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Exports and Economic Growth. A case study of U.S

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Abstract – This article explain the significant econometric research that attempted to evaluate the causal relationship between the factors like exports and gross domestic product. Exogeneity and structural invariance, Granger causality, cointegration with multivariate error correction models, VAR models with variance decomposition, and impulse response functions are just a few of the methodological approaches handed down in these investigations. The evaluation in this work takes into account the empirical results and the approaches of one and the other factor that were exploit. One of the major results is that empirical evidence supporting export-led growth in each industrialized and developing nations is much lower than first thought depend on given correlation and production function research.

As a whole, economists have not been able to agree on the precise relationship between exports and GDP. It is hypothesised here that a rise in exports encourages an increase in aggregate economic growth rather than the other way around, and that this link is one of interdependence rather than unilateral causation.

It has solid rational and empirical support. Imports are essential to economic growth, and as exports increase, so do they. An export-oriented economy is more productive because its resources are concentrated in the most lucrative industries. In addition to allowing companies greater economies of scale, producing for international markets also encourages cost reductions because of the intense competition in these areas. Investment, the introduction of new managerial and technology skills, and consumer spending all increase in industries that are profitable at export. In this context, exports of goods and services are treated as a dependent variable, whereas GDP is treated as an independent variable.

Purpose: The purpose of this study is to examine the impact of exports and gross domestic product on the economic growth of USA.

Keywords –Exports, Gross Domestic Product, Economic Growth Of USA.

I. INTRODUCTION

Evidently, it is essential to assess how exports affect economic growth. There are a plethora of different theoretical stances that can be taken. For instance, the standard neoclassical trade argument claims that increased resource allocation brought on by trade and exports has a large positive effect on economic performance. The "two-gap" theories of development also contend that because exports help to close the "gap" for foreign resources, they have a large positive impact on economic growth. Traditional theories of economic growth from the classical and neoclassical schools maintain that export growth and economic growth are closely related. As a result, growing global trade promotes specialization in the manufacture of export goods, increasing productivity and overall skill levels in the exports sector. Any economic system that distributes property rights must do so, but the specifics are decided by legal factors that are outlined in statutes and decided by courts.

This article explores the historical contributions of premodern academics to economic theory by tracing their work on the development and implementation of property rights. There are a lot of articles on property rights, but they can all be sorted into three categories. The first is that a more moral society would result from a more equitable distribution of property rights. These ideas were supported by both ancient Greek philosophers and mediaeval Christian intellectuals. Natural law is the basis for the allocation of property rights, as stated by thinkers like John Locke and Adam Smith. The right to private property is a natural right that exists apart from the state and is an extension of the right to life itself. Thomas Hobbes and others argue (thirdly) that the state distributes property to promote societal benefit. Trade techniques like import substitution and export promotion have been utilized by developing nations to boost economic growth.

The neoclassical school of economic thought advocates export-led growth (export promotion policy) as a viable strategy for stimulating economic expansion. It is stated that the expansion of the economy is the result of a combination of factors, including the rising economies of scale, productivity, specialization, and trade, and technological breakthroughs. By promoting exports, a number of East Asian nations have experienced rapid economic growth. The high trade to GDP ratios in these nations, according to many development economists, are both a result and a cause of their economies' expansion. Import substitution proponents contend that by laying the groundwork for economic expansion and promoting the growth of the manufacturing sector, the strategy creates the framework for future economic growth.

II. Literature Review

Numerous academic works are presented by the researchers regarding the period of economic growth. The country's exports have a favourable impact on economic growth, which is closely tied to financial development (Akram et al., 2011). According to (Demetraiades & Luitel, 1996; Bhattacharya & Sivasubramanian, 2003; & Tadesse, 2002), foreign trade and financial liberalisation increase the efficiency of the production process and favourably affect economic growth. According to Frankel and Romer (1999), export and import are two important factors that contribute to economic growth. According to Michaely (1977), Balassa (1978), Heller & Porter (1978), and others, an increase in exports leads to an increase in economic growth, while an increase in imports has the opposite effect (Nandi & Kumar, 2005). The cost of education plays a significant role in the economy's growth. According to Jung and Thorcecke (2003), spending on education accelerates economic growth.

