Foreign Direct Investment Influences the Development of Stock Market

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Abstract

The objective of this investigation also includes the determination of impact of these two main factors whether related or not in Pakistan owing to reason that it varies country to country. The important benefit lies on the substitution or complementary part of FDI in the stock market development. A few other significant factors domestic savings, GDP growth and exchange rate have been also collaborated into this investigation together with our important independent supportive factor FDI. A positive important influence of FDI is found on the growth of stock market by use of time series data in duration from 1990 to 2021 under ordinary least squares (OLS). It is found that nearly 73% rise in the growth of Stock market with a 1% rise in FDI. While exploring other variables, domestic savings, exchange rate can have a positive and negative significant effect respectively; GDP development has an important influence on the growth of stock market but Inflation has negative and insignificant impact. This behaviour is the validation of our expectations.

Introduction

A robust financial system promises economic development and constancy of a state. As a substantial substance, a dynamic role is played by capital market in the production of long term economic resources and leading them into the productive investments. Therefore, effective capital market is important for the prosperity and economic development. Among these, stock market is a mandatory for the financial system. This can be a cause of financing innovative venture basing on its estimated profitability. For a country, it behaves as an imitation of economic strength. It can be observed that the economic growth, investment raising and savings all are associated with the stock market expansion. The stock market growth is the consequence of many important factors such as political stability, GDP growth, inflation and foreign direct investment. (Levine and DemirgucKunt 1996; Sing, 1997; Zervos and Levine, 1998).

There is a key role of stock traded market in the growth of the financial structure of economies and supports in financing projects and asset; It is accomplished in speeding economic growth, providing jobs and reducing poverty. The growth of stock market is not necessarily associated with economic growth of nation, but also a major indicator about the economic actions in future and a nation's financial asset. (Raza, Ahmed, Ahmed, Iqbal, & Ahmed, 2012)

In Pakistan, currently there are three stock exchanges, one of the oldest stock exchange is the Karachi stock exchange (KSE) which was established in 1947. The remaining two includes Islamabad stock exchange (ISE) and Lahore stock exchange (LSE) established in 1977 and 1994 respectively.

In the present era, in most of the emerging countries, foreign direct investment (FDI) is the major source of capital where it plays a role to link the gap of capital, managerial skill, technology, human capital development and the atmosphere for the progress of economical trade. Though, the economists found that the part of FDI in economic growth is somehow mixed in the literature. But, FDI transfers technology and business know-how to a host country.

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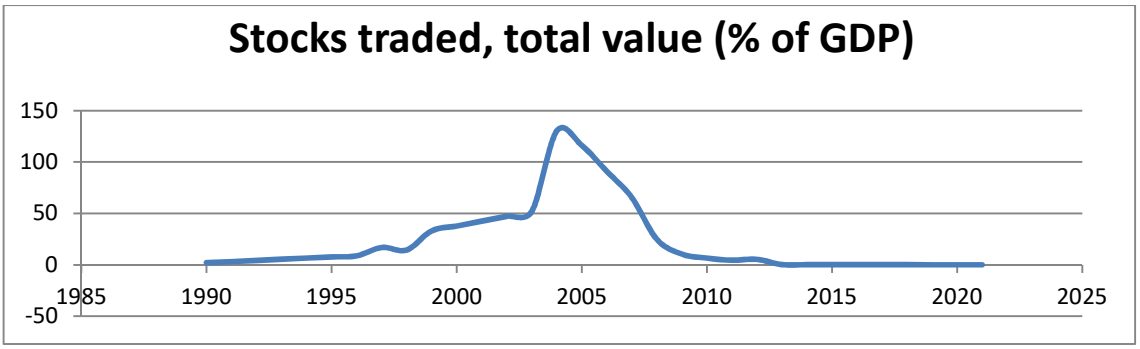
The total value of traded shares over the period is classified as stocks traded. This indicator accompaniment the ratio of market capitalization by displaying whether the size of market is matched by the trading. Pakistan GDP percentage was at 0.2 % nearly in 2014, unaffected from the preceding year. The reason behind this was may be due to decline in the currency value and political instability.

