Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.8, No.16, 2017

Impact of Export on Economic growth of Pakistan

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Abstract
This research paper employed Augmented Dickey- Fuller to determine "impact of export on economic growth" while granger causality test which is statistically hypothesis test was used to determined the direction of causality between the selected variables under consideration whether selected time series is useful in forecasting. Correlation analysis was also deployed to determine the degree of relationship between the selected variables and the result shows that all the variables are highly correlated. The study uses time series data from 1992-2015, data obtained from the World Bank. The study reviles that export has an optimistic and significant impact on economic growth in Pakistan peroxide by GDP. Export was also found to be confidently and significantly impacting to economic growth in Pakistan proxied by GDP. Foreign reserve also has a optimistic and positive impact on economic growth of the country. Research result shows that the overall regression was statistically significant at both 99% and 95% level of confidence. The result of R2 (0.99) shows that the line of best fit was highly fitted. The result of the granger causality test shows that GDP granger causes Import & FDI. The research finds that, growth-export hypothesis is valid in Pakistan context. We therefore recommend among other things, that the government of Pakistan should take some necessary steps to restructure the Import sector so as to improve their contribution to the growth of Pakistani economy. The government should introduce more policies that will adequately boost the export sector of the Pakistan economy so that it will impact more meaningfully on economic growth of the Pakistan; other programs that encourages increase in foreign reserve should also be adopted in other to increase the growth of the economy in the country.

Introduction:
The trade import and export is considered as the first and most important step towards the economic growth and increment in exert tends to enhance in the income of factor of production, which boost the demand for further growth in the production sector and industrial areas. End result of expansion in production also stimulates the new technologies, innovations and investment opportunities in the country. The significance of export in economic growth is more evident in classical research writings. A nation economics progress belongs to international trade(Marshall 1980). International trade is an engine of growth. It has been observed that an efficient use of available natural resources is the gateway towards international trade and economic development(Huff 2012). High and speedy growing economies are linked to export with geometric rate. it is not necessary that a country with the plentiful endowment of natural resources are the suitable for economic growth else with the relatively with the scare resources country can expand its export with the optimum use of available resources like Singapure. its mean a country is not dependent fully on its endowment of natural resources, import of raw material and furnished it with the semi and final goods is the modern technique to enhance the export, most amenably used by Asian tigers countries (Torvik 2009). Most economist assert that behind the globalization the key factor is the trade liberalization with no trade barriers and tariffs. its improve the techniques of production [technology], foster the export and as well the consumer choice theory and standard of living sing best in this regard to increase in export (Anderson 1998). Early years of Pakistan after impedance, Pakistan export major source was the agriculture during the year 1948-1949, 99 % of Pakistan earning made up of only 5 commodities; such as raw jute, hides & tea, cotton, and wool,. The change is begun in the pattern of export when Pakistan shifted its policy towards industrialization. (Ronald Soligo 1966, Economics 1968). The export bonus scheme had positive effect on trade undoubtedly .today most of trade is based on the comparative advantage, country with the comparative advantage in certain goods will be producing those goods. Major share of total world export is based on the finished goods most often are machinery. Countries which are agriculture base contend there export is determined by the weather and most of the agriculture products have cobweb phenomena. While the single product exporting country can face serious challenges and needs to diversify the production to compete the international market and the increase in the volume of export (Chude Nkiru Patricia 2016).

Theoretical Framework

Theoretical framework is developed through the below literature review. Adam Smith and David Ricardo Classical economists who first considered the significance of international trade in terms to make better the economies of scale, efficiency and economic growth, predicted that the globalization is key factor for economic progress(Smith 1776). The principle of comparative advantages expands on Smith's theory squabble that countries should be focused in the production of goods that they can produce efficiently the Keynesian model of open economy (Obama 2012).

Y=C+I+G+X-Z

The open economy have vast impact then close economy where the national income equilibrium is exist where S =I [leakages=injection).

