

Export-led Growth or Growth-led Exports: Which Hypothesis Holds True for the Indian Economy?

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Abstract

The study aims to assess the causal nexus between exports and economic growth in India over a 32 year period (1991-2022). The direction of causality between the two variables is determined by Granger Causality test in order to examine whether exports lead to economic growth in India known as export-led growth hypothesis in the economics literature or the economic growth generates more exports for the country (growth-led exports hypothesis). The results provide the evidence of a bi-directional causality between exports and economic growth in India, thereby extending support to both export-led growth and growth-led exports hypotheses.

Keywords: Exports, economic growth, causality, GDP.

Introduction

Countries across the globe are primarily concerned about the improvement of living standards of their people which is possible mainly due to the overall economic development of a country and therefore, improvement in the economic growth rates is of prime concern for any economy. A number of strategies are employed to achieve this objective and one significant possibility is to find opportunity in the international market for exporting the goods and services produced by a country. There are several reasons to believe that exports growth is an engine of development leading to a globally competitive, technologically advanced and rapidly growing economy. Firstly, exporters have to sell their products in globally competitive markets which builds a pressure on them to learn and adopt new technologies. Secondly, the opening up of economies and implementation of export promotion policies results in better allocation of scarce resources. Thirdly, exporters are always in a better position to exploit economies of scale due to large access to global markets and lastly, growth in exports enhances the access to both international capital as well as intermediate goods required by local firms for production purpose which ultimately leads to gains in productivity. The benefits of division of labour and specialisation as given by classical economists, Adam Smith and David Ricardo can be reaped by a country mainly through the export of products where it has a comparative advantage in production.

The relationship between exports and economic growth has sought interest of both the policy makers and academicians. There is a notable debate, however, among economists regarding the role of exports in generating economic growth. Many economists argue that export growth results in higher economic growth. This is known as export-led growth hypothesis (Bhagwati, 1978, 1988; Edwards, 1998; Shirazi and Manap, 2005). Others propound that the main focus of a country should be on economic growth which in turn can generate exports for the country. This is called growth-driven exports hypothesis. The developing countries are therefore in a fix as to whether they should liberalize their economies through expansion of exports to generate economic growth or they should focus primarily on growth-generating activities the consequence of which could be a rise in exports.

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Many economists hold the belief that the high economic growth rates enjoyed by India after the economic reforms of 1991 are the result of increase in foreign trade. It has been widely argued that the growing exports helped the Indian economy in gaining access to foreign markets and advanced technology which translated into higher economic growth. This paper is an attempt to assess the role of exports in economic growth of India. The causal linkage between exports and economic growth is examined in order to test whether the export-led growth hypothesis holds true for the Indian economy or the growth-driven exports hypothesis.

Review of Literature

The belief that exports is an engine of economic growth has motivated empirical research in the field and thus, the relationship between exports and economic growth has been extensively studied by researchers. We have summarized some of the empirical studies that have examined the export-growth relationship and categorized this section on the basis of findings extending support to: I) export-led growth hypothesis, II) growth-led exports hypothesis, III) both export-led growth and growth-led exports hypotheses, and the last part (IV) of literature shows mixed results.

Literature on Export-led growth hypothesis

Konya and Singh (2006) made an attempt to find evidence for either export/import-led growth or growth-led export/import hypotheses in India. They found support for export/import-led growth hypothesis and the reason for such result has been attributed to the encouraging trade environment of Indian economy. Pradhan (2010) examines the export-led growth hypothesis in India over the period 1970-2010. The findings reveal a significant relationship between growth in exports and economic growth in both the short and long run. Granger causality test results suggest that there exists a uni-directional causality running from export growth to economic growth with no evidence of reverse causation, that is, causality runs from GDP growth to export growth, thereby lending support to export-led growth hypothesis. Agrawal (2014) also provides evidence in favor of export-led growth hypothesis for India but only for the post- trade liberalization phase. Similar results have been produced in the study of Serletis (1992) in case of Canada and Marin (1992) in case of other industrial countries providing evidence in support of export-led growth hypothesis. Thornton (1996) used Granger causality test to examine the causal nexus between exports and GDP in Mexico over the period 1895-1992 and found a uni-directional causality running from exports to economic growth. Xu (1996) examined the causality between exports and economic growth in a sample of 32 countries and the findings revealed that the export-led hypothesis is supported by 17 economies and strongly supported by 9 economies. The other researchers (Beckerman, 1965; Balassa, 1978, 1985; Bhagwati, 1978, 1988; Edwards, 1998; Shirazi and Manap, 2005) also extend support to export-led growth hypothesis.