Wang (1996) economic contribution rate of education (ECRE), which denotes that a unit investment in education expenditures causes an increase in GDP, was used to describe the contribution of education expenditure to economic growth (E.G). Long-term education spending has a positive correlation with long-term economic growth (Zhu et al., 2008). Others believe that spending money on health care and education for people has a big impact on the expansion of the economy.

2.1 Empirical Literature Review:

There is no reason to disbelieve the connection between exports and GDP growth, as shown by many studies both historical and contemporary. Exports boosted economic development in every nation, both established and developing. Pradhan (2010), an Indian commentator, said that exports, financial growth, and economic development are all intertwined across time, and that future expectations are equally rooted in the present.

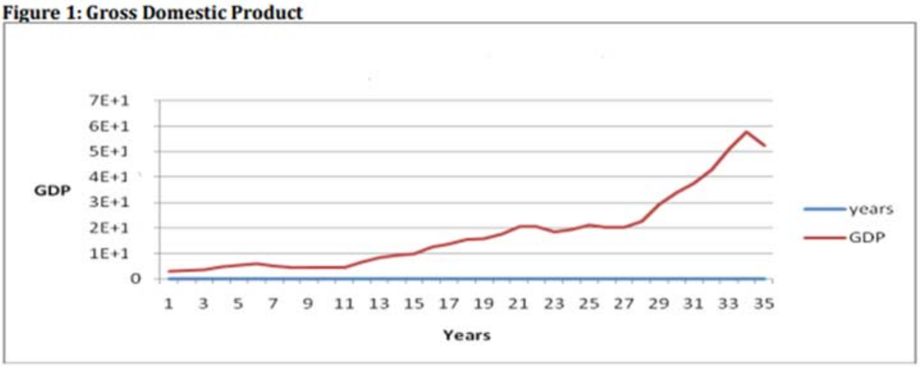
2.2 Data availability

We evaluate the consumption-based GDP growth rate and Exports of goods and services (annual % growth), which takes into account trade and covers all. (available online at https:// World development indicator, USA. DC: World Resources Institute. /ERL/15/114053/mmedia) and based on preference of export of good and services per anum and GDP growth rate(%) per year.

III. Methodology

There are strong indications that exports and GDP are related, and that this association is mutually causative rather than unidirectional. However, there are also reasons to believe that exports are crucial in fostering economic expansion, and that an increase in exports often drives an expansion in aggregate economic growth rather than the other way around. When analysing the relationship between GDP and exports, GDP serves as the independent variable while exports of goods and services serve as the dependent variable.

Figure 1: Gross Domestic Product



Using the OLS approach, describe the studies that were conducted to determine the major impact of export on U.S. economic growth in the following year. The primary goal is to explain the connection between GDP growth and export, government spending, and education spending by treating GDP as the independent variable. This paper's remaining sections are organised as follows: Following this, we will discuss the study's methodology, data analysis, and empirical results; finally, we will draw some conclusions and discuss their potential implications.

Table: 1.1 descriptive statistics

GDP	**Export**	**Import**	**FDI**
Min:-2.59	Min:-8.2943	Min:-0.2675	Min:0
Q1:0.8017	Q1:0.6723	Q1:0.1462	Q1:0.023
Median:0.02048	Median:0.3782	Median:0.3801	Median:0.0564

3.1 Regression analysis:

There are associations between GDP growth rate and Exports of goods and services (annual % growth), According to research the link between GDP and export is explored by doing a stepwise regression analysis on socioeconomic, demographic, and climatic factors and then comparing the results to the gross domestic product. FDI may promote and maintain economic growth in the different elements like exports, imports. On the one hand, developing nations have promoted FDI as a way to finance the development of new infrastructure and the creation of jobs for their native workforce.

