

Role of Export and FDI in Economic Growth (GDP): A Case of Asian Countries

Zohaib Ahmad¹, Junaid Ahmad²

¹PhD Scholar at University of Management and Technology, Lahore

²MS Scholar at University of Central Punjab, Lahore

ABSTRACT

This research paper intends to test the dependence of economic growth (GDP) by export and foreign direct investment (FDI). Correlation test is used in order to identify the nature of relationship b/w foreign direct investment (FDI), export and economic growth (GDP). A simple linear regression model is used in order to identify the influence of export and foreign direct investment (FDI) on economic growth (GDP). Previous researches illustrates that there is a mix result exists b/w export, foreign direct investment (FDI) and economic growth (GDP). In our case of Asian countries, it is recognized that positive relationship exists b/w export, foreign direct investment (FDI) and economic growth (GDP). It is also identified in our case that there is a moderate regression exists in relationship of export, foreign direct investment (FDI) and economic growth (GDP).

KEYWORDS: Economic Growth (GDP), Export, Foreign Direct Investment (FDI)

1. INTRODUCTION

Dynamic environment and globalization change the ways of doing business and offers opportunities to the developing countries to take part in international trade in order to achieve high economic growth through investment and trade. Researchers focus on export of country in order to explain the economic growth difference b/w countries. Emphasizing on role of export as economic growth determinant is not new and relates to classical economic theory, which classifies the international trade or export as an important role in GDP growth.

Trade boundaries b/w countries are no longer a constraint and FDI becomes important factor to strengthen the communication b/w firms and countries across the globe. In 1970s, international trade increase faster than FDI and becomes most important international economic activity. In 1980s, situation change dramatically and FDI increased its significance by transferring expertise and technologies into other countries to increase sales and efficiency in production [23].

In past two decades, researchers put emphasis more on export, FDI phenomenon and removal of trade barrier across the globe. FDI is the major source to fulfill the gaps of skills and technologies for developing countries [11]. FDI increased the competition in host country and firms start to allocate more funds in learning and innovation [6]. FDI also promotes growth in host country and make possible for host country to participate in globalization process by providing resources (financial and non-financial), increasing competition, increasing skills and knowledge level of employees [10, 23]. FDI can be counterproductive and it is dependent on host country economic conditions, which may spoil economic growth rather than promoting [4]. Researchers give attention both theoretically and empirically to export and GDP relationship. Export improves the economic growth of country in the shape of technological improvement [12], increasing competition [5] and elimination of foreign exchange restriction [22].

To enhance the economic growth (GDP) of country, export and FDI has been a topic of long and intense discussion. There are different aspects that can enhance the GDP of country and these aspects are recognized as low international trade barriers, low tax rates, well developed communication and transportation infrastructure, huge capital amount of investment, skilled labor, stable political situation, encouraging regulatory environment and advancement in technologies. Mostly researchers explain the difference of economic growth b/w countries by the difference in levels of these identified factors [10]. Different studies have been done so far in order to identify the relationship b/w export, FDI and GDP, but there is still a lack of conceptual design.

1.1. Significance of Study

Different researches have been done so far and it is concluded that FDI and export contributes to economic growth of all countries [8]. It is also identified from studies that there is still a lack of conceptual design of relationship b/w GDP, FDI and export. This research paper helps to identify the nature of relationship b/w export, FDI and economic growth in perspective of GDP growth rate. Many criticisms in recent studies are also put on one way nature of relationship b/w GDP and FDI. Recent studies start to consider two way relationship

natures b/w FDI and GDP and it is emphasized that FDI and GDP are interdependent. FDI not only enhance GDP but also GDP enhance FDI in the country [18].

1.2. Research Objectives

Main research objective of this research paper is:

- To identify the relationship b/w export and GDP.
- To identify the relationship b/w FDI and GDP.

1.3. Research Question

There are following two research questions of the research study.

- What is the effect of export on GDP?
- What is the effect of FDI on GDP?

2. LITERATURE REVIEW

Foreign direct investment relates to direct investment by one country or a company to another country in the shape of transfer of expertise and technology. FDI also helps to ensure the better allocation of resources as compared to only capital inflows in the host country. FDI is the subjective measure and definition of FDI varies across different organizations and countries. FDI provides access to a host country to world markets and make possible for them to participate in globalization process [23].

Endogenous growth theory suggests that FDI impact on diffusion of technology in host country and enhances the economic growth of country. Two types of FDI are: outward FDI and inward FDI. Inward FDI involves foreign investment in purchasing the goods and shares of local country. While in outward foreign direct investment, local companies expand their operations and businesses to foreign countries either through acquisition or merger. Liberal trade policies b/w countries are the main consequent of enhancing the FDI. Countries are highly motivated for economic growth and results in the shape of more investment by permitting investors of other countries to invest in their country.