Literature on Growth-led exports hypothesis

Henriques and Sadorsky (1996) examined the export and output growth relationship for Canada using a multivariate co-integration technique but found results that are contradictory to the one produced by Serletis (1992) for Canada, proving that changes in GDP precede the changes in export. While studying the causal nexus between export growth and economic growth for the Indian economy, Ghatak and Price (1997) reveal that export growth is caused by real GDP for the period 1960 to 1992 using Granger causality test. Ronit and Divya (2014) assessed the causal nexus between exports and economic growth in India while employing annual data for the period 1969-2012. The results revealed that it is the economic growth that causes rise in exports, thus supporting the hypothesis of growth-led exports in the Indian economy. Mallick (1996) also found evidence in favor of growth-led exports hypothesis for

India as the direction of causality runs from GDP growth to export growth. Shihab, Soufan and Khaliq (2014) assessed the causal relationship between exports and economic growth in Jordan over the period 2000 to 2012 using Granger causality test and the findings reveal a uni-directional causal linkage between export and economic growth with the direction of causality running from economic growth to exports thereby lending support to growth-led exports in Jordan. Abbas (2012) examined the causality between GDP and exports for the period 1975 to 2010 in Pakistan revealing a short run as well as long run causality from GDP to exports. Shan and Tian (1998) also found support for Growth-led exports hypothesis in Shanghai, a major exporting province in China.

Literature on both Export-led growth and Growth-led exports hypotheses

There are some empirical studies the results of which offer support to both export-led growth and growth-led exports hypotheses. Guntukula (2018) found a bidirectional causality between exports and economic growth in India using Johansen's Co-integration and Granger causality test. On one side, economic growth increases due to rise in exports and on the other side, exports exert a positive effect on economic growth, thus extending support to both export-led growth and growth-led exports hypotheses. Singh (2015) used Johansen's co-integration and Granger causality test to analyse the long-run & short-run equilibrium relationship between exports and GDP growth in Indian economy and the results suggest a long-run equilibrium relationship between the observed variables. The results of Granger causality test revealed bi-directional causal linkage between exports and economic growth in both the long-run and short-run, thereby supporting both export-led growth and growth-led export hypotheses. Chow (1987) found similar results for eight Newly Industrialized Countries (NICs) while examining the causal linkage between exports and output growth. The findings revealed a bidirectional causality between exports and output growth, thus lending support to both export-led growth and growth-led exports hypotheses. Afzal (2006) analysed the same relationship for Pakistan and found similar results. Ekanayake (1999) revealed a bi-directional causal relationship between exports and economic growth in India, Indonesia, Korea, Pakistan, Philippines, Sri Lanka and Thailand. Mah (2005) revealed similar results for China.

Mixed results

Hatemi and Irandoust (2000) examined the causal nexus between economic growth and exports of the Nordic economies. In case of Denmark, the results support growth-led exports hypothesis while in case of Finland, Norway, and Sweden, a bidirectional causality is found between exports and economic growth, thus supporting both export-led growth and growth-led export hypotheses. Sampathkumar and Rajeshkumar (2016) examined the relationship between export and economic growth for the SAARC countries and the findings revealed a unidirectional causality running from economic growth to export for Bangladesh and India (growth-driven export hypothesis), and bidirectional causality between the two variables for Afghanistan and Sri Lanka, thereby supporting both export-led growth and growth-driven export hypotheses, and no causal linkage was found for Bhutan, Maldives, Nepal and Pakistan.

From the above literature review, it is clear that a conflicting evidence is found for the export-led growth and growth-led exports hypotheses. While some researchers find support for either of the two hypotheses, others hold both the hypotheses as true which makes it interesting to conduct further empirical research in this field using robust methodology and latest data.

Data and Methodology

The data on exports and GDP growth for the reference period (1991-2022) is collected from the World Investment Reports published by World Bank (World Development Indicators).

