

THE IMPACT OF EXPORTS ON ECONOMIC GROWTH OF PAKISTAN AND INDIA

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Abstract

The aim of this study is to investigate the impact of exports on economic growth of Pakistan and India for the period of 1990 to 2016. The unit root test namely Augmented Dickey Fuller (ADF) test was used to identify stationarity in the data. The method of Fully Modified Ordinary Least Squares (FMOLS) was employed to estimate the coefficient of the variables. The FMOLS results exhibit that exports is having positive and significant impact on economic growth in both countries. Moreover, the empirical results reveal that Foreign Direct Investment (FDI) inflow and human capital have also positive and significant effect on the economic growth. The findings of this study suggest that policy makers need to make effective policies in order to increase the volume of exports as well as attract direct foreign investment and encourage human capital in order to stimulate economic growth.

Keywords: *Economic Growth, Exports, Human Capital, Pakistan & India*

Introduction

Exports play a crucial part in economic growth and progress of any nation. The country which have more exports have higher growth then the country which have less exports (Saleem et al., 2015). Researchers have different views about the relationship between exports and economic development (Chemed, 2001). Some argue that there is positive relationship while others argue that there is negative connection among exports and economic development. For instance, some economists, Azam et

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al. (2017), and Sherazi and Manap (2004) recommend that there is close connection between exports growth and economic development. The theory says in developing nations exports and economic development are interdependent. It indicates that if there is economic growth it will lead to increased exports whereas increase in exports will accelerate overall economic activities in the economy further and at the same time economies of scale and signals of boom would be witnessed.

It has been hypothetically contended that both exports and import may assume a significant part in economic advancement. The hypothetical and observational investigations primarily focus on either the connection between exports and development or between import and development or the relationship between exports, import and economic development (Mabrouki and Bakar, 2017). It is said that usually exports promote communication between two nations. People who are doing business on small level can expand their business through exporting at international level. Because of export competition, the producer in a nation attempts to create better quality goods and at the possible minimum cost. This increases the productivity and also gives advantages to consumer everywhere throughout the world. Exports help in many other ways such as, benefits to consumers, worldwide peace and better way of life. Exporters must sell their item in competitive world markets, which compels them to turn out to be competitive focused and to receive or advance new innovation all the more rapidly. Domestic challenge at that point animates exporters competitiveness and improves innovation more quickly, prompting quicker efficiency picks up throughout the economy and along these lines faster economic development. Exchange progression or fair advancement arrangements distribute rare assets all through the economy improved and exporters can enjoy economies of measure known their entrance to extensive world markets. However, there are some challenges to begin export business such as requirement of basic investments and infrastructure. Discovery of importers from overseas is difficult and also it will take a long time. Moreover, getting licenses and documents for export is often difficult. Transportation cost might be high on a few occasions. If you export the product without receiving the payment, your importer may misrepresent you. You may lose your revenues as a result of occasional incidents (Atif, 2013).

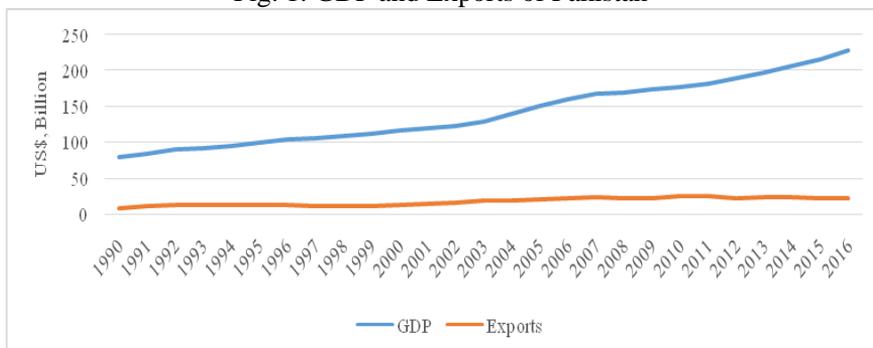
Pakistan exporters have been struggling in overcoming different challenges in the past few years. Exports play an important role for making a country to become a developing country. Pakistan is an agriculture nation and its exports include most of agriculture products e.g. cotton and rice and so on. In the early years of its formation i.e. 1948-49, 99% of Pakistan's exports were just five basic wares; crude jute, crude cotton, crude fleece, covers up and tea. As per Qaddus and Saeed the Pakistan, economy performs well in the time of 2004 to 2008 in which monetary development was at a typical rate of 7% with 16% expansion from 2003 to 2006.

