Does foreign direct investment affect investment cash flow sensitivity? Evidence from Pakistan

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ABSTRACT

The purpose of this study is to analyze that whether foreign direct investment affects investment cash flow sensitivity. Data for the study is collected from all the non-financial sectors listed on PSE in 2017. This research is conducted on financial data of industries extracted from state bank of Pakistan and financial statement analysis reports of seven industries containing to period of six years (2012-2017). For the purpose of data estimation common effect model estimator is used. Findings of the study revealed that investment opportunity, cash flows and foreign direct investment have positive impact on rate of capital while the interaction term of FDI also has positive and significant effect on rate of capital which means that due to FDI, cash flows of Pakistan industry would be high, and their investment sensitivity will be less. According to international trade theory, FDI not only brings finance in the economy but also brings technology, manpower and technical skills. So, the current study suggested that investment cash flow sensitivity arise due to limited amount of internal funds and due to agency problem FDI can mitigate these issues. So, Pakistani government should make efficient policies for external investors and also make good tax policies for external investors.

Key Words: Investment opportunity, Cash flow, Foreign Direct Investment, Investment cash flow sensitivity

INTRODUCTION

In developing countries, the core concern of financial sources to increase Gross domestic product (GDP) is foreign direct investment (FDI), so policy makers of developing countries regularly observe. Moreover, financial officers find out the different ways to boost the investment in host countries through FDI (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2010). Foreign direct investment (FDI) is not relatively the same as other capital inflows, for example, portfolio investment, direct foreign investment demonstrates a direct or long-term interest for, and control of, an endeavor (Loungani & Razin, 2001).

Pakistan's virtual rejection from worldwide FDI streams is alarming yet scarcely amazing. The sharp decrease in the inner security circumstance around 2007 onwards harmonized with rising political weakness in the nation. In the meantime, the worldwide budgetary emergency had affected FDI streams around the world. At the point when worldwide FDI streams rebounded, Pakistan's fascination as an investment goal had just been broken by the inept treatment of the economy under

the PPP government somewhere in the range of 2008 and 2013. An out and out vitality emergency had been exacerbated by media reports of super debasement, the two of which were routinely transmitted and broadcast far and wide throwing the nation in poor light.

CPEC is the biggest investment Pakistan has pulled in since freedom and biggest by China in any foreign nation. Pakistani government has called CPEC investments an "amusement and destiny changer" for the area. Due to Chinese investment in Pakistan, Pakistan is now ready to adapt every one of its emergencies since Chinese investment creates the fiscal investment as well as creates innovation overflow to local firms that prompts increment efficiency and decreases the probability of monetarily compelled.

Foreign direct investment (FDI) is the essential factor of the globalization and of the world economy. Any firm and organization engage or invest in form of money, technology and in form of any other asset in foreign country is called foreign direct investment (FDI). It can be a firm or can be an individual for example, proprietorship or controlling interest for a foreign organization. Due to these reasons Pakistani industry was confronting trouble to access to outer back and these obstacles are the integral reasons that Pakistani industry turned out to be fiscally constraints. Any industry considers monetarily limitations when they have restricted access to outside fund and industry depends more on their inside assets. As indicated by (Denis & Sibilkov, 2010). Firms with staggering expenses of outside back (monetarily obliged firms) depend more on inner capital. At the point when firms confront monetarily requirements then they may confront high investment income affectability. (Khramov, 2012) called attention to that amid the monetary emergencies, Investment cash flow sensitivity (ICFS) increased because of expanded money related limitations. (S. Fazzari, Hubbard, & Petersen, 1987), featured that investment cash flow sensitivities (ICFS) increases due to the large difference between internal and external finances. Sensitivity decides how an investment changes with fluctuations in outside components. Here FDI is the outside factor because of which industry's income affectability changes with the progression of time. Those firms who can get external finance can work more effectively and generate new innovations in their prior setup. As indicated by (Görg & Greenaway, 2004) neighborhood firms may profit indirectly through enhanced profitability and implies worldwide companies can affect host country's efficiency, increase a local economy exchange performance and redesign the mechanical improvement of the local country.

