporate Financing and Firm Efficiency: A Data Envelopment Analysis Approach. *The Pakistan Development Review*, 58(1), 1-25.
- Rosenzweig, M. R., &Udry, C. (2020). External validity in a stochastic world: Evidence from low-income countries. *The Review of Economic Studies*, 87(1), 343-381.
- Schiantarelli, F., Stacchini, M., & Strahan, P. E. (2020). Bank Quality, Judicial efficiency, and Loan Repayment Delays in Italy. *The Journal of Finance*. Vol 75, 2139-2178
- Shah, H. A., & Shah, A. (2016). The relationship between judicial efficiency and corporate cash holdings: An international study. *Economic Modelling*, *59*, 448-462.
- Shah, A., Shah, H. A., Smith, J. M., &Labianca, G. J. (2017). Judicial efficiency and capital structure: An international study. *Journal of Corporate Finance*, 44, 255-274.
- Shah, M. H., Zuoping, X., Abdullah, & Shah, M. K. (2018). The Effect of a Complex Ownership Structure and Judicial efficiency on Leverage: Evidence from Pakistani Listed Companies. *Emerging Markets Finance and Trade*, 54(10), 2258-2277.
- Spruk, R., & Kovac, M. (2019). Transaction costs and economic growth under common legal system: State-level evidence from Mexico. *Economics & Politics*, 31(2), 240-292.
- Staszkiewicz, P., &Morawska, S. (2019). The efficiency of bankruptcy law: evidence of creditor protection in Poland. *European Journal of Law and Economics*, 48(3), 365-383.
- Shah, A., & Khan, Z. (2016). Importance of judicial efficiency in capital structure decisions of small firms: evidence from Pakistan. *The Pakistan Development Review*, 361-394.
- Tsintzos, P., &Plakandaras, V. (2020). The judiciary system as a productivity factor; the European experience. *Economics Letters*, 109257.