Pakistan's exports were profoundly focused on several commodities, such as cotton, calfskin, rice, material and games merchandise, which account 72% of exports in 2008. The structure of exports has changed rapidly in the 1990's and moved from primary and semi manufactured to manufactured goods.

International trade with no quantity limitations has made the opportunities for the entrepreneurial and creative nations to build their export. A number of nations have benefited from this chance, while others unsuccessful to take these benefits and Pakistan is one of them. Pakistan's exports has been dormant for the most recent couple of year, fluctuating about US 24-26 billion dollar. The exports fell to \$20.448 billion in the monetary years of 2016-17 registering a 15.75% decrease with a decline in the earlier year. However, exports has indicated solid growth of 11.11% during the first seven months (July-January) of the progressing monetary year reaching US\$12.97 billion. The initial five months of 2017-18 have seen trades develop by 10.5%, over the same period during the previous monetary year. During July-March FY17-18, Pakistan's current account deficit expanded by 50.5 % reaching US\$12.03 billion.

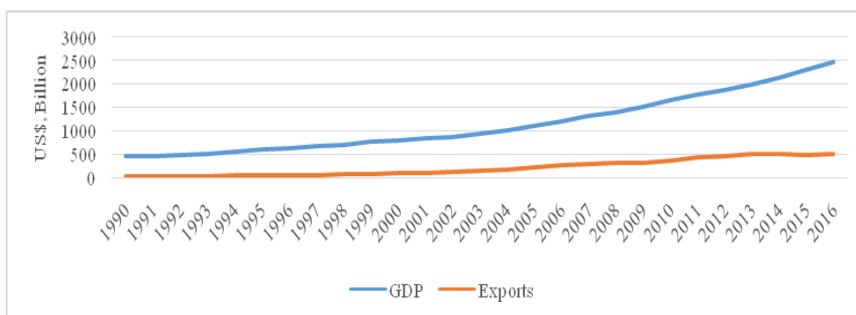
The relationship between exports and GDP has been observed positively. For example, India is a developing economy. India's percentage share in the world exports increase rapidly. It is one of the world biggest economy by nominal GDP. There are some indications that show India's strength in export market was achieved by moving to computer software exports, exports of manufacture products, exports of jewelry, textile products and primary products. According to the United Nation (UN) study, from period 1980-2011 India's share of world exports improved up to 1.7% from 0.43%. Because India is still an agriculture country most of its exports are agricultural products (Hussaini et al, 2015). India's GDP growth rate tumbled from 9% in 2007-08 to 7.1% in 2008-09. As the result, India's exports which had already developed at about 20% in the period of 2002 to2008 dropped to a negative 20.3% in 2009-10. Exports from India grew by 20.2% year-on-year to US\$ 28.86 billion in May 2018. Exports of India was estimated to be US\$ 5218.24 Million from 1957 until 2018, accomplishing a record-breaking high of US\$ 30541.44 Million in March of 2013. Gross domestic product growth rate of India is 7.7% in the period 2017-2018. Figure 1 and Figure 2 show trend analysis of GDP and exports of India and Pakistan over the period ranging from 1990 to 2016.

Fig. 1: GDP and Exports of Pakistan



Source: World Development Indicators (2018)

Fig. 2: GDP and exports of India



Source: World Development Indicators (2018)

The focus of this paper is to analyse the effect of exports on economic growth of Pakistan and India. To do this, it is necessary to know about exports and its factors which support the exports of the countries. Pakistani exporters have been facing many challenges in the past few decades. In the present study, we find the impacts of exports on economic growth. Therefore, the study aims to examine the causal nexus between exports and economic growth, to compare the exports performance between Pakistan and India; and also to compare the composition and directions of exports of both countries. The main feature of the present study will lead to find the effect of exports on GDP of Pakistan and India. The time series data for the years of 1990 to 2016 is used. The Augmented Dickey Fuller test was used for checking that variables are stationary or non-stationary and the econometrics techniques of FMOLS were used to estimate the model.

This study is organized as follows: Section 1 introduces this paper, Section 2 deals with the literature review, Section 3 discusses the data and methodology, Section 4 discusses Analysis and Results and Section 5 deals with the conclusion and recommendation.