$Y(GDP)=a+b_1X_1(Export)+b_2x_2(Import)+b_3x_3(FDI)+€$, in the form of

$F(x)=c_0+c_1x_1+c_2x_2+\ldots\ldots cnxn$

Table 1.2 regression

	B	**Std.**	T	**P**	**R^2**	**adj R^2**
GDP	0.378	0.213	2.089			
Export	-0.0267	0.013	-2.86	1.023		
Import	0.0322	0.0028	0.0049	0.0009		
FDI	0.2347	0.0422	-2.47	0.003	0.244	0.389

The term export refer as the good and services. GDP and Export of good and services are correlated (p =.1.029), export is positively correlated (p=0.003) and significantly affected. The values of adjusted *R* square are low (R^2 = 0.244~0.389), indicate that the percentage of the GDP and export of good and services and economic development that are explained by the variation in the export of good and services, are low.

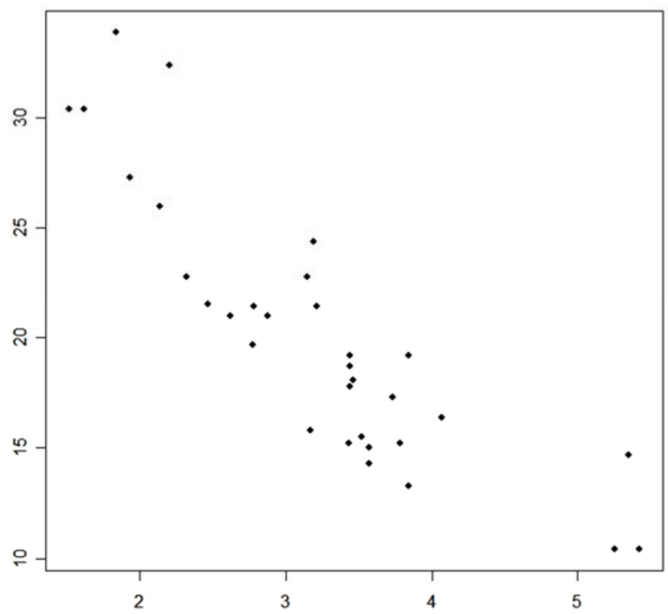


Fig: 1.1

In figure 1.1, scatter plot is given between gross domestic product and economic. Relationship between two variables like dependent and independent variable measured is displayed in a scatterplot. One variable's values are displayed on the horizontal axis, and the other variable's values are displayed on the vertical axis. On the graph, each individual in the data is represented by a point. The pattern of scatterplot depends on the direction, form and strength of the relationship.

3.2 Logical bases for the hypothesis

Exports have been hypothesised to have a significant role in economic expansion, and there is strong evidence to support this theory both from theory and empirical research. The immediate and indirect consequences of exports on the economy provide the rationale. A high export growth rate may be put to good use in fostering overall economic expansion, which has several immediate benefits. Having a robust export industry has several positive effects, including the immediate advantages of funding economic growth and encouraging more effective use of resources. Growth in investment, consumer spending, and the dissemination of new technologies are all contributing factors. When an industry is able to generate a profit from exports, it often attracts more local and international investment. Whenever a country sees rising demand and rising profits from exporting a basic commodity, it is encouraged to put money into the product's production and processing at every level of the value chain. Investment in supporting sectors that exist to supply and serve the core export business is also boosted by export growth.

IV. Diagnostic Tests

4.1 Multicolinearity:

Over the last few years considered auxiliary regression analysis, in which the squared residuals from the primary model are regressed on the same set of regressors as the primary model, can be used to check for homoscedasticity between two independent variables like gross domestic product and economic growth.

Hypothesis: H_0: Homoscedasticity is present.

H_1: Homoscedasticity is not present.

The studentized Breusch-Pagan test is given

studentized Breusch-Pagan test	Df	p-value
11.94	23	0.0043

Inference:-

The test statistic is 11.94, the degree of freedom is 23 and the corresponding p-value is **0.0043**.We rejects the null hypothesis and the results are significant.

