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IS THERE REALLY ANY IMPACT OF TRADE OPENNESS, FDI INFLOWS AND EXPORTS ON THE ECONOMY GROWTH?[*]

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ABSTRACT

Present study explored the impact of Pakistan exports to OECD on GDP among some other selected explanatory variables namely: trade openness, FDI inflows, and Pakistan total exports. Time series data has been used for the period of thirty-eight 1975-2012. Data analysis software namely: SPSS-16 and E-View 7 have been used to analyze the data. Multiple regression model have also be used to explore the impact of selected explanatory variables on economic growth of Pakistan. Results of multiple regression model revealed that 98% of the variation in the GDP is explained by the Coefficient of regressions. Further PETOECD and TO are positive correlated with GDP, and FDII and PTE are negative correlated with GDP.

Keywords: Trade Openness; FDI Inflows; Exports; Economic Growth.

INTRODUCTION

International trade is most important engine for economic growth as generally discussed among the economists, and export is an important element of international trade (Jain & Singh, 2009). David Ricardo and Adam Smith were considered as an earlier founder of concept of trade liberalization or openness because their theories are in support of trade and international development (Mehmood, 2012a).

Present study made an attempt to explore the impact of selected explanatory variables namely: trade openness, FDI inflows, Pakistan exports to Organization for Economic Cooperation and Development (OECD), and Pakistan total exports on the economic growth of Pakistan and OECD. The role of exports in performance of economic growth of developing economies like Pakistan has taken place as a researched issue during period of post liberalization. Exports are considered as important source for foreign exchange and can be utilized to ease inverse effect on balance of payments. Exports can facilitate the economy to incorporate in the global economy and also help to decrease impact of outer shocks on domestic economy. The problem of how an economy can attain economic growth has become one of the essential economic questions (Ray, 2011).

OECD and Pakistan

A number of trade opportunities exist for Pakistan by establishing close links with OECD countries, and these opportunities could be achieved through trade openness. Furthermore, Pakistan can play significant role in enhancement of trade relations among the

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OECD countries because major trading partners of Pakistan namely: West Germany, USA, Belgium, France, Italy, Netherland, Japan, Spain, Australia, and U.K. falls under the umbrella of OECD.

OECD stands for Organization for Economic Co-operation and Development, and it is first type of international organization namely intergovernmental organizations. OECD has a broader scope based opening a number of new contacts all around the world, appearing in front to a post-industrial era in which it aspires to strongly weave OECD countries into a so far an additional prosperous and ever more knowledge-based global economy. OECD was officially developed on 30 September 1961. Today, under the umbrella of OECD there are 34 countries, including a few major countries namely: Australia, Canada, France, Germany, Japan, Korea, Netherlands, New Zealand, Turkey, United Kingdom, and United States (Armingeon & Beyeler, 2004).

OECD economies are major trading partners of Pakistan. Pakistan exports to OECD increased from 3,617 million rupee to 607,437 million rupee on an average 15.75 % per year growth rate during the period of 1975-2012. OECD countries explained approximately 55 percent Pakistan's exports to OECD (Hub, 2012).

Research Objectives

Following is main objectives which will be achieved by present research:

- To explore the impact of selected explanatory variables namely: exports to OECD, Pakistan trade openness, FDI inflows and Pakistan total exports on economic growth of Pakistan

LITERATURE REVIEW

Possible and selected literature has been reviewed related to the present study. Exports give increase to economic growth in many different ways such as: economies of scale, superior capacity consumption, incentives and rewards for technological enhancement and force of foreign competitors, resulting in better efficient and effective economy and administration as well. Thus, the unimportant factor productivities are predicted to be superior in export economies than in non-export economies (Feder, 1982). Based on endogenous growth theories, trade openness enhances economic growth through the overflow of technological channel (Romer, 1990). Trade openness or exports leads toward the economic growth based on some channels such as trade cause growth of an economy based on the well-organized resource, and trade liberalization also transfers the technology from developed economies to developing economies (Grossman & Helpman, 1991). Pernia and Quising (2003) analyzed the infleunce of economic openess of developing countries on the regional development. Their study investigated that the international trade opportunities and openness lead to the economic growth of the regional development. Moreover, it helps to foster the growth and development and reduces the poverty an a country. Yanikkaya (2003) explored the link between openness of trade and economic growth. He used variables namely: per capita growth rate, human capital, GDP per ca, physical capital stock. The findings of regression for the abundant trade intensity ratios are generally dependable on empirical and theoretical existing literature. The results of his research work indicate that barriers in trade are significant and positively linked with economic growth, especially in case of developing nations and they are reliable with the results of development literature and theoretical growth.