The close economy multiplier is greater than the open economy, because in the open economy leakages involve both saving and imports. But in the open economy case international trade involve and free flow of funds and capital [machinery] that links positively with the export. In the ancient time the mercantilist were also positive about the export, in addition mercantilist were in the favored of only goods export not the bullions, but has the positive view about export. So studying the different views of different economist it is clear that the trade increases the overall factored productivity and transfer of capital across the boundaries, which have the positive effects on the balance of payment and overall welfare of the economy. Trade involves the foreign reserve which boosts up the level of the investment in the countries and encourages output level in the economy. Usually the developing countries have more chances to get through from trade, because the resources of the developing countries are not utilized optimally. They can enhance their export by proper planning, management and better economic policies.

Literature review:

The correlation between exports & gross domestic product growth has been reviewed in the literature. In year 1964 MacKinnon & in Year 1966 Chenery and Strout said that foreign exchange earns from exports of countries which allow import of capital & other goods and services which helps to raise production potential(Dritsakis 2009). In year 1978 Balassa index and in Year 1990 Krueger recognized that if countries' exports increase in total factor productivity as of their impact on economies scale and some other externalities such as promotion, transfer of new technology, improving skilled labor, managerial skills & rising productive capacity of the economy of the country. Some other benefit of export led growth is that it allow for a much better utilization of resources. This shows that the real opportunity cost of the available limited resources and this does not differentiate against the local domestic market(Bela Balassa 1978). Developing countries, China, Japan, USA, Singapore there are number of research studies which analyze the importance of exports towards the economic growth and most of the research studies accomplished that there is a extremely positive correlation between both exports and economic growth (Abou-Stait 2005). This literature review endorsed the effects of countries' exports on economic growth of the country where as exports endorse threshold affects owing the economies of scale, increasing in utilization capacity & productivity gains. In Year 2005 Gunter, Taylor & Yeldan conclude that any gain from trade liberalization is often related with peripheral effect that is dynamic in nature. In year 1996 Baldwin & Forslid and in year 1990 Feenstra, provide a constructive scaffold for analyzing the relationship between both exports and economic growth. To confirm the causality between both exports of the country and growth started during the early 1980s (Abou-Stait 2005). In year 1980 Lancaster pointed out one theory that larger growth may cause increased the quantity of exports which occur as a consequence of increasing output and foster may increase in export sector (Michel 2005). In Year 1982 Schentzer during the research didn't deal with non-stationarity variables. Co-integration analysis & modeling of error correction is remedies for spurious regressions which occur with no stationary variables. Another point is, Causality tests are not valid in the existence of co-integration as the modlel developed by Granger in year 1988 and in year 1993 Bahmani Oskooee and Alse. In year 1987 Engle and Granger proved that causality must lope in at least 1 direction if the available 2 variables are co integrated(Hsiu-Yun Lee 2013).

Empirical methodology:

GDP= β0+ β1 (Exp) + β2 (Imp) +β3 (L) +ut

GDP= Gross domestic product

Exp= Exports of goods and services

Imp= Import of goods and services

L= Total employment rate

In table.1 we mention the source from where we take data to estimate.

Table 1

Variables	Description
Dependent Variable Gross Domestic Product	The data of Gross domestic product is taken from world development indicator (1992-2015)
Independent variable Export Import Total Employment Rate	The data of imports and Export both are taken from world development indicator The data of employment rate is taken from International financial statistics

Estimation procedure:
The current study is based on the secondary data ranging from year 1992 to 2015 and simply linear model are used for the analysis. The units of variables are taken in US droller rather than local currency unit. In addition, this is the time series analysis by using EVIEW so that why there are mostly chances of committing non stationary problem in the time series data, to combat this problem unit root test is used and as well the Johensan co integration test for, both test applied to check the long run relationship between variable.