The first step of econometric analysis is to perform a descriptive/summary statistical analysis of the data, the objective of which is to describe the behavior of data. Next, the correlation analysis is attempted to check whether there exists a linear relationship exists between the dependent and independent variable.

After conducting the correlation analysis, the unit root test is conducted in order to check the stationarity of variables. To check whether the data series contains a unit root or not, the Augmented Dickey Fuller Test (ADF) was conducted. The ADF test is a commonly used test conducted to check whether the time-series is stationary or not, the stationarity of the series means it has a mean and variance which do not change over time. The null hypothesis states that the variable under study has a unit root.

Finally, the casual relationship between exports and economic growth is examined using Granger causality test proposed by C.W.J. Granger (1969). Granger causality method regresses a variable y on a lagged value of itself and other variable x . If x is considered to be statistically significant, it explains some of the variance of y . This suggests that x is causally preceding to y and said to dynamically cause y . Moreover, Granger Causality Test helps in determining the direction of causality which can be either uni-directional or bi-directional depending on whether one variable causes another or both exhibit a causal relationship with each other.

Empirical results and discussion

Descriptive Statistics

Descriptive/summary statistical analysis is conducted to understand the behavior of data. The two commonly used descriptive statistical measures that we used in this study are mean and standard deviation. The mean of GDP growth is 5.98 and the standard deviation of the same is 2.88 (Table 1). The mean of exports is 10.83 and the standard deviation is found to be 10.21. Therefore, exports have grown at a faster pace than economic growth in the country during the period under study.

Table 1- Descriptive Statistics

Variables	N	Mean	Std. Deviation
GDPG	32	5.98	2.88
Exports	32	10.83	10.21

Correlation Analysis

The results of pairwise correlation analysis reveal that there exists a positive correlation between GDP growth and exports at 5% level of significance as shown in Table 2.

Table 2- Correlational Analysis

Variables	GDPG	Exports
GDPG	1.000	
Exports	0.386 (0.029)	1.000

Stationarity (ADF unit root) test

Using Augmented Dickey Fuller (ADF) unit root test to test the presence of unit root in our time series data, it was observed that both variables used in the study viz. GDP Growth and exports are stationary at level (Table 3).

Table 3- ADF Unit Root test

Variables	ADF Unit Root Test		
	Stationary At	t-Stat	P-Value
GDPG	<i>Level</i>	-5.51	0.000
Exports	<i>Level</i>	-4.95	0.000

Granger Causality test

To examine whether exports lead to economic growth in India known as export-led growth hypothesis in the economics literature or the economic growth generates more exports for the country (growth-led exports hypothesis), Granger Causality Wald test was conducted to assess the causal nexus between economic growth and exports. The results provide the evidence of a bi-directional causality existing between exports and economic growth in India, thereby extending support to both export-led growth and growth-led exports hypotheses, corroborating with the findings of some previous studies (Afzal, 2006; Singh, 2015; Guntukula, 2018).

Table 4- Granger Causality Test

Null Hypothesis	D.f.	Chi-value	P-value	Decision	Nature of Causality
<i>Exports does not cause GDP Growth</i>	4	8.58	0.072	Rejected	Bi-directional
<i>GDP Growth does not cause Exports</i>	4	8.99	0.061	Rejected	Bi-directional

3. Conclusion

The liberalization reforms post 1991 and the changing dynamics of Indian economy sought attention of researchers to focus on the relationship between exports and economic growth in India. It has been widely believed that exports play an important role in the economic growth of the country. However, there has been a considerable debate whether exports lead to economic growth (export-led growth hypothesis) or it is the economic growth which generates exports for a country (growth-led exports hypothesis) since a mixed evidence is found in the literature. This paper makes an attempt to assess the causal linkage between exports and economic growth using Granger causality technique so as to test whether the export-led growth hypothesis holds true for the Indian economy or the growth-led exports hypothesis. The findings of our empirical analysis reveal that there exists a bi-directional causal nexus between exports and economic growth in India, thereby extending support to both export-led growth and growth-led exports hypotheses. It is therefore suggested to the policymakers that they should take steps to stimulate exports for better growth outcomes.

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