IMPACT OF FOREIGN DIRECT INVESTMENT ON THE PROFITABILITY OF DOMESTIC FIRMS IN PAKISTAN

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Abstract

The research is basically to find out the influence of gender on Emotional Intelligence and is there This study investigates the impact of Foreign Direct Investment (FDI) on the profitability of domestic firms in Pakistan, using time series data spanning from 1996 to 2015. The research applies an autoregressive econometric model to analyze the relationship between FDI inflows and firm-level profitability, measured by Return on Assets (ROA). Stationarity of variables was tested using the Augmented Dickey-Fuller (ADF) test, revealing mixed orders of integration, thereby justifying the use of autoregressive methods. The analysis incorporated variables such as FDI, FDI per capita, and four lags of ROA as explanatory factors. Diagnostic checks, including the Q-statistic, LM test, Breusch-Pagan-Godfrey test for heteroskedasticity, Jarque-Bera test for normality, and the Cusum test for stability, confirmed the model's robustness. Empirical results demonstrate a significant and positive relationship between FDI and the profitability of domestic firms, while FDI per capita also exhibited a positive influence. Interestingly, the lagged values of ROA revealed a negative relationship, indicating dynamic adjustments in profitability over time. The study concludes that enhanced FDI inflows lead to increased profitability of domestic firms through technology transfer, competition, and capital availability. It recommends that the Government of Pakistan implement investor-friendly policies to further attract FDI and support sustainable economic growth.

Keywords: Foreign Direct Investment, Profitability, Domestic Firms, ROA, ADF

Introduction

FDI play the key role of any developing nation to achieve economic growth and make to operate the resource of the home nation and bring to develop the target country sectors like agriculture, industrial, power, energy, manufacture, etc. FDI push the domestic firms of the host country to increase the productivity level to increase the export rate and bring to increase the completion of between these firms. The impact of foreign direct investment on the host country like Pakistan is very much strong. They provide new technologies to different firms, increase export rate on the host country, provide job opportunities to the citizens of the host country, increase the productivity, and also achieve economic growth in the host country. We know Foreign Direct Investment (FDI) is also provides a lot of packages to the host country through the help of these beneficial packages host country bring economic growth. In these packages have included the different kinds of Aids, the reduction of balance of payment, provide latest kind of equipment's and so on. Foreign direct

investment raises the volume of economy to producing different kinds of goods and services. It is also increasing the volume of trade of the host country because the high level of FDI increase the productivity of different sectors which effect to increases the export rate and GDP rate.

Foreign direct investment is readily rising day by day in Pakistan. The Foreign Direct Investment inflows achieved a record US $1,456.5 Million in 2012-2013, its rise $1,698.6 Million in 2013-2014, its falls $986.9 Million in 2014-2015, again its rise 2,203.3 million in 2015-2016, its rise 2,410.9 million in 2016-2017(Board of investment, 2017). The major sources of FDI in Pakistan is from United Arab Emirates, United States, Saudi Arabia, Switzerland, U.K. and Netherlands, etc. The top sectors attracting FDI in Pakistan are the Oil & Gas, Power, Chemicals, Communication (IT & Telecom) Construction and Trade (Board of investment, 2017).

There are also some important types of FDI which explain clearly the concept of foreign direct investment. First is horizontal FDI is that kind of foreign direct investment is happens when a firm in a host country through FDI replacements its host country-based activities at the same value is called horizontal FDI (Wikipedia). Second one is vertical FDI in the concept define their home country into the host country for the purpose of exporting to a third country (Wikipedia). Third kind is conglomerate FDI happens when in value chains a firm moves upstream or downstream is called conglomerate FDI (Wikipedia).

Foreign Direct Investment in Pakistan
According to the latest report of FDI in Pakistan tells the FDI in Pakistan has been rapidly rising as compare to previous month because nowadays FDI in Pakistan are increased by 291.5 USD mn in Jun 2018, as related by rising of 237.9 USD mn in the previous month. The major share of Pakistan FDI depends on china because the 40% contribution of Pakistan FDI is based on in Chinese FDI. But the last fiscal year 2016-2017 US is the biggest investor in Pakistan FDI (47.9Million) USD, and the countries which have low Level of investing in Pakistan are India, Bangladesh, and Sari Lanka. Nowadays Pakistan intensely attracts foreign direct investment. During the last five years Pakistan received $14,288.7 Million foreign direct investment which provide the best way to grow their economic growth in host country. However the government of Pakistan needs some solid planning and policies to attract the high level of foreign direct investment like CPEC which give the long-term benefit to the host country. (Pakistan today, 2017) There are also some other countries which highly investing in Pakistan like according to the express tribune (2012) South Korea has been started huge investment on "Hydropower project" in the host country the South Korea participating 147MW and costing around $400 Million.