Unit root test:
To check the time series data is stationarity or not , we apply The ADF test (Augmented Dickey Fuller) during the study. ADF is a unit root test developed by Dickey and Fuller. When ut is correlated there is problem of non stationary so we take differences through ADF test and data will become stationary. In time series most commonly data is non stationary. When we take differences of the variables ADF run variables in following form.

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta_{t=1} + \sum_{i=1}^{m} ai\Delta y_{t-1} + \in_t$$

To apply ADF test on each variable and GDP becomes stationary on I[1], exports becomes stationary no I[1], imports become stationary no [1] and labor forces stationary no I[1]. To check the stationarity of each variable at 5% level of significance. The results of ADF test are mentioned in table.2.

Table 2

Variables	Test statistic I(0)	Test statistic I(1)	Decision
Gross domestic product	T= 3.910902** P= 1.0000	T= -3.60683** P= 0.0114	Stationary at I(1)
Exports	T= -0.730947** P= 0.8246	T= -4.245853** P= 0.0023	Stationary at I(1)
Imports	T= -0.864247** P= 0.7864	T= -5.759011** P= 0.0000	Stationary at I(1)
Labor force	T= 1.629184** P= 0.4565	T= -6.952554** P= 0.0000	Stationary at I(1)

Note: The *, ** and*** show the level of 1%, 5% and 10% of significant respectively.

Johensan co-integration test:

During the research Johensan cointigration test show the long run relationship between variables. All variables in our analysis are I[1]. It's the suitable condition to apply Johensan co integration and reargued as its criteria. During the study tested long run relationship between GDP and export. Test results are presented below table. The table shows that during study cannot eliminate the null hypothesis of no co-integration at 5 % level.

Hypothesized No. Of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.591539	58.06665	48.76324	0.0041
At most 1 *	0.469794	30.31051	28.88916	0.0436
At most 2	0.214659	10.64131	16.62263	0.2345
At most 3	0.096637	3.150569	3.952255	0.0759

Trace result indicate 2 co integrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values.

"To see the affect of export on GDP the normalize equation result are presented below."

Results:

Normalized co integrating coefficients [standard error in parentheses]

GDP2	EXP01	IMP	L
1.000000	-35.42825	38.29957	4.28E+09
	(10.0552)	(9.11830)	(1.1E+10)

Normalized equation:

GDP = 35.42825EXP - 38.29957IMP – 4.28E+09L

The variable included in the equation is significant at 5apercent level. Export shows positive impact on the GDP, because Exports of the country boost up the growth of economy in Pakistan through way in to the overall world market and consequently the economies of scale. This earns foreign exchange & also ropes the different job opportunities in the export sector of the economy in Pakistan. Hence, it is suggested that government of Pakistan should continue the importing of raw material for value addition, & to expand the new technology, to expand the capacity of production and as well as to improve the production. These steps will help to boost up the exports in the country. During the study import shows negative impact on the GDP import regarded as leakages to economy. Excessive imports and the import of finished goods should be replace with the domestic output and displace the labor. So the import takes reserves out form the country boundary and has negative impact on GDP. Labor has negative long run relationship with the GDP, causes of this negative relationship are that most of developing countries have unskilled labor and mostly the effect of child labor is involved. Arther levis theory" look busy do nothing" is most often are correct regarding developing countries in contrast to unskilled labor.

Conclusion:

The main aim of this research is to analysis the applicability of the export of Pakistan led augmentation hypothesis for the country during the specific time period from 1992 to 2015. Studies results show that by using the Johanson approcah export of Pakistan and GDP are co integrated.