Review of Literature

The available literature shows that there are numerous studies that investigated the effect of exports on growth. Dilawar et al (2012) examined the connection among exports, imports and GDP for Pakistan using data during the period of 1972 – 2009 and he found that there is positive and significant impact of exports and imports on GDP growth. Saleem et al (2015) examined the connection among exports, human capital and GDP during 1973-2013 period for Pakistan, and he concludes that there is positive impact of exports and human capital on GDP economic growth. The study of Raza and Ying (2017) investigates imports' and exports' impacts on growth during 1967-2015 for Pakistan. The researchers used the econometric techniques of Toda and Yamamoto Granger causality and cointegration test. The empirical outcomes of Yamamoto and Toda Granger causality test evidently show that there is unidirectional causality from exports to GDP, exports to investment and GDP to investment in Pakistan and not vice versa. Kartikasari (2017) examines imports' and exports' impacts on growth during 2009-2016 period for Indonesia. The study found that partially, exports had an insignificant negative effect on economic growth while imports had a significant negative impact and investment had a significant positive impact. The study of Ali et al (2018) investigated imports' and exports' impacts on growth during 1970-1991 for Somalia. The researcher used the econometrics techniques of OLS and granger causality and Johansen co-combination tests. The researchers found that there is a unidirectional causality between exports and GDP. The existing literature exhibits that the impact of exports on economic growth in case of Pakistan and India need further fresh investigation. Some more exact investigations on the effect of exports on economic growth are given in Table 1. For the impacts of various factors including exports, FDI and human capital on growth see Table 1.

Table 1: Previous Studies on the Export and Economic Growth Relationship

Author (s)	Time periods, Country (s)	Estimator (s)	Response variable	Regressors	Finding
Ali et al (2017).	1990-2012 Pakistan	OLS	Real GDP	Real Exports, Labor, Gross capital formation	Exports (+), Labor (+), Gross capital formation (+)
Azam et al (2017).	1995–2015 Malaysia	OLS	Real GDP per capita	Exports, FDI tourism, and remittances FDI, human capital	Exports (+), tourism (+) FDI (+), remittances (+), human capital (+)
Malik (2015).	1980-2009 Pakistan	OLS	GDP	Exports, Imports, FDI	Exports (+), Imports (+) FDI (-)
Azam and Gavrila (2015).	1977-2013 for 10 African countries	Fixed-and random-effect	GDP per capita	FDI, remittances, external debt , gross capital formation, exports, and human capital	FDI (+), remittances (+), external debt (-), gross capital formation (+), exports (+), and human capital (+)
Mofrad (2012)	1991-2008 Iran	VECM	GDP	Exports, Investment	Exports (+), Investment (+)
Sherazi and Manap (2004)	1960-2003 Pakistan	OLS	GDP	Exports, Imports	Exports (+), Imports (+)
Ekanayake (1999)	1960-1997 Asian developing countries	ECM	Economic growth	Exports	Exports (+)

Source: Authors Compilation

Data and Methodology

The data set used in this study consists of observations covering the period of 1990 to 2016, which is time series annual and secondary data. All the data have been taken from the World Development Indicators (2018) in which GDP represents dependent variable while export, Foreign Direct Investment (FDI) and human capital are independent variables.

Theoretical Foundation

The empirical Solow growth model was used in the study in order to examine the impact of exports on economic growth (real GDP) of Pakistan and India. The similar model also was used by Shirazi and Manap (2004), Azam (2010), Iqbal et al (2012). Azam and Ahmed (2015), Bahattabet al. (2016), Azam (2019 bc), Raza and Ying (2017) and Sajjad et al (2018).

The multivariate regression model is specified below;

$$GDP_t = \beta_0 + \beta_1 EXP_t + \beta_2 FDI_t + \beta_3 HC_t + \mu_t \quad (1)$$

Where GDP_t= Real Gross Domestic Product; EXP_t= Exports; FDI_t= foreign direct investment; HC_t= Human Capital; β₀= intercept, β₁, β₂, β₃= slope of exports, FDI and human capital respectively; and μ_t= Error term of the model. Table 2 shows the variables description and data sources.