Eli Heckscher and Bertil Ohlin introduced theory of International trade in 1900. Later on, this theory was known as (H-O Model) or factor endowment. According to the theory, those nation or countries who have abundant resource of financing will export capital or monetary extensive investment and those nation or countries who have more quantity of other resources like manpower, technology and skill they will export labor intensive goods to other countries. Another aspect of this theory is that all countries supplies depends on their business requirement, their production requirement and specialty etc. Due to technology spillover and managerial mechanism, the sensitivity of cash flow would decrease. According to (Lipsey, 2004) Multinational companies want and continuously search those economies which have growth potential. They not only invest in these countries in the form of capital but also create other investment opportunities for host economy through bringing or introducing new technology. In the developing countries, they have sensitivity issue towards their cash flows. Due to this problem, developing countries want foreign

companies to invest in their economy, so in this research we investigate the influence of foreign direct investment on Pakistan's industries in the perspective of the cash flow sensitivity of investment. This research explores new outcome of foreign direct investment on domestic industries in the perspective of investment of cash flow sensitivity. It delivers novel awareness into the significance of foreign direct investment to local economies and investments. In this study, we can see that how external finance helps Pakistani industries 's growth and also helps to open new doors of investment opportunities when Pakistani industries faces constraint of their internal funds to cash flow and is unable to maintain their daily operation due to limited internal funds.

LITERATURE REVIEW

In the economic world, every business made its investment decisions that was completely dependent on its internal and external resources. The investment of capital in a business consists of two categories, one of these is debt and other is equity but manager's investment decision may affect mostly due to taxes, intervention problems between management and investors (Lewellen & Lewellen, 2016). Investment opportunities and cash flow have great debate in corporate finance world. They said that main reason of creating investment opportunity whether its internal investment opportunities or availing external opportunities both depends on firm's cash flows(Kaplan & Zingales, 1997). According to (Gugler, Mueller, & Yurtoglu, 2004) the measure of investment opportunity is Tobin's Q (T,Q) because T.Q controls investment opportunity of the firm. According to them Tobin's Q measures the regular return of any business and also marginal return of capital. Moreover, prior literature discussed about investment opportunity that firm's investment opportunity set shows how much firm avail the (NPV) projects. (Jones, 2001) used Tobin's q as proxy of investment opportunity and also described that Tobin's q reflects the value of firm investment chance. He found in his research if Tobin's q is greater than unity, it will show presence of high returns in a firm and if Tobin's q is less than unity it will shows low returns in a firm. The main reason to adapt Tobin's q as a proxy of investment opportunity is that Tobin's q is considered as a "profitability index "of a firm. Second reason to adapt Tobin's q is that it has different estimation and it has less complication to read in interpretations rather than other investment opportunities e.g.; (Harikumar & Harter, 1995). Every firm's business depends upon its internal and external cash flows. Internal cash flow firms usually generated from its retained earnings and external cash flows is generated by firm from foreign direct investment. Those firms who face financial problems are more sensitive towards their internal cash flows. These firms try to get more external finance through different resources. Firm's performance usually judges by its internal finance. Internal cash flows tell firms business strength and growth. According to (Allayannis & Mozumdar, 2001) if any firm has negative cash flow then it will have serious problems of future expected investment and investment cash flow sensitivity will occur. But if firm's cash flow continuously goes negative then its sensitivity would be low because firm do not have sufficient cash flow which is further cut for any losses (Cleary, 1999). The original statement of (S. M. Fazzari, Hubbard, & Petersen, 2000) that ICFS occurred due to large gap between internal and external funds of firms. Foreign direct investment of Pakistan is rising a solid relationship in a mainstream of the countries all around the (Khan, Wang, & Hassan, 2018). Foreign direct investment is very much essential for the survival of Pakistani industries. According to (Delios & Henisz, 2000) that a country's institutional elements influence a foreign company's decision to invest in developing countries. According to (Ghemawat, 2001) an external state introduces opportunities of spending money if the local and foreign countries have close relationship.

H1. There is the relationship between investment opportunity, cash flow, FDI and investment cash flow sensitivity.