The research analysis rejects the hypothesis of exports & Gross domestic product (GDP) is not co-integrated and that exports of the country granger cause Gross domestic product (GDP) growth. A highly affirmative relationship is running from counter's export to economic growth which is anticipated by the applied test results for the long run. The causality exports economic growth show a relatively conceivable result. To obtain an established macroeconomic environment & expansion on sustainable ground, the exports of country can be feature to a enormous size with vision of local government laws and policies towards the export promotion. The sustainability of such policies by the local government should be conditional to boost its share of export in the world market. The result of current estimation reveals that augmentation rate of exports, significant relation towards GDP growth in country. And regarding import there is negative long run relationship between GDP. And import. Because import involves the payment rather than receipts so the payments regarded as leakages of reserves to the economy, simply that that country which has the more imports then the exports have the balance of payment deficit problem. More import deteriorates the economy and the planned future public projects are delayed. Usually developing countries have such problems in their balance of payments. Labor is almost having the positive variable regarding the GDP. Endogenous growth theory states fair relationship between human capital & economic growth. These theories hold that investment in human capital, innovation, and acquaintance are important contributors toward the economic growth. But in this analysis the labor have negative long run relationship with the GDP, causes of this negative relationship is that most of developing countries have unskilled labor and mostly the effect of child labor is involved. The Human Rights Commission of Pakistan anticipated in the year 1990s that about 11 million children were working as labor in the country, more than half of them were under the age of 10. In the year 1996, the middle age for a child entering the labor work was even 7 year old, down from 8 years old 2 years prior. The research results show that $1/4^{th}$ of the country's work force were made up of child laborers. Pakistan have another major problem of brain drain, most of our country cream are taken by the developed countries it's also disgusting for Pakistan. That's the reason in Pakistan case negative relationship is directed by the analysis. Unskilled and child labor have fewer abilities to furnish output level in the economy at optimization level that have the skilled and trained labor.

Policy recommendation:

The current Pakistan's economy is the 26^{th} largest in the world in terms PPP of purchasing power parity, & 44^{th} largest in terms of nominal GDP gross domestic product. Though Pakistan has a population of about 200 million. It is the 6th-largest population of the world, hence GDP (Gross Domestic Product) per capita is \$1428, 140^{th} ranking overall in the world(Bank 2017). Pakistan is a swiftly developing country & it will be one of the Next Eleven, the 11 countries that, all along with the BRICs, have a high potential to twist into the world's largest economies in the coming 21st century. Pakistan is recourse full country and full of natural endowment of resources like oil, gas, coal and other minerals. But the problem is that we are technological failed country and have less capability to explore the natural resources. If all these resources are undertaken seriously defiantly we don't need to go for the IMF. Pakistan economy is agriculture base and share of agriculture is almost 21 percent. There is lot of uncultivated land is available for the cultivation, if we make it cultivable defiantly the share of agriculture in economy can be enhanced and we can sell it in the foreign market and can earn the money. According to the economic survey of Pakistan during the fiscal year 2014 to 2015, agriculture sector in Pakistan exhibit a growth of 2.06 % on the back of nominal growth in agriculture sector. (Pakistan 2015). The big reason in behind the fall in the crops grew rate is the shortfall of water and uncertainty in the weather condition. Unfortunately there is a lack of interest of Pakistan government in building new dams. the major part of our Indus river water are felling in ocean.kala bagh dam project is the key to success in agriculture sector and as well in the energy sector, if Pakistan build the Kala bagh dam they can produce the 3600 MV cheap electricity and water storage capacity is about to be 7,900,000 acre ft. this dam can irrigate 800,000 acres of land, this will be a big push to Pakistan economy and the agriculture production can be enhanced more than available production. Second the important strategy Pakistan for increment its GDP is that Pakistan export most of his raw material related to agriculture and minerals to developed countries, in this contrast Pakistan needs to be produced finished good and export it to world market.

Third the mostly used policy used eve(CLRAE 2012)ry country is that to produce import substitution at domestic level. it can save the large amount of reserve and are in the favor of welfare of the country. if import substitution are produced then the employment rate increases and output level also in the country, in addition; beneficial for the elimination of social evils.

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The author would like to express his gratitude to Prof. Zhao Hai Dong and Shahid Adnan for their invaluable guidance and support, and sincere thanks to Raheem Jafar and Imran Rao for his insightful comments and suggestions.

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