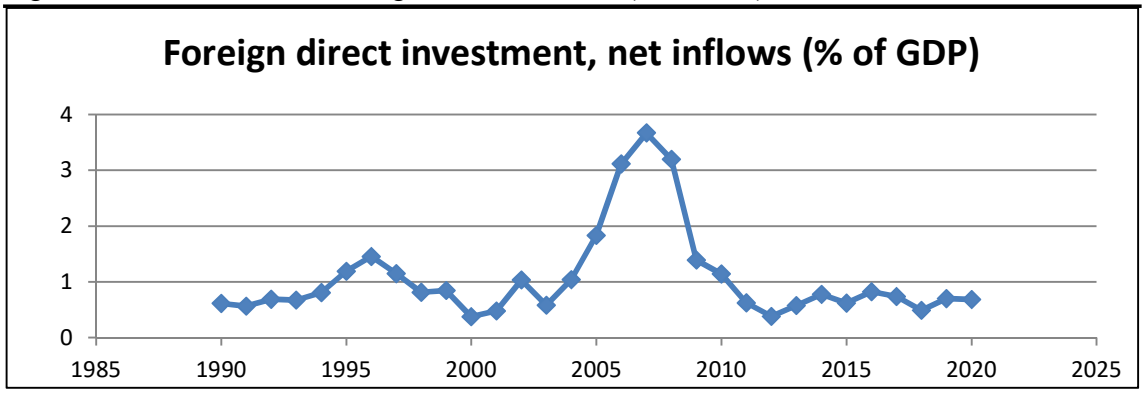
Figure 1: Stock traded trend of Pakistan (1990 to 2021)



(World development indicator 2021)

Foreign direct investment states the direct investment detached flows in the economy. It is usually the sum of re-investment of earnings, other capital and equity capital. Direct investment is basically a cross-border investment that interconnected with one local economy having fully hold or a key factor on the enterprise management that is a resident of other economy. Mostly, 10 percent ownership or more of regular shares of polling stock is a criterion assuring the existence of the direct investment affiliation. Pakistan foreign direct investment for 2020 was 0.685 %, a **7.92% decline** from 2019.

Figure 2: Trend of Pakistan's foreign direct investment (1990-2021)



(World development indicator 2021)

The aim of this effort is to observe the position of the foreign direct investment in the stock traded of Pakistan and to analyze that they are interconnected or not. The main object is to admire FDI performance in the stock traded growth of Pakistan. This study will also provide a comprehensive analysis about the influence of foreign direct investment together with domestic savings, instability, exchange rates and inflation in the Pakistan's stock traded in a political instability situation.

Data Description

This Study handling Six variables which include Stock Traded (ST), Foreign Direct Investment (FDI), Gross Domestic Savings (GDS), Exchange Rate(ER), GDP Growth (GDP_G) and Inflation (INF) with their analytical and experimental evidence.

Foreign Direct Investment (FDI):

FDI is an essential tool of stock traded development. It can also play its role in raising domestic savings in the country through creation of job and enhancement of technology transfer (Singh, 1997). Without FDI, it would be difficult to obtain such a large capital through the country's own domestic savings. Findings of Raza, Iqbal & Ahmed, (2012) also shows positive and statistically strong relationship between FDI and Stock traded Development. This study use foreign direct investment, net inflows (% of GDP) for FDI variable data from World Bank. We also suppose that FDI have positively affect the stock traded development.

Gross Domestic Savings (GDS):

Domestic Savings accelerate economic growth through boosting Stock market. It also increases quantity of investment and improves that investment (Yartey, 2008). Liu & Garcia (1999) argued that larger the domestic savings in the country results in higher amount of capital inflows through the stock markets. Kalim & Shahbaz (2009), Yartey (2008), Liu & Garcia (1999) found a positive significant relationship between Domestic Savings and Stock Market Development. Gross domestic savings (current US$) is used as a proxy for Domestic Savings (Sav) and we also expect positive impact of Domestic Savings (Sav) on SMD.

Exchange Rate(ER):

The Stock prices and exchange rate relationship (ER) is very important because a change in exchange rate may result in also a change in Stock Market prices because when the currency of a country is weak then it less likely that the foreign investors will invest in that country due to currency risk. As due to fluctuation in currency and the risk faced by the foreign investors, we use the Pakistan Rupee-US 30 Dollar exchange rate to measure the macroeconomic stability of the Pakistan. Subair & Salihu (2010) and Dimitrova (2005) found negative impact of Exchange Rate (ER) on SMD. Exchange rate of local currency units per US$ is used as proxy for Exchange Rate (ER). We expect negative sign of ER.