In the event that the local company's inside assets are all that anyone could need for fund creation, then director will pick a dimension of investment to boost the company's benefit in addition to private advantages. At the point when the household firm has abundance income, the piece of the overall industry of the foreign global firm decreases the income affectability of investment. Rivalry the foreign global lessens the household association's benefit and along these lines' administrative private advantages, which debilitates the supervisor from occupying income and overinvesting. This is predictable with the view in corporate back that challenge fills in as an observing system for teaching administrators' trouble making and decreasing administrative slack (Giroud & Mueller, 2011).

Some investors want that their organization could grow very fast in short period of time so want to use all their available resources to meet their expectations. Due to this expectation of firm's owners, the cash flow stream would be high, and their resources might be used for private benefit by managers (Jensen, 1986). Another approach to take care this issue is that organizations' value holders will in general limit administrators' entrance to free money streams with the point of alleviating the administrative office issue. In a situation, in which unbound loaning isn't plausible, there is a guarantee ahead of time imperative on the national corporation's getting. For instance, (Almeida & Campello, 2007) expecting the insolvency estimation of an association's advantages (insurance) is corresponding to the estimation of the benefits. Be that as it may, foreign aggressive dangers can bring down this liquidation esteem on the grounds that such dangers diminish the benefits and monetary slack of the company's business peers – no doubt high valuation purchasers - making a circumstance that prompts bringing down the company's advantage deals to beneath best-use esteem (Ortiz-Molina & Phillips, 2014). (Denis & Sibilkov, 2010) contended that organizations with high expenses of outer fund (fiscally obliged firms) rely more on internal wealth. Thus, such hindrances in financing can affect an association's capability to take investments with an NPV esteem (Almeida & Campello, 2007). Local firms producing huge benefits can obtain extensive sums in light of the fact that their banks can recoup huge qualities if there are liquidations.

On the basis of above discussion, firms face a lot of financial problems due to agency problem and over-investment by managers. Over-investment and agency problem are one of the main causes, due to these problems' firms face financially distresses situation. To overcome this situation, firms try to find out the ways to handle this issue. One of the main ways is that firms go for external finance means FDI because FDI is not only bringing financial help for the companies, but companies can also get technology, manpower, skills from foreign direct investments.

Based on above discourse, FDI lessens the income affectability of capital investment by household firms by means of innovation overflow or the observing system. I abridge the examination in a recommendation that inspires my exact system.

H2: FDI moderates the relationship between cash flow and investment cash flow sensitivity.

When the firms have easy excess of foreign direct investment then all firms can easily increase their cash flows and invest in business and increase their business's productivity and income which leads to positive impact on overall industry. When industry grows positively, then in the world the country's image will be better and stronger and other nations are willing to invest in those countries which have good opportunity and future growth.

Research Methodology

Target population of this study contains 14 non-financial sectors according to FSA. The sample size of this research is selected on basis of convenient sampling technique because most of the sectors did not show data for consecutive years, so the researcher selected only 7 sectors, of which data for the year 2012 - 2017 was available. Convenience sampling is the kind of non-probability sampling for which data can be collected easily. Researcher used panel data in current study. Panel data means multiple observations over multiple time period. Panel data gives more degree of freedom or more accurate prediction. Data of all variables is collected from state bank of Pakistan.

Dependent variable, R. Inv is the rate of capital investment. Capital investment is measured by current assets divided by total assets. Capital investment refers to funds invested in a firm or enterprise for the purpose of furthering its business objectives. The first priory of organization is to find positive NPV projects that could give them excess returns. Tobin's Q shows investment opportunities and when investment opportunities is higher it means there is more profit margin for shareholders. Tobin's Q depends on present and future profit margin of invested capital. According to James Tobin of Yale University, who have done a lot of work in corporate sectors theorized that replacement cost should be equal to stock market of all organizations. (Kaplan & Zingales, 1997) have defined the Q (Tobin's Q) is measured by Market value of equity plus book value of equity divided by book value of total assets. (Farrell, 2008) defined foreign direct investment as a bundle of investment, knowledge, administration, and private enterprise, through which corporations drive and deliver goods and services in a global market. As any industry includes FDI in its capital structure then it starts less relying on its internal cash flows. FDI may enter in an industry in the form of capital, technology or management structure (Scott-Kennel, 2001) but in this study only FDI in the form of capital is studied because it is a major factor to increase the rate of investment cash flow sensitivity. FDI is measured by FDI divided by total assets. Firms' capital depends on its cash flow, it may increase due to high rate of cash inflow or it may decrease due to high rate of cash out flows. Cash flow is measured by total assets divided by Net cash flow from operation. Industry size is control variable of this study. Industry size is measured by anti-log of assets. Industry growth is also control variable of this study. Continuous increase in annual performance of domestic industries refers to growth of industry.