Table 2: Variables Description and Data Sources

Variables	Description
Dependent variable used: Real Gross Domestic Product (GDP)	Gross Domestic Product (GDP) in (constant US\$, Billion). The data taken from WDI, from period 1990 - 2016.
Explanatory variables used: 1. Exports 2. FDI 3. Human Capital	Exports in (US\$, Billion). The data taken from WDI, from period 1990 - 2016. FDI in (US\$, Billion). The data taken from WDI, from period 1990 - 2016. Human Capital in (US\$, billion). The data taken from WDI, from period 1990 to 2016.

Estimation Techniques

Basically in this research paper, the model used was based on time series data estimation technique. When we are using time series data, first we have to check its stationarity by using different econometric tests in E views. If the data is stationary then we have to run our model (Gujrati, 2012). Keeping in mind the goal is to check the stationarity of the factors, we will utilize Augmented Dickey Fuller (ADF) test. Every one of the

factors are stationary on 1st difference, in this manner we utilized the Fully Modified Ordinary Least Squares (FMOLS) methods. FMOLS method is used here to find the relationship between exports and GDP/economic growth with the help of exports, FDI and human capital. FMOLS technique was presented by Phillips and Hansen in (1990). FMOLS technique utilizes part estimators of the aggravation parameters that impact the asymptotic conveyance of the OLS estimator. For asymptotic usefulness this strategy adjusts least squares to denote sequential association impacts and test for the endogeneity in the regressors that come from the presence of a cointegrating connection.

Results and Discussions

Augmented Dickey Fuller Test (ADF)

We needed to check our data whether it is stationary or not. For that reason we utilized ADF test to check that data is stationary or not. Table 3 show the result of the Augmented Dickey Fuller (ADF) test.

Table 3: The Augmented Dickey Fuller Test (ADF)

Variables	Difference	Without Trend (Intercept) India	Without Trend (Intercept) Pakistan	Conclusion	5% Critical Value (Without Trend) India	5% Critical Value (Without Trend) Pakistan
GDP	First Difference	-1.957	-3.650	I (1)	-2.986	-2.986
EXP	First Difference	-3.859	-4.144	I (1)	-2.986	-2.986
FDI	First Difference	-5.418	-5.148	I (1)	-2.986	-2.986
HC	First Difference	-2.199	-6.268	I (1)	-2.986	-2.986

The ADF test demonstrates that all variables are stationary at 95% critical value (without Trend). So therefore all variables for both countries are stationary at first difference and also its probability is less than 5%.

The empirical investigation was aimed to find the impact of exports on the economic growth of Pakistan and India. We estimate the model through the FMOLS technique and then discuss the estimated model in detail. In order to estimate the model, the FMOLS is used, where GDP is the dependent variable and EXP, FDI, and human capital are independent variables. The estimated model is given in the following Table 4.

Table 4: The Fully Modified Ordinary Least Squares Results

Variables	PAKISTAN				INDIA			
	Coefficient	SE	P-Value	t-ratio	Coefficient	SE	P-Value	t-ratio
EXP _t	4.77	0.88	0.000	5.40	2.92	1.38	0.0473	2.11
FDI _t	1.77	3.69	0.000	4.78	19.22	7.69	0.0213	2.49
HC _t	2.81	0.81	0.0022	3.46	17.30	6.96	0.0177	2.58
R ²	0.97	-	-	-	0.99	-	-	-
Adj. R ²	0.96	-	-	-	0.99	-	-	-

The independent variables i.e.exports, FDI and human capital are positively and statistically significant to the GDP. In this analysis, the R square value is 0.97 indicating that about 97% change in the GDP growth is due to changes in exports, Foreign Direct Investment and human capital. We conclude that the coefficients of EXP, FDI and human capital are statistically significant because the probability of each variable is less than 0.5 which indicate that all variables are significantly related to GDP.