Many studies have been done so far in order to identify the impact of FDI on GDP and it is identified that there is the mix result. Some studies identified positive relationship b/w FDI and GDP [3, 7, 19] while other studies identified that there is no relationship exists b/w FDI and GDP [14].

Researchers also identifies that there are two way nature of relationship b/w FDI and GDP. Increase in FDI can directly enhance GDP of country and high economic growth rate also attracts more investors to invest in the host country [15]. It is also identified that FDI can improve the economic growth of country but it is dependent on its labor force skills, absorptive capabilities and trade liberalization policies [13]. Many studies also used the GDP per capita data of country instead of GDP growth rate data because FDI directly affect the income of workers.

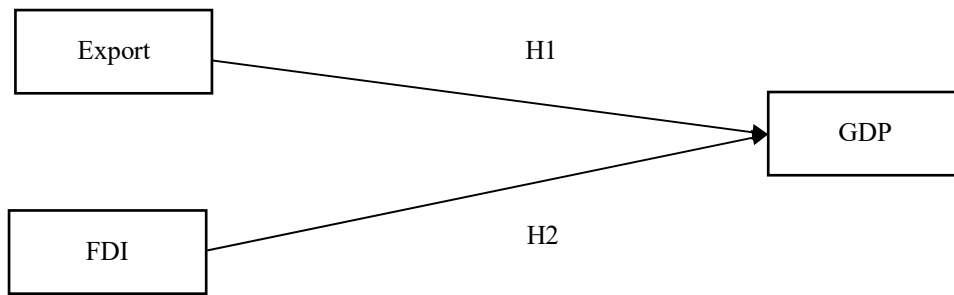
Goal of every country is to attain high economic growth and factors which can effect are more important for policy makers. Countries with expansion export strategy can enhance the economic growth by offering goods and services in unlimited span of world markets and reduced uncertainty in domestic market demand by using advanced technology. If the firms in domestic market are risk averse then it will leads towards reduction in investment of export goods and ultimately reduced the economic growth. So export expansion strategy by the country is the main factor to enhance the economic growth. Previous studies also identifies that no relationship exists b/w export and GDP, when countries having low development level. Some other studies also identified that export having significant positive influence on GDP, when countries having middle development level [22, 27].

Liberal trade policies b/w countries are the main consequent of enhancing the export, which ultimately enhances the economic growth. It is identified that export can improve the economic growth of country but it is dependent on its labor force skills, absorptive capabilities and trade liberalization policies. It is also evidenced from previous studies that all exports don't contribute equally to economic growth. Export of primary products by developing countries can lead to price fluctuation and having no impact on economic growth, while export of manufacturing goods having a significant positive impact on economic growth [18]. It can be claimed that exports of manufacturing goods were less affected by the dynamic changes in the whole world as compared to exports of primary manufactured products [9]. In other words, it can be explains that change in economy of world influence the demand of primary products and ultimately influence country economic growth. Different studies have been done so far in order to identify the relationship b/w export and economic growth. It is identified that there is a strong positive relationship exists b/w export and economic growth [2, 16, 17, 20, 24, 28, 29]. From above discussion, hypothesis of research study are:

H1: Export has a positive impact on economic growth (GDP).

H2: FDI has a positive impact on economic growth (GDP).

3. RESEARCH FRAMEWORK



4. RESEARCH METHODOLOGY

4.1. Research Design

The purpose of research is to examine the relationship b/w export, FDI and economic growth (GDP). We conducted this research study under positivist paradigm by using quantitative research methodology.

4.2. Population and Sample of the Study

For this research study, Asian countries i.e. Pakistan, China, Bangladesh and India are our population frame and we collected data from World Bank website of year 1990 to 2015 as a sample of this research paper.

4.3. Type of study

In this research study, quantitative approach has been employed. Quantitative approach is used because to investigate the cause and effect relationship of variables through hypothesis.

4.4. Focus of study

Our study scope is focuses on impact and effect of variables. For that reason, time series data has been collected and the variables are quantitatively analyzed through regression and correlation analysis technique.