4.2 Correlation:

From R results, In last few years, correlation between the dependant and independent variables, two variables like GDP and export of good and services to check the correlation. Spearman rank correlation is a non-parametric test that is used to check the degree of association between any two variables. Mostly spearman rank correlation is used when the data do not come from the bivariate normal distribution.

S=23470	P-value=1.549e-10

Generated results from R, the correlation between gross domestic product and export is 0.6735 and p value is 1.569e-10. P-value is less than the level of significance. The correlation factor is 0.78. We concluded that the two factors are correlated.

4.3 VIF model:

VIF model is used to detect the multicollinearity in the given variables like gross domestic product and export of good and services. Some variables may end up being multicollinear when a linear regression model is constructed. Multiple independent variables that are correlated with one another are referred to statistically as being multicollinear. The reliability of statistical judgments is decreased as a result of this multicollinearity. When two or more independent predictor variables are significantly linked with one another, this is known as multicollinearity in a regression model analysis. This results in a lack of specific information about the regression model.

We will used the VIF function from the gross domestic product to calculate the VIF for each predictor variable in the model. The smallest possible value of VIF is one (absence of multicollinearity). As a rule of thumb, a VIF value that exceeds 5 or 10 indicates a problematic amount of collinearity. 2.876 value indicate that VIF value is greater than 5 the variables are moderately correlated.

V. CONCLUSION:

This study investigates the proposition that export volume influences economic growth. The findings show that, when employing the following technique and taking the economy into consideration, there is a long-run equilibrium link between export and economic growth during the years. According to our findings, export has a sizable positive relationship with economic growth (EG) and gross domestic product, which is completely consistent with the conclusions of earlier studies. The unemployment that economy must deal with as a result of the global financial crisis represents a significant problem for it. The government should increase its exports to developing nations in order to meet this problem. With different techniques yearly Pattern are given with respect to years. With dependent and independent variables like gross domestic product, exports and economic factors were considered. Given results are significant and correlation. Homoscedasticity is not present in our variables.

VI. FUTURE RECOMMENDATION:

Pakistan is being prevented from experiencing robust, long-lasting, and inclusive growth by a number of factors. The paper makes recommendations for investments and changes to diversify exports, improve the business climate, increase access to and the quality of health and education services, and better urban planning procedures. Based on results of the multicollinearity, graphical presentation and following results with respect to the two independent variables and dependent variable. By adding or removing the dependent or independent variable, increase the efficiency of the results.

REFERENCES

[1] B.H. (Bin and Dowla tabadi, 2005; Hertwich and Peters), 2009 .

[2] M.Ma et al. (2015) The carbon Kuznets curve: a cloudy picture emitted by bad econometrics?

[3] Bin and Dowla tabadi, 2005; Hertwich and Peters,), "A heteroscedasticity Consistent Covariance Matrix Estimator and a Direct Test of Heteroscedasticity", (2009).

[4] Brown, M. A., Southworth, F. & Sarzynski, A. The geography of metropolitan gross domestic product. *Policy Soc.* 27, 285–304 (2009).

[5] Cárdenas-Mamani et al., Kahhat and Vázquez-R0we Effects of aging on older drivers' travel characteristics(2022).

[6] Druckman and Jacks0n (2010) Measuring destination-based segregation through mobility patterns, Journal of Transport Geography

[7] Esch, T. et al. Breaking new ground in mapping human settlements from space—the global urban footprint. *ISPRS J. Photogramm. Remote Sens.* 134, 30–42 (2017).

[8] Elmqvist et al., 2019). Caeiro et al., Ram0s and Huisingh ,population emission(2012).

[9] Fragkias, M., Lobo, J., Strumsky, D. & Seto, K. C. Does size matter? Scalingof CO_2 emissions and U.S. urban areas. *PLoS ONE* 8, e64727 (2013).

[10] Fischer et al., 2017 Scaling of CO_2 emissions and U.S. urban areas.

[11] H. White (1980), "A heteroscedasticity Consistent Covariance Matrix Estimator and a Direct Test of Heteroscedasticity", Econometrica, Vol. 48, pp. 817-818.