Traditionally, various theories indicted presence of different kinds of gains through trade but comparative advantage theory considered as an important kind of gain from the trade based on literature (Bernhofen & Brown, 2004). Siddiqui and Javed (2005) explored the impact of trade openness on Pakistan economic growth. They concluded a long run negative link between trade and GDP growth, insignificant link among import, GDP, and export.

Further they found a positive significant ink between investment and GDP. Aurangzeb (2006) made a study on relationship between Economic Growth, Exports, and Productivity in Pakistan. He used data for a period of thirty-three years from 1973 to 2005. He concluded that growth of exports depends on economic growth. According to Brahmasrene and Jiranyakul (2007), there exists a long run relationship in between the stock market and the macroeconomic variables sets over the time period 1992-2003. The author used the Ordinary Least Square (OLS) estimates, cointegration technique, unit root test, error correction model and Granger Causality test on the pre and post liberalization period in Thailand. The results of Granger causality test showed that the only one variable i.e.money supply out of all the variables has a significant positive effect on the returns of the stock market of Thailand. Another study of Narayan and Narayan (2008) undertakes the short and long run impact of the environmental quality by taking panel data of OECD countries for the time period 1980-1999. The study examines the impact by applying cointegration technique. The study investigated the various variables of the data and found that carbon monoxide, nitrogen oxide and sulphur oxide emission, per capita expenditure and income are cointegrated.

Rizavi, Khan and Mustafa (2010) explored the role of trade openness in economic growth. They focused on the three main and largest countries of South Asia namely: India, Pakistan and Bangladesh. Their study used variables namely: GDP, Labor, Stock of Capital, trade Openness and Human capital. They applied Ordinary Least Square method and generalized least squares method to check the role of trade openness in economic growth among other variables. They mentioned in their research work that determinants of GDP have been a subject matter for sociologists, historians and economists. Their research result confirm that trade openness have a central role in the South Asian economic growth.

Hye (2012) investigated the long term effect of trade liberalization Pakistan economic by using data from 1971 to 2009. Hye documented presence of significant and negative link between trade liberalization and economic growth. Further, he found a strong link between human capital and trade Liberalization in context of increasing GDP. Sahni and Atri (2012) conducted the research work to test the mechanisms of export led economic growth in India. Total exports, investment, manufactured exports and Gross National Product (GNP) were used as variables in their study. They applied ordinary least square (OLS) method to examine the relationship among the gross national product, manufactured exports, total exports and investment. They conclusions were in the favour of export led growth hypothesis in case of India.

Mostly time series data have problem of unit root, so application of unit root test is valuable in time series data related studies (Bhunia, 2013; Husin, 2013; Mehmood & Ahmad, 2013). Various studies used multiple regression models by considering as an appropriate model (Naser, Nuseibeh, & Al-Hadeya, 2013; Sapra, 2012; Rehman, 2012; Mehmood, 2012b; Javed, 2012). According to Mehmood (2012c) and Naz (2012) an increase in export led to an increase in production and ultimate outcome is economic growth.

THEORETICAL FRAMEWORK

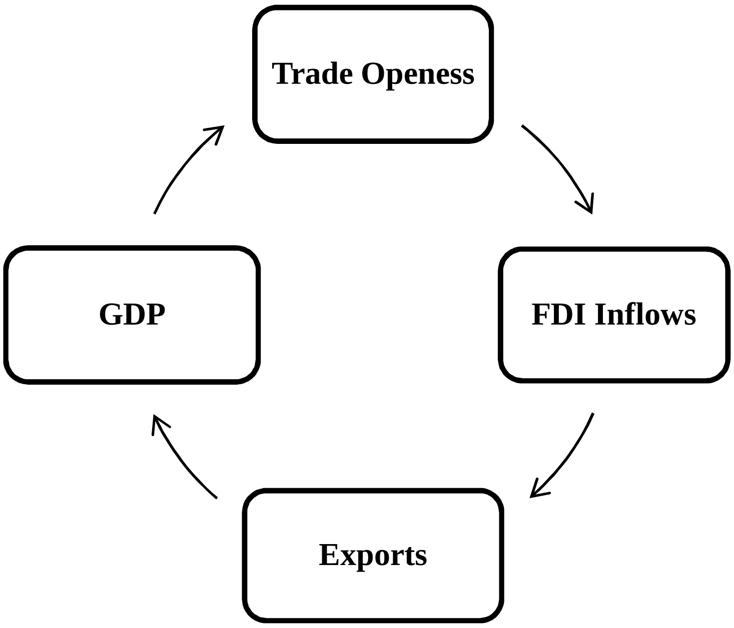
Economic theories provides basis for trade and one could simply guess that a raise in exports leads to a raise in GDP based on well-known effect of multiplier. Here, multiplier effect refers to the increase of money supply in a country due to bank's money lending. An increase in GDP could lead to reduce cost and expand economies of scale that could, in result, enhance exports (Bahmani & Economidou, 2009).