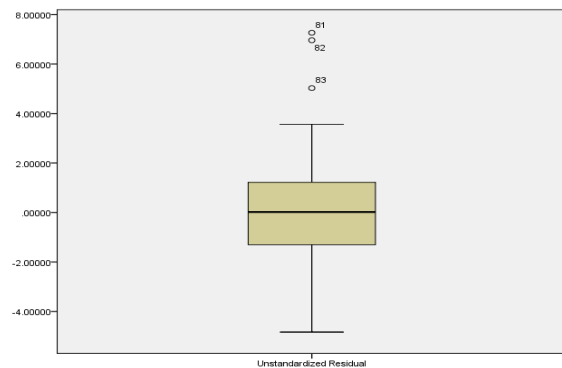
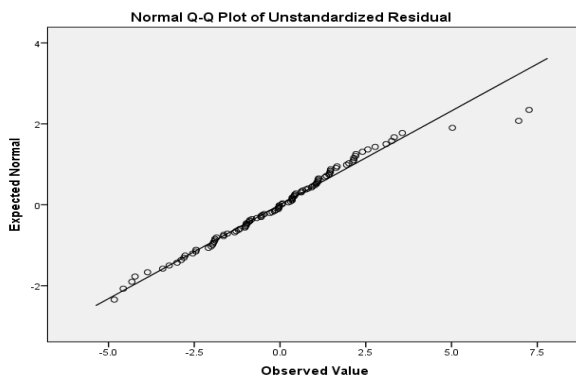
5. RESULTS

To identify the influence of export and FDI on GDP, a regression model is developed. There are certain assumptions of regression analysis which must be satisfied before doing analysis. These assumptions include normality, multicollinearity and autocorrelation.

All measurable tests require that data must be normal. So in statistics analysis, our initial step is to check the data normality. There are different methods through which we can check the normality of data. In this research study, Shapiro-Wilk test is used in order to identify that either normality of data exists or not.

Table 1. Normality of Data

Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
.064	104	.200 [*]	.975	104	.042



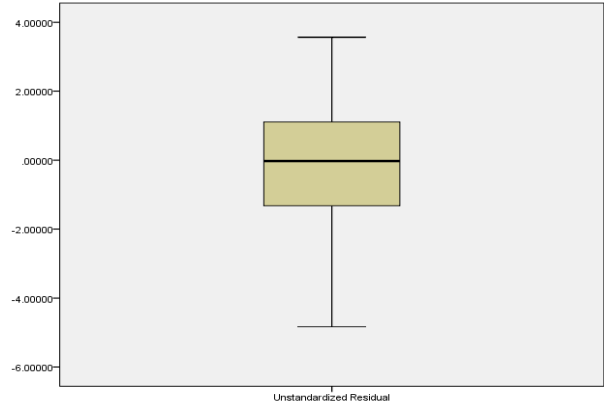
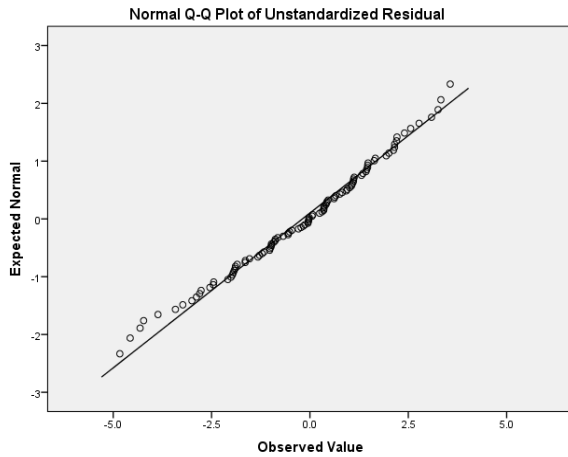
Before remedial measures, the significance value indicates that data is not from normal distribution because for normality of data, significant value should be greater than 5% ($p > 0.05$) as shown in table 1. It

indicates that there are some unusual observations which are affecting the normality of the data and we check the unusual observation through normal Q-Q plot. Here, some outliers can be point out, which are away from regression line.

After deleting the outliers and taking remedial measures, the significance value in become .298 in Shapiro-Wilk test, which is greater than 5% level of significance as shown in table 2. Due to this remedial measure, data becomes normal.

Table 2. Normality of Data

Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
.064	101	.200 [*]	.985	101	.298



Multicollinearity test is valid for multiple regression model, when more than two independent variables are part of regression model. Multicollinearity exists when there is a correlation among independent variables and multicollinearity b/w independent variables are check through tolerance and VIF value. Tolerance and VIF value indicates that there is no issue of collinearity in our data as shown in table 3.

Table 3. Collinearity

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	FDI	.355	2.815
	Export	.355	2.815

a. Dependent Variable: GDP

Auto-correlation test is used to check the cause of one observation on another observation. Existence of autocorrelation in data increases the significant value (p-value) in coefficient table and results are unable to generalize for larger population. Auto correlation in data is checked through Durbin-Watson value. Autocorrelation value exists but ignorable, when value of Durbin Watson lies b/w 1.5 and 2.5 (Shim & Siegel, 1995). After performing the test, Durbin Watson value (1.103) indicates that auto correlation exists in our data and is not ignorable as shown in table 4.