The government of Germany wants to increase investment in Pakistan in different sectors especially energy sector, health and education the security situation on the host country, the different companies of Germany have been plan to invest over money the telecom, energy sector in Pakistan (Propakistani,2016). According to Pakistan & Gulf economist(2017) the companies of UAE are interested to increase the investment rate in Pakistan the current UAE investing rate in Pakistan in $6 Billion, UAE investing level in host country $3.74 Billion during the period of time 2004-2010 both the private and public sectors of the host country, nowadays different UAE

companies are investing in Pakistan such as Emirates National Oil Company, International Petroleum Investment Company, Etisalat, Dana Gas, Al Ghurair, Emaar, DP World, Abraaj Capital, Thani, Danata, Atharihra Agricultural Company, Julfar, Emirates Investment Group, Arab Company for Packaging and Al Nasser Holdings.

Objective of the Study

The key goals of this study are;
1. To examine the foreign direct investment impact on profitability of domestic firms in Pakistan.
2. To forward policy recommendations if any.

Literature Review

Balasubramaniam et al (1996) examined that the effect of foreign direct investment on economic growth in developing economies has been using the cross-sectional data in the present study. By using the Ordinary Least Square method to estimate the selectable data, the conclusion of this study shows that there is significant and positive relationship between the foreign direct investment and those nations which have ordinated trade policy but the relationship between foreign direct investment and those nations who have interiorly trade policy are negative. Kim & Seo (2003) examined that foreign direct investment impact on domestic investment in Korea for the period of time 1985-1999. By using VAR model to investigate the relationship between response and explanatory variables.

The consequence shows that the relationship between foreign direct investments and domestic investment are negative in Korea. Khan (2007) observed that FDI impact on domestic financial sector and economic growth in Pakistan for the period of time 1972-2005. By using the Co-integration analysis To investigate the relationship between foreign direct investment, Economic growth and Domestic financial sector in Pakistan. The consequence of study shows that FDI have significantly positively affected by the domestic sector and economic growth both the short and long run in Pakistan. M. Khan and N. Khattak (2009) examined that the impact of economic factors on foreign direct investment in Pakistan for the period of time 1971-2005. Time series data have been used in the present study and this study also based on the variables such as (GDP, Domestic Investment, Trade Openness's, External Debt, Taxes and ROI). By using the augmented ducky fuller test and Vector error correction model, the conclusion of study shows that GDP, domestic investment, trade openness and return of investment has been substantially and positively related to the FDI, while external debt and taxes has been adversely related to the FDI of the host country. Ghazali (2010) described that connection among the FDI economic growth and domestic investment in Pakistan for the period of time 1981 to 2008. By using the co-integration analysis, the result shows that in the long run simplex relationship between FDI and economic growth and the interactive connection between FDI and domestic investment in Pakistan.

Borensztein (1998) examined that the impact of FDI on gross capital formation for the 69 countries have been included in the present study the time period has been used 1960 to 1990. The conclusion of the study shows that FDI increases the Fixed Capital Formation of these countries which we

select and also raises the economic growth of these estimated countries, so the relationship between FDI and Capital Formation of these 69 countries are positive.

Research Method
This section of the study discusses the data behavior and the econometric analysis of the study and clarify their relationship between response and explanatory variables the relation may be positive or negative. The useable variables of the study are Return of Assets (ROA) which is response variable and Foreign Direct Investment (FDI), Return of Assets four lags and FDI Percentage as a Capita are the explanatory Variables of the study. The present study use time series data from 1996 to 2015 to finding the Impact of foreign direct investment on the Profitability of domestic firms in Pakistan.

The study uses Autoregressive model for estimation and find the relationship between response and explanatory variables of the study as given follows:

$$\text{ROA} = \beta_0 + \beta_1 FDI + \beta_2 \text{FDIPC} + ROA(-1) + ROA(-2) + ROA(-3) + ROA(-4) + \varepsilon$$

In the given model shows that the multiple regression technique will be used where the ROA is the dependent variable and the FDI, FDIPC and ROA (-4) are independent variables. But ROA (-4) shows four lags of the dependent variable. Further, β_0 is the intercept and β_1, β_2 are the parameters to be estimated where the ε is the error term.
But if the variables are non-stationary in that case the result is problematic and spurious, then to make the data stationary for that purpose using the Augmented Dickey-Fuller unit root (ADF) technique given follows:

$$\Delta y = \alpha_{0+} \alpha_1 yt - 1 \sum \alpha i p i = 1 \Delta yt - 1 + \varepsilon t$$

The present study Augmented dickey-fuller test used for the stationarity of data. The Auto-regressive Model using to find the positive and negative relationship between the variables. The Q-Statistic and Lagrange Multiplier (LM) tests are used to check serial correlation in the data. Where the Heteroskedacity test is used to find the data has been Heteroskedacity or Homoskedacity. Furthermore, the present study Jargqua-Bera test is also used to find the data will be acceptable or reject able through the help of series of statistics. More ever the Cusum test is used to find the stability of data.