GDP Growth:

In many researches GDP growth have given both negative and positive results on the stock traded development and GDP growth. Kamran, Zahid & Wali (2018) identified that a professional-strategic and stable stock market will increase investment chances in a country that grasped probability for dynamic developments and at last provide the outcomes in the form of improved economic activity. Avoiding the risk and effectively providing the capital. We use GDP growth (% of GDP). GDP growth may have a positive or negative impact on stock traded development

Inflation (INF)

There is evidence that countries with moderate inflation have more developed financial sectors than countries with high inflation. Boyd, Levine, & Smith (1996 and 2001) found a negative correlation between inflation and stock market performance in countries with low average inflation. However, in a hyperinflationary economy, the marginal impact of inflation on stock market performance diminishes rapidly if inflation continues to rise. Ghazouani (2004) also found a similarly unimportant result that rising inflation does not adversely affect stock market performance. Her the Inflation consumer prices (annual %) used for Inflation (INF).

Table 1: Description of Variables

S#	Variables	Variable's type	Description	Source
1	ST	Dependent variable	Stock Traded Development	SBP(STATE BANK OF PAKISTAN)
2	FDI	Independent variable	Foreign direct investment	WDI(WORLD BANK)
3	ER	Independent variable	Exchange rate	WDI(WORLD BANK)
4	GDS	Independent variable	Gross domestic savings	WDI(WORLD BANK)
5	GDP_G	Independent variable	GDP Growth	WDI(WORLD BANK)
6	INF	Independent variable	Inflation	WDI(WORLD BANK)

Econometric Model:

The main advantages of this investigation is to analyze and identify the role of FDI in the development of Pakistan's stock traded. In this context a Hypothesis is developed that the enhanced FDI of Pakistan supports in Stock Markets growth. Following model of equation is used to explore the influence of FDI on the growth of Stock Market together with the exchange rate, GDP growth and Domestic Savings.

$$ST_t = \gamma_0 + \gamma_1 FDI_t + \gamma_2 ER_t + \gamma_3 GDS_t + \gamma_4 GDP\_G_t + \gamma_5 INF_t + u_t$$

Where ST= Stock Traded Development
FDI = Foreign direct investment
ER = Exchange rate
GDS = Gross domestic savings
GDP_G = GDP Growth
INF = Inflation

Further $\gamma_1, \gamma_2, \gamma_3, \gamma_4$and γ_5 are the factors in the equation that associate the dependent variable with the independent variables. These factor shows the consequence of independent variables (FDI, ER, GDS, GDP_G and INF) on the dependent variable (ST)..

Methodology and Results:

Descriptive statistics

This table includes all the descriptive statistics of variables. The data is examined from the 1980-2018. In this table maximum, minimum, standard deviation and Mean are presented as.

Table 1: Descriptive statistics

Sr#	variables	Observations	Mean	Std. Dev.	Minimum	Maximum
1	ST	32	23.06545	34.45418	.0627497 (2021)	130.1904 (2004)
2	FDI	32	1.053673	.8131749	.3755285 (2000)	3.668323 (2007)
3	ER	32	1.084482	.0968194	.9648689 (2009)	1.265675 (1990)
4	GDS	32	12.06284	4.065477	5.375794 (2019)	17.39927 (1991)
5	GDP_G	32	4.067466	1.958697	-1.32952 (2020)	7.705898 (1992)
6	INF	32	8.485317	3.948462	2.529328 (2015)	20.28612 (2008)

Tests of Stationarity

The main focus of this study is to make a data of time series analysis consisting of utmost and significant step of checking data series are fixed to evade the spurious reversion and deceptive consequences. The data of time sequence is much subtle to test of unit root and if it is observed that a data series comprises unit root problem then it can cause ambiguous results. For avoiding such results, this study comprises ADF tests of unit root.

The ADF tests show that if the estimated value in absolute terms is greater than ADF critical value i.e. | t*| > ADF critical value at a specific level of significance (1%, 5%, 10 %) then null hypothesis of the unit root will be excluded or time series is fixed. However, if the computed value in absolute terms is less than ADF critical value i.e. | t* | < ADF at any specific level of significance (1%, 5%, 10%) then the null hypothesis will not be omitted.