The estimated coefficient of exports is 4.77 which is positive and significantly related to the GDP. The coefficient of FDI is 1.77 which is positive and statistically related to GDP. The coefficient of human capital is 2.81 which is positive and statistically related to the GDP. The estimated equation for Pakistan is as below:

$$GDP_t = 4.77EXP_t + 1.77FDI_t + 2.81HC_t \quad (2)$$

The results of regression for India among the dependent and independent variables are presented in Table 4. Exports, FDI and human capital are positively and statistically related to the GDP. In this analysis, the R² value is 0.99 indicating that about 99% change in the GDP economic growth is due to changes in exports, FDI and human capital. In Table 4, Column 6 consists of the coefficient of variables, Column 7 shows Std. Error, Column 8 shows probability and Column 9 shows t-statistics. We conclude that the coefficients of EXP, FDI and human capital are statistically significant because the probability of each variable is less than 0.5 which indicates that all variable are significant related to GDP. The estimated coefficient of exports is 2.92 which is positive and statistically related variable (GDP). The coefficient of FDI is 19.22 which is positive and statistically related to the GDP. The coefficient of Human capital is 17.30 and is positive and statistically related to the GDP. The estimated equation for India is as below

$$GDP_t = 2.92EXP_t + 19.22FDI_t + 17.30HC_t \quad (3)$$

The overall regression results reveal that exports is positively and statistically related to the GDP economic growth rate. For Pakistan, 1% increase in exports will increase GDP by 4.77%, while for India, 1% increase in exports will increase GDP by 2.92%. It means that due to increase of exports, GDP of the country would increase. The positive and statistically significant impact of exports growth on GDP rate shows that Pakistan and India should focus on increasing their exports, and improving the level of FDI to increase their GDP growth rate. The positive connection among exports and GDP, found in our investigation is consistent with the findings of different studies. Khan and Saqib (1993) in investigating Pakistan economy also found that there is positive and statistically significant impact of exports on GDP economic growth. Ekanayake (1999) and Khan (2016) found in their studies that if exports increases then the GDP growth rate will also increase.

Based on the above analysis we conclude that FDI has positive and statistically significant impact on GDP. For Pakistan, 1% increase in FDI would increase GDP by 1.77%. while for India 1% increase in FDI would increase GDP by 19.22%. FDI is one of the sources of cash inflows to developing countries. From 1990, FDI has become a significant part of the capital formation in the developing countries, but, unfortunately, the FDI in Pakistan decreased in the last few years because of terrorism and law and order situation.

According to the above analysis, we conclude that human capital is positively and statistically significant to economic growth rate. For Pakistan 1% increase in human capital would increase GDP by 2.81%. And for India 1% increase in human capital would increase GDP by 17.30%. Human capital has been viewed as an essential factor for economic growth and advancement. The endogenous growth hypothesis holds that the human capital is a solid factor of generation and education.

The positive connection among exports and GDP, found in our examination is consistent with the findings of other investigations. Azam (2010) found in his study that there is a positive impact of exports on economic growth. Raza and Ying (2017) found in their study that there are positive effects of exports on GDP. Ali et al (2018) found in their study that there are positive impacts of exports and investment on GDP. Whereas, the results of positive impact of incoming FDI on growth are consistent with the findings of Azam (2015), Irwan et al. (2015), and Azam (2019ab).

Conclusion and Policy Recommendation

The response variable of the model is GDP that represents economic growth and regressors are exports, FDI and human capital. The ADF test was used for checking whether the data are stationary or non-stationary. The method of FMOLS was used for empirical investigation. The data of the

model are from period 1990 to 2016 and the observation of the model are 27. The coefficient of exports is statistically significant and positively related to economic growth for both Pakistan and India. So one unit increase in Exports of Pakistan would lead to increase in GDP/ economic growth rate by 4.77 units while for India a unit increase in Exports of India would lead to increase in GDP by 2.92 units. The coefficient of FDI which is also statistically significant and positively related to the GDP economic growth for both Pakistan and India. So one unit increase in FDI of Pakistan would lead to increase GDP by 1.77 units while for India, a one unit increase in FDI of Pakistan would lead to increase GDP by 19.22 units. The coefficient of human capital is also significant and positively connected to GDP or economic growth for both Pakistan and India. One unit increase in human capital of Pakistan should lead to increase economic growth rate by 2.81 units while for India a one unit increase in human capital of India lead to increase GDP/ economic growth rate by 17.30 units.

Policy Recommendation

The empirical findings of this study suggest that the governments of Pakistan and India need to adopt policies such as introducing investment friendly policies to encourage and attract local and foreign investors, to invest and accelerate the economic growth.

Exports creates employment opportunities therefore both countries should focus on exports because it provides foreign exchange earnings.

The governments need to raise their expenditures on health and education especially in rural areas because in both countries most people live in rural areas.

Steps need to be taken to improve the security of life and property in both countries, enforcement of laws and rules to safeguard the interest and life of ordinary citizens.

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