Results and Discussion
Unit root Test for Stationarity
ADF test is used for the stationarity of data and also used in that situation when we need to take multiple lags. The unit root test for stationarity tables have used three variables the dependent variable is Return of Assets and the independent variables which is Foreign Direct Investment and FDI as percentage of Capita. More ever in the present study ADF test is applied for all the variables on intercept to find stationarity.

Table No.4.1: Result of Augmented Ducky Fuller Test

Variables	Intercept Level		First Difference		Second Difference		Order of Integration
	t-values	p-values	t-values	p-values	t-values	p-values	
ROA							I(1)
	-1.451779	0.5293	-3.175539	0.0438	-3.317300	0.0358	
FDI							I(2)
	-2.151715	0.2287	-2.159789	0.2260	-3.279502	0.0326	
F Capita	-2.233550	0.2022	-2.103542	0.2455	-3.286199	0.0322	I(2)

Above 4.1 table the ADF result shows that the response variable ROA is stationary at 1st difference because the P-value is less than 0.05 meaning that the mean variance and covariance are constant over times. On the other side both the explanatory variables are stationary at 2nd difference and both the variables P-value are acceptable. Furthermore, the variables are not stationary at same order of integration, then we have Autoregressive test to find the linear relationship between the variables. Autoregressive technique could be used to examine the relationship between the variables, though it's imperative to determine the lag length using the Akaike Information Criterion (AIC).

Test for lag selection criteria
Before we run the Co-integration, Autoregressive models to find the lag selection criteria, there are five different kinds of criteria. Then select the criteria which indicate (*) but all of these the most suitable criteria are AIC and SC. In the given model we can select the AIC criteria its indicate four lags which is used in the estimation process.

Table No.4.2: Result for Lag Selection Criteria

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-313.1512	NA	2.92e+13	39.51890	39.66376	39.52632
1	-277.2090	53.91323	1.04e+12	36.15113	36.73057	36.18080
2	-268.9813	9.256231	1.34e+12	36.24766	37.26168	36.29958
3	-215.3337	40.23567*	8.00e+09	30.66671	32.11532	30.74089
4	-190.1481	9.444592	3.81e+09*	28.64352*	30.52670*	28.73995*

Autoregressive Model
In the given estimated table 4.3 shows the result of autoregressive technique, the result shows that the FDI is independent variable significant to the response variable its show the positive relationship. Moreover the FCAPITA is also give the positive relationship with dependent variable, and the lag variable is also positively effected by the dependent variable

Table No.4.3: Result for Autoregressive Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.045664	0.147736	-0.309091	0.7630
FDID2	0.025105	2.36E-05	3.422770	0.0057
FCAPITAD2	0.013525	0.004036	3.350906	0.0065
ROAD1(-4)	-0.985783	0.229305	-4.299006	0.0013

Test for Q-Statistic:

In order to find the serial correlation to take Q-statistic test and in the given result shows that there is no serial correlation in the model because according to graphical representation in the given table all the spicks within the left and right sides of line its show no serial correlation in the model. According to mathematical representation to check the Q-Stat, P-values which shows there is no serial correlation in the residual and the P-values is greater than 0.05 its shows to accept the null hypothesis.

Table.No.4.4: Result for Q-statistics

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. *| . |	. *| . |	1	-0.099	-0.099	0.1770	0.674
.***| . |	.***| . |	2	-0.425	-0.439	3.7252	0.155
. | . |	. *| . |	3	0.041	-0.079	3.7603	0.289
. |** . |	. |* . |	4	0.290	0.123	5.7067	0.222
. **| . |	. **| . |	5	-0.235	-0.233	7.1103	0.213
. *| . |	. | . |	6	-0.129	-0.033	7.5845	0.270
. *| . |	****| . |	7	-0.188	-0.494	8.7145	0.274

Test for Lagrange Multiplier:

LM test run to find the serial correlation in the data but in the given results shows there is no serial correlation in the data because the P-value is greater than (5%).