Based on endogenous growth theories, trade openness enhances economic growth through the overflow of technological channel (Romer, 1990). Trade openness or exports leads toward the economic growth based on some channels such as trade cause growth of an economy based on the well-organized resource, and trade liberalization also transfers the technology from developed economies to developing economies (Grossman & Helpman, 1991).

Systematic diagram of conceptual framework for present study has been developed on the basis of empirical and theoretical review of literature. Below mentioned Systematic diagram of conceptual framework stated that trade openness leads towards the enhancement of foreign direct invest inflows. Foreign direct investment inflows provide base for the growth of exports and GDP and GDP also leads towards the expansion of foreign direct investment inflows. Based on endogenous growth exports cause to GDP and there is also possibility of bidirectional link between exports and GDP.

FIGURE 1

Systematic Diagram Based on Conceptual Framework



RESEARCH DESIGN, DATA AND METHODOLOGY

On the basis of objectives mentioned in section, nature of present research is descriptive and analytical. Secondary data has been employed to check the impact of independent variables on dependent variable. Present study made whole analysis on Pakistan and OECD countries by considering these countries as target population. Data were collected from Economy Survey of Pakistan (Various Issues). Annual time series data of variables under consideration has been taken for the period of 1975 to 2012 and data has measures in million.

Variables under Consideration

This study used following variables:

- GDP of Pakistan,
- Pakistan Exports to OECD,
- FDI inflows,
- Trade openness, and
- Pakistan total exports.

Definition and Measurement of Variables

TABLE 1

Definition and Measurement of Variables

Variables	Definition and Measurement of Variables
GDP	GDP refers to Gross Domestic Product of Pakistan. Annual time series data will be obtained in million rupee from economy survey of Pakistan 2011-2012
PETOECD	PETOECD refers to Pakistan Exports to Organization for Economic Cooperation and Development. Annual time series data will be taken in million rupee based on economy survey of Pakistan 2011-2012
FDIIN	FDIIN refers to Foreign Direct Investment Inflows from Pakistan and annual time series data will used as million rupee based on economy survey of Pakistan
TO	TO refers to Trade Openness of Pakistan, total volume of trade will be taken as proxy for this variable based on study of (Rizavi, Khan, & Mustafa, 2010; Siddiqui & Iqbal, 2005)
PTE	PTE refers to total exports of goods and services of Pakistan. Time series data will be taken in million rupee on the economy survey of Pakistan 2011-2012

Empirical Justification on Selection of Variables

TABLE 2

Empirical Justification on Selection of Variables

Variables	Empirical justification
GDP	(Rizavi, Khan, & Mustafa, 2010), (Qadri & Waheed, 2011); (Ullah et al., 2009); (Bahmani & Economidou, 2009); (Galimberti, 2009); (Siddiqui & Iqbal, 2005); (Yanikkaya, 2003)
PETOECD	PETOECD refers to Pakistan Exports to OECD, and this variable is being selected based on value addition of present study, further, PETOECD shared 50.559% approximately in Pakistan total exports based on time series data from 1975 to 2012 which was taken from economy survey of Pakistan 2011-2012
FDIIN	(Qadri & Waheed, 2011); (Siddiqui & Iqbal, 2005)
TO	(Rizavi, Khan, & Mustafa, 2010); (Siddiqui & Iqbal, 2005); (Yanikkaya, 2003)
PTE	(Rizavi, Khan, & Mustafa, 2010); (Ullah et al., 2009); (Bahmani & Economidou, 2009); (Galimberti, 2009)