To examine the impact of cash flow to capital, investment opportunities and FDI on investment cash flow sensitivity regression analysis is performed. For this purpose, common effect model is used. In first section, researcher will analyze the linear relationship of independent variables with the dependent variables. For this purpose, following model is executed through stata software.

In this section, researcher will analyze the moderating role of foreign direct investment between cash flows and investment cash flow sensitivity. Theory suggested that FDI has direct impact on cash flows that may reduce the sensitivity in investment cash flows.

RESULTS AND DISCUSSION

The dependent variable of the study is rate of investment which has .04 or 4% average value while it deviates from its mean at 0.042 or 4.2%. First independent variable of the study is Tobin's Q having mean value of 2.74 % while its minimum value is 5% and its maximum value is 2.1%. Average value of cash flows is 0.11 and its maximum value is 0.53 which is a good indicator of data. The last independent variable of the study is foreign direct investment which has 0.002 average value and its minimum value is -0.003. Minimum value of foreign direct investment is too small because in some sectors of the sample data FDI involvement was totally zero for some years of the study. Control variables of the study are industry size and growth which has 20 and 0.09 average values respectively.

Table No. 1 Summary Statistics

	Mean	SD	Min	Max
Rate of Investment (Ratio)	.0437	.042	058	.126
Tobin's Q (Ratio)	2.743	2.343	.539	2.165
Cash Flows	.118	.123	0792	.536
Foreign Direct Investment	.002	.001	.003	.007
Size	20.01	.986	18.39	21.52
Growth	.096	.065	.006	.244
N	35	35	35	35

Note: R.Inv is the rate of investment, T.Q is investment opportunity, C.F is cash flow to capital, FDI is

foreign direct investment, Size is total assets of the industry, Growth is growth of industry, N is No of

observations.

Correlation is a statistical technique which is used to explain the strength of relationship between two variables of the study. Pearson correlation of the variables of interest is displayed in table 5. According to (Damodar N, 2004), if the value of any variable exceeds 0.8 in correlation matrix it means there is problem of multicollinearity. In our results of correlation matrix, it is cleared that all values are below this threshold which indicates that problem of multicollinearity is absent in final data set of the study. Tobin's Q is positively correlated with the rate of investment. The second main independent variable of the study is cash flow which is positively correlated with the rate of investment at 1% level of significance which indicates that investment increases in the industry due to FDI Control variables of the study (Size and growth) are negatively correlated with the rate of investment.

Table No.5 Correlation Matrix

	Rate of	Tobin's	Cash	Foreign Direct	Size	Growth
	investment	Q	Flows	Investment		
Rateof investment	1					
Tobin's Q	0.190	1				
Cash Flows	0.285	0.568**	1			
Foreign Direct Investment	0.367*	0.350*	0.229	1		
Size	-0.255	-0.668**	0487*	-0.306	1	
Growth	-0.157	-0.009	0.221	-0.068	0.172	1

^{*.} Correlation is significant at the 0.05 level (2-tailed).

Note: R.Inv is the rate of investment, T.Q is investment opportunity, C.F is cash flow to capital, FDI is foreign direct investment, Size is total assets of the industry, Growth is growth of industry, N is No of observations

REGRESSION ANALYSIS

Regression analysis is a technique which is used to check the relationship between independent and dependent variable of the study. Furthermore, the direction of this relationship is also observed in this analysis that either two variables have positive relationship or negative relationship. To examine the impact of cash flow to capital, investment opportunities and FDI on investment cash flow sensitivity, regression analysis is performed.