Table No.4.5: Result for LM Test Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.698614	Prob. F(4,7)	0.6168
Obs*R-squared	4.279648	Prob. Chi-Square(4)	0.3695

Test for Heteroskedacity:

To find the data have been faced by Heteroskedacity or Homoskedacity for that purpose to run the Heteroskedacity test. However, the estimated results shows that the Prob. Chi-Square value and the P-value is greater than 0.05% meaning that there is no Heteroskedacity in the model. Its shows accept the null hypothesis and reject the alternative hypothesis. Further model got homoskedacity
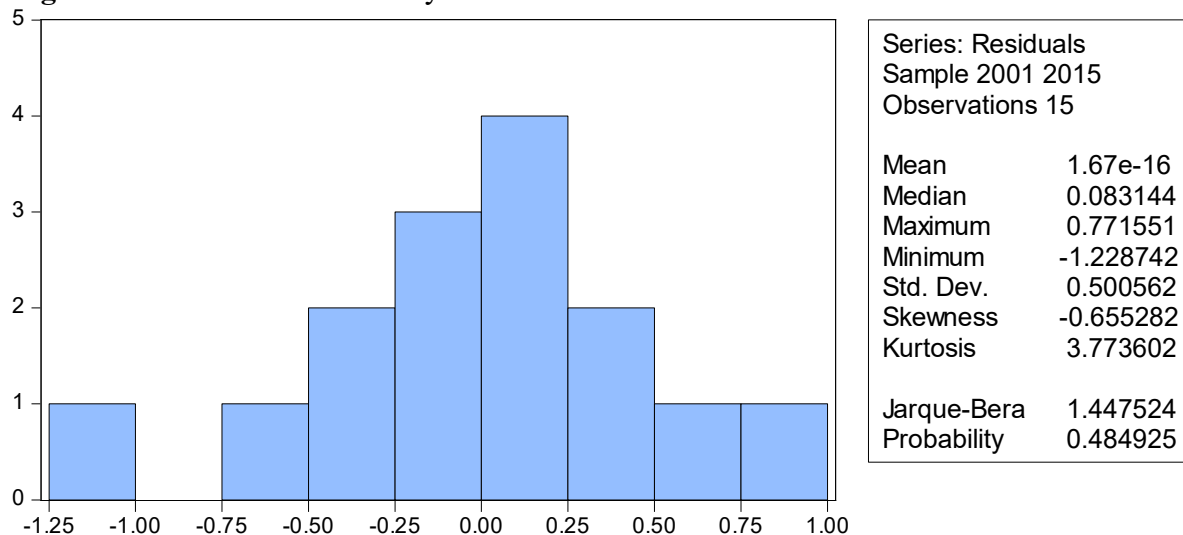
other words the residual have homoskedacity.

Table No.4.6: Result for Heteroskedacity Test Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.535999	Prob. F (3,11)	0.6672
Obs*R-squared	1.913069	Prob. Chi-Square (3)	0.5906
Scaled explained SS	1.426749	Prob. Chi-Square (3)	0.6993

Normality Test:

Jargqua-Bera test is applied for the normality of data it is also called J-B test, actually J-B test gives the values series of statistics. Series of statistics have given mean, median, maximum, minimum, standard deviation, skewness, kurtosis & J-B. According to the J-B test the following estimated result will be acceptable because the P-value is greater then (0.05).

Figure.4.1: Result of Normality Test

Series: Residuals	
Sample 2001 2015	
Observations 15	
Mean	1.67e-16
Median	0.083144
Maximum	0.771551
Minimum	-1.228742
Std. Dev.	0.500562
Skewness	-0.655282
Kurtosis	3.773602
Jarque-Bera	1.447524
Probability	0.484925

Cusum Test:

Cusum test to find the stability of data, which gives a result in a graph shape of four lines; these four lines are Black, Blue, and two Red lines. However Blue line shows the response variable, which is within the two red lines, meaning that there is no stability in the data, and the model will be acceptable, but if the blue line is beyond the two red lines, then the model will be rejected.