Hypothesis

This research study has the following alternative hypotheses which will be tested against the null hypotheses:

Hypothesis 1. Trade openness, Pakistan exports to OECD, FDI inflows and exports have significant impact on economic growth of Pakistan

Methodology for Data Analysis

This section consists of entire statistical and econometrics techniques through which the objective of present study can be achieved. Data analysis software namely: SPSS-16 and E-View 7 have been used to analyze the data. In the study following empirical Multiple Regression Models also used to investigate the affect independent variables namely: Pakistan Exports to OECD, FDI inflows, Trade openness, and Pakistan total exports on dependent variable namely GDP of Pakistan.

RESULTS AND DISCUSSIONS

The following model considered as a best fit model in context of present objective. This model is selected from numerous other statistical models which obtained by Multiple Regression Analysis with Stepwise method. Table 5.26 contain the results of best fit multiple regression model.

$$GDP = a + b_1\,PETOECD + b_2\,TO + b_3\,FDII + b_4\,PTE + e$$

Here

- PETOECD refers to Pakistan exports to OECD
- PTE refers to Pakistan total exports
- GDP refers to gross domestic product
- TO refers to trade openness
- FDII refers to foreign direct investment inflows

After putting the values of the slope coefficients in model, equation of multiple regression model is as under:

$$-155.7885 = a + b_1\,19.347 + b_2\,9.978 + b_3\,25.676 + b_4\,24.183$$

Table 5.51 contains results of Coefficients and Table 5.50 shows results of model summary. The value of F tells that model is best fit based on values less than 0.05. Value of R-square tells that in about 98% of the variation in the GDP is explained by the Coefficient of regressions or slops such namely: PETOECD, PTE, FDII and TO. Further PETOECD and TO are positive correlated with GDP, and FDII and PTE are negative correlated with GDP. The value of the Coefficient of regression of PETOECD, b1 = 19.347 which measure the slope of the line show that as the value of PETOECD increase by the one billion Rupees, the estimated increase in the value of GDP on average about 19 cents by considering the constant values of all other coefficient regressions.

The value of the Coefficient of regression of TO, b2 = 9.9783 which measure the slope of the line show that as the value of TO increase by the one billion Rupees, the estimated increase in the value of GDP on average about 9 cents by considering the constant values of all other coefficient regressions.

The value of the Coefficient of regression of FDII, b3 = -25.676which measure the slope of the line show that as the value of FDII increase by the one billion Rupees, the estimated decrease in the value of GDP on average about 25 cents by considering the constant values of all other coefficient regressions.

The value of the Coefficient of regression of PTE, b4 = -24.183which measure the slope of the line show that as the value of PETOECD increase by the one billion Rupees, the estimated increase in the value of GDP on average about 19 cents by considering the constant values of all other coefficient regressions.

TABLE 3

Coefficients

Model	Unstandardized Coefficients		t	t Sig.	95% Confidence Interval for B	
	Betas	Std. Error			Lower Bound	Upper Bound
b_0 (Constant)	-155.788	-155.78	-1.134	0.265	-435.253	123.676
b_1	19.347	19.34	3.805	.0006	9.005	29.690
b_2	9.9783	1.213	8.221	0.000	7.509	12.448
b_3	-25.676	3.372	-7.612	0.000	-32.538	-18.814
b_4	-24.183	5.079	-4.761	0.000	-34.518	-13.849
$R^2 = 0.988$	Adj. $R^2 = 0.977$		F-stat. = 0.000		Durbin-Watson stat. = 2.217	

CONCLUSIONS

This research paper has explored the impact of selected explanatory variables namely: trade openness, FDI inflows, Pakistan exports to OECD, and Pakistan total exports on the economic growth of Pakistan. Time series data has been used for the period of 1975-2012. Multiple regression model has also be used to explore the impact of selected explanatory variables namely on economic growth of Pakistan. From results of multiple regression model, value of R-square tells that about 98% of the variation in the GDP is explained by the Coefficient of regressions or slops such namely: PETOECD, PTE, FDII and TO. Further PETOECD and TO are positive correlated with GDP, and FDII and PTE are negative correlated with GDP. Govt. of Pakistan should focus on relations with OECD which will leads towards the improvement of economy growth.

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