Table 3: Results of the ADF test

Variable name	Augmented Dickey-Fuller test	Order of Integration	Significance level (1%,5% & 10%)
	At Level		
ST	-1.452 (0.0786)	I(0)	At 10%
FDI	-1.806 (0.0407)	I(0)	At 5%
ER	-1.994 (0.0278)	I(0)	At 5%
GDS	-3.606 (0.0293)	I(0)	At 5%
GDP_G	-4.308 (0.0004)	I(0)	At 1%
INF	-2.537 (0.0084)	I(0)	At 1%

All variables are stationary at level so we apply Ordinary least square (OLS) technique.

OLS (Ordinary least square):

An ordinary least square (OLS) regression method was applied to determine the impact of Foreign Direct Investment on Stock traded Development in Pakistan. The regression results for the model are reported in table 3.

Table 4: Regression results

Variables	Coefficients	Std. Error	t-stat	p-value
FDI	17.4899	4.8978	3.5709	0.0014*
ER	-181.59	39.760	-4.5671	0.0001*
GDS	4.20793	0.9348	4.5010	0.0001*
GDP_G	3.86879	1.9150	2.0202	0.0538**
INF	-1.93716	1.0248	-1.8901	0.0699***
Intercept	151.866	42.289	3.5911	0.0013*

***statistically significant at 1%, ** statistically significant at 5%, ***statistically significant at 10%**

Regression outcomes displays that model describes 73 percent of the variation in the co-efficient sign for the FDI and development variable is found positive of what was expected. The value of adjusted R^2 and R^2 are somewhat rather high(0.6859) and (0.7365) respectively and the value of Durbin Watson is 1.581 not so near to 2 but someway depicts that there is no

issue of autocorrelation. From the results of Regression, it can be seen easily that how a rise in FDI will consequence an incline of 17.48 in the development of Stock traded.

Table 5: Diagnostic test

R-squared	Adjusted R-squared	F-Probability	Durbin-Watson stat
0.7365	0.6859	0.0012	1.581

The outcomes suggest that the FDI have a progressive influence over the development of Stock traded. In compliance of Gross Domestic Savings (GDS), the outcomes display that with a rise in Domestic Savings the development of Stock traded (ST) rises by 4.20. The outcomes indicate that Domestic Savings has a constructive effect over ST. The exchange rate effect illustrates that with a rise in the rates of exchange means devaluation of currency, and then there will be a negative impact over the ST by -181.59. As the Dimitrova (2005) found that, the depreciation in currency of a country will result in depressing the Stock traded of that country. The GDP growth shows significant results meaning that GDP growth have also positive impact on stock traded development. Lastly the inflation rate shows insignificant results meaning that inflation have no significant impact over stock market development and this result someway was predictable in our study because our country is a high inflation country as the Boyd, Levine, & Smith (1996 and 2001) contended that in high inflation countries when there is an inflation added above that edge then the marginal impact of inflation on stock market development declines speedily.

Conclusion

This investigation formulates the effect of FDI on the development of stock traded of Pakistan. The objective of this investigation also includes the determination of impact of these two main factors whether related or not in Pakistan owing to reason that it varies country to country. The important benefit lies on the substitution or complementary part of FDI in the stock market development. A few other significant factors domestic savings, GDP growth and exchange rate have been also collaborated into this investigation together with our important independent supportive factor FDI. A positive important influence of FDI is found on the growth of stock market by use of time series data in duration from 1990 to 2021 under ordinary least squares (OLS). It is found that nearly 73% rise in the growth of Stock market with a 1% rise in FDI. While exploring other variables, domestic savings, exchange rate can have a positive and negative significant effect respectively; GDP development has an important influence on the growth of stock market but Inflation has negative and insignificant impact. This behaviour is the validation of our expectations. By keeping in view of the results of this study, the government of Pakistan should enhance the opportunities and facilities for the foreigners to actively invest in various fields of our country by adopting several steps such as the implications of political stability in our country, acceptable provisions infrastructure, reducing the instability of rate of foreign exchange and the rate of interest by means of valuable and accurate operational monetary policy and benefits such as progress in tax system, development in the infrastructure of the country.

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