Figure.4.2: Result for Cusum Test
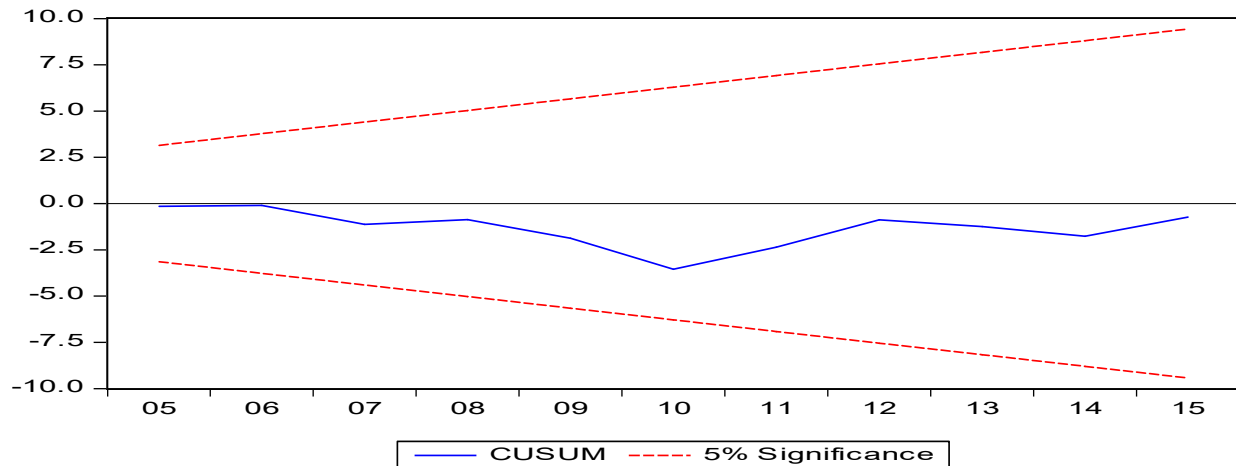
Conclusion

The Foreign Direct Investment (FDI) plays a very key role on the economic growth of any country like Pakistan. It is the very vital economic growth factor in the globalization of the world economy. Any nation to attracting the high level of FDI brings to achieve the high level of growth rate of GDP. It is also very high and positive impact on the profitability of the domestic firms in the host country. FDI gives beneficial packages to the citizens of the host country like transfer of knowledge, increasing competition, training of man power and son on. The present study are virtually examined the Impact of Foreign Direct Investment on the Profitability of Domestic Firms (banks) in Pakistan.

The main goal of study is to examining the "Impact of Foreign Direct Investment on the Profitability of Domestic Firms in Pakistan". However time series secondary data have been used, the data shall be taken from the official website of State Bank of Pakistan (SBP) and World Developing Indicators (WDI).

The study based on the time series data 19 number of observations have been taken from 1996-2015.The estimation process shall be finished through the help of Eviews. The ADF test is used for the stationarity of data and "Autoregressive Model" is used to analyzing the relationship between response and explanatory variables. The study based on three variables such as (ROA, FDI, FDICAPITA and Four lags of ROA) where the ROA is response variable to measure the profitability of domestic firms and the rest of two other variables are explanatory. The conclusion of study suggested that there is significant and positive relationship between ROA and FDI. The result also shows that the relationship between ROA and Capita is positive however the relationship between ROA and four lags of ROA are negative. The greater the inflow of FDI in Pakistan the greater will be the Profitability of Domestic Firms in Pakistan.

Recommendations

It is recommended that government should focus to making these kinds of policies which attracting the high level of foreign direct investment and the government of Pakistan should adopt the investment policies for attracting foreign investors to come here and invest.

Reference

Balasubramaniam, V. N., Salisu, M., &Sapsford, D. (1996). Foreign direct investment and growth in EP and IS countries. *The economic journal*, 92-105.

Board of investment (2017). Annually wise inflows available at: http://boi.gov.pk/ForeignInvestmentin Pakistan.aspx

Board of investment (2017). Sector wise inflows available at: http://boi.gov.pk/ForeignInvestmentinPakistan.aspx

Board of investment (2017). Yearly wise inflows available at: http://boi.gov.pk/ForeignInvestmentin Pakistan.aspx

Bosworth, B., & Collins, S. M. (1999). Capital inflows, investment and growth. *Tokyo Club Papers*, *12*, 55-74.

Ghazali, A. (2010). Analyzing the relationship between foreign direct investment domestic investment and economic growth for Pakistan. *International Research Journal of Finance and Economics*, *47*(1), pp.123-131.

Khan, M. A. (2007). *Foreign direct investment and economic growth: the role of domestic financial sector* (No. 2007: 18). Pakistan Institute of Development Economics- Linked in (2014) available at: https://www.linkedin.com/pulse/20140701192055-93089254-seven-reasons-why-to-invest-in-pakistan-as-a-foreign-investor Pakistan today available at: https://www.pakistantoday.com.pk/tag/fdi/

Pakistan & Gulf economist (2017) available at: http://www.pakistaneconomist.com/2017/12/11/-uaes-enhanced-investment-pakistan-attracts-global-fdi/

The express tribune (2012) available at: https://tribune.com.pk/story/320451/hydropower-project-south-korea-announces-largest-investment-yet/Wikipedia available at: https://en.wikipedia.org/wiki/Foreign