Table 4. Autocorrelation

Model Summary ^b	
Model	Durbin-Watson
1	1.103 ^a

After taking remedial measures, the Durbin Watson value becomes 2.052, Which is in the specific range where auto correlation exists in data but ignorable as shown in table 5.

Table 5. Autocorrelation

Model Summary ^b	
Model	Durbin-Watson
1	2.052 ^a

5.1. Correlation

Correlation test is performed in order to identify how two variables are connected with each other. After performing bivariate correlation test, it is identified that FDI is strongly positively correlated with GDP ($r=0.632, p<0.01$). Degree of association b/w FDI and GDP is moderate one (0.644). It is also identified that export is positively correlated with GDP ($r=0.677, p<0.01$). Degree of association b/w export and GDP is also moderate one (0.677).

Table 6. Correlation

Correlations				
		GDP	FDI	Export
GDP	Pearson Correlation	1	.632**	.677**
	Sig. (2-tailed)		.000	.000
	N	101	101	101
FDI	Pearson Correlation	.632**	1	.803**
	Sig. (2-tailed)	.000		.000
	N	101	101	101
Export	Pearson Correlation	.677**	.803**	1
	Sig. (2-tailed)	.000	.000	
	N	101	101	101

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

5.2. Regression

After fulfilling all the assumptions of regression analysis, we perform final regression analysis in order to identify the influence of one variable on other variable. To identify the impact of export on GDP, a linear regression model is developed. R^2 value (.239) indicates that moderate regression exist b/w export and GDP as shown in table 7. Value of R^2 also indicates that export explains GDP by 23.9% and there are other variable exists, which can explain GDP more.

Table 7. Linear Regression

Model	IV	R	R ²	Ad R ²	F Stat	β
H1	Export	.489	.239	.231	30.810***	.248***

We see Beta values in in order to check the influence of independent variable on dependent variable. Beta value (.248) indicates that there is a positive impact of export on GDP and 1% percent change in export can change 24.8% in GDP ($p=.000$) as shown in table 7.

To identify the influence of FDI on GDP, a linear regression model is developed. R^2 value (.225) indicates that moderate regression exists b/w FDI and GDP as shown in table 8. Value of R^2 also indicates that FDI explains GDP by 22.5% and there are other variable exists, which can explain GDP more.

Table 8. Linear Regression

Model	IV	R	R ²	Ad R ²	F Stat	β
H2	FDI	.474	.225	.217	28.418***	.556***

We see Beta values in order to check the influence of independent variable on dependent variable. Beta value (.556) indicates that there is a positive impact of FDI on GDP and 1% percent change in export can change 55.6% in GDP ($p=.000$) as shown in table 8.

6. DISCUSSION

The main purpose of research study is to identify the existence of relationship b/w export, FDI and GDP. In our first hypothesis, the purpose was to examine the presence of positive relationship b/w export and GDP. As, some previous literature [2, 16] illustrate that positive direct relationship exists b/w export and GDP. While in other literature, it is illustrated that no relationship exists b/w export and GDP [25, 27]. In our case, it is identified that positive relationship exist b/w export and GDP. So, our first hypothesis of research study, export has a positive influence on GDP is accepted. In our first hypothesis, the purpose was to investigate the existence of positive relationship b/w FDI and GDP. In our second hypothesis, the purpose was to investigate the existence of positive relationship b/w FDI and GDP. As, some previous literature [19] illustrate that positive relationship exists b/w FDI and GDP. While in other literature, it is illustrated that no relationship exists b/w FDI and GDP [14]. In our case, it is identified that positive relationship exist b/w FDI and GDP. So, our second hypothesis of research study, FDI has a positive effect on GDP is accepted.

7. LIMITATION AND FUTURE DIRECTIONS

Main limitation of this research study is that data of Asian countries is only used to test the hypothesis. Therefore, generalizability beyond Asian countries is limited. Future research takes initiative to carry forward the research study of other subcontinent countries as well. Second main limitation of research is of moderate regression exists b/w export, FDI and GDP. In order to attain strong regression, it is required to add more variable i.e. inflation and interest rate in future researches.

8. CONCLUSION

Asian countries are achieving high economic growth due to increase of exports, FDI and adoption of development strategy. Countries with aim of export led strategy achieve higher economic growth as compared to those countries which did not lead export strategy. To enhance economic growth (GDP), countries have to focus on all strategies which can support FDI and enhance export. FDI helps host country in the shape of transfer of expertise, skills and knowledge. Due to these transfer of skills, companies of host countries become more efficient to produce product and can compete in the international markets, which ultimately enhance the export. Export led strategy and factors of attracting FDI in the host country can increase economic growth of any country.

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