Results of the model 1 suggests that Tobin's Q positively influences the rate of investment having coefficient value of 0.004 which implies that increase in investment opportunities in the non-financial industries of the Pakistan may lead to increase in rate of investment. These results are in line with the findings of (Chen, El Ghoul, Guedhami, & Wang, 2017). Cash flow has positive relationship with the rate of investment having coefficient value of 0.152. This positive relationship indicates that increase in all types of cash flows of the industry may lead to increase in the rate of investment for the industry. If an industry faces some constraints in the cash flows, then it may lose or decrease rate of investment. So, our first hypothesis is approved.

Results of model 2 show the moderating role of foreign direct investment between the cash flows and rate of investment. The interaction term coefficient is positive and significant at 1% level which implies that presence of FDI in an industry strengthens the relationship of cash flows and rate of investment. Findings of this model depicts that cash flow has positive but insignificant coefficient value while its interaction term has positive but significant coefficient value, it means that strong moderation proves for this model. Moreover, change in R2 also increases from 0.6 to 0.7 which is also more clear indication of strong moderating role of FDI. Industry having FDI will have much capital in the form of internal cash flows and cash flow from external source in the form of FDI so, it will invest more frequently in profitable projects. Time and industry dummies are also

^{**.} Correlation is significant at the 0.01 level (2-tailed).

included in the models to control the effects of time and industry but not reported in the table. Therefore, second hypothesis of the study is also approved.

T.Q, C.F & FDI and investment cash flow sensitivity

	Model 1	Model 2		
	Rate of investment	Rate of investment		
Tobin's Q	0.00437	0.0107		
	(0.0166)	(0.0162)		
Cash Flow	0.152	0.167		
	(0.260)	(0.228)		
Foreign direct	0.0123	0.0277*		
investment	(0.0136)	(0.0139)		
Size	-0.269	-0.180		
	(0.159)	(0.145)		
Growth	-0.130	-0.681		
	(0.985)	(0.900)		
Foreign direct		0.0306*		
investment *Cash Flows		(3.083)		
Cons	5.843	3.993		
	(3.380)	(3.083)		
R ²	0.604	0.721		
N	28	28		
Years Effect	Yes	Yes		
Industry Effect	Yes	Yes		

Standard errors in parentheses, p < 0.1, p < 0.05, p < 0.01

Note: R.Inv is the rate of investment, T.Q is investment opportunity, C.F is cash flow to capital, FDI is foreign direct investment, Size is total assets of the industry, Growth is growth of industry, N is No of observations.

5. Conclusion

The researcher analyzes the impact of foreign investment, industry's cash flow and investment opportunity on rate of investment in the context of Pakistan by using the panel data from 2012 – 2017. In this study, researcher enhances the importance of foreign direct investment in Pakistani industries that after inflow of FDI in Pakistani economy financial problems are solved day by day. Because main reason of the Pakistani economy is energy crisis due to which many industries effected badly. After the start of CPEC in Pakistan, many other countries want to contribute in rising Pakistani economy and invest in many projects which is very good change for Pakistani economy. Due to crisis, the Pakistani industries majorly faced shortage of the external finance and they did not have enough amount of internal cash flows, so their rate of investment has decreased day by day and their investment sensitivity has increased continuously. After inflow of external finance, not only financial problem is solved but also Multinational companies bring new

technology in the country through which productivity is increased. As clearly specified above, this study required the question, is foreign direct investment important for industries future growth? And how foreign direct investment effects investment cash flow sensitivity. For this purpose, researcher gathered industry level panel data and ran regression to test these two hypotheses. All independent variables (investment opportunity, cash flow and FDI) are positively related to dependent variables but no one is significant at any level. Investment opportunity and cash flow are positively related to rate of investment. FDI is positive and interaction term is also positive and significant which means when FDI increases in the economy, cash flow of the industry would also increase which causes increase in rate of investment so FDI plays strong moderation role between cash flow and rate of investment. The policy implication of this study is that if Pakistani industry improves its reputation worldwide, they can get foreign investment easily which may help to improve number of investment opportunities in Pakistani industries. Every study has some future directions which is helpful for researcher for their research work. This study is based on only industry level data but for future direction it could be studied at firm level data. All type of research has some limitation due to constraints of data or due to limited time. The limitation of this study is lack of data due to which number of observations is very small.

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