Causality between Trade and Economic Growth: Evidence from India

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Abstract

Economic indicators play an important role in the assessment of overall performance of an economy. This paper studies the existence or non existence of relationship between imports, exports, and growth of Indian economy. Time series data for the study is taken from 1980:2016. Purpose of the study is to assess the causality between GDP, Exports and Imports. Econometric tests performed are unit root test (ADF), Granger Causality test is applied to assess short term relationship, and cointegration test under unlimited Vector Auto Regression is carried over to assess the long term relationship between the chosen variables. By applying unit root test all variables became stationery at first difference which leads to the use of cointegration test. By applying cointegration test, results imply the absence of long run relationship between the chosen variables for study. Vector autoregressive model shows that growth in GDP, imports and exports significantly depends on previous year’s growth rate. Overall, the implication from the study is that both imports and exports play an important role in stimulating growth of Indian economy.

Key Words: GDP, Exports, Imports, India.
1. Introduction

India is considered to be the fourth largest economy, measured in terms of purchasing power parity. Economists are interested to know factors that help to grow their economy and achieve various levels of wealth when compared to other countries in the world. One such factor is trade. Trade act as an important tool for economic growth of a nation. Trade helps to increase output by accessing scare resources and markets, in turn helps to increase the consumption pattern worldwide. The base of trade is on the fact that economies differ in their resources, tastes and preferences of people differ, use of technologies, their scale of economies and their productivity levels for growth and development differ widely (Todaro and Philips, 1993).

In general, lots of empirical literatures exist on assessing causal relationship between trade and economic growth of an economy. Two hypotheses dominate the empirical literature. One is Export led growth hypothesis and the other one is Import led growth hypothesis. Exports are considered as a major determinant for economic growth under Export led growth hypothesis. It assumes that by increasing exports over a period of time, it augments the increased amount of labour and capital in the economy. This type of encouragement has been generated for the various reasons such as; rise in exports helps to use proper use of resources by applying economies of scale, increasing exports helps to relax foreign exchange constraints helping to import necessary inputs to meet domestic demand. (P. Muralidhara and Chokka Lingam 2017) Also exports helps in promotion in specialization of producing products exclusively for exports and helps to boost the production level and leads to increase in skills in of home economy. This export led growth hypothesis then paves way for transferring resources to export sector from other non-trade sector. Thus, International trade theory suggests export-oriented policies of an economy contribute to economic growth of a nation (Eusuf and Ahmed, 2007). On the other hand, the import- led growth hypothesis assumes that growth of an economy is primarily driven by increasing imports. Imports are considered as a vital channel for long- run economic growth, as it provides access to transitional factors of production and use of advanced technology to domestic firms. Growth of imports serves as an intermediate for transfer of growth by enhancing Research and development from developed to developing economies (Awokuse, 2007).
This paper is to test the existence of causal relationship between trade and growth of Indian economy. Trade, here denotes both exports and imports. The focus is India because India has lived an economic growth with a large current account deficit. So, it is wondered if an economic growth causes an increase in trade or increase in trade causes economic growth. The study is structures into the following sections as: Section 2 covers overview of trade and growth in India, Section 3 covers Review of Literature Section 4 covers Data and Methodology, Section 5 covers Empirical results and Section 6 concludes the discussion.

2. Overview of trade and growth in India

Every country is geographically different from one another and also the availability of resources. The economy worldwide continues to suffer due to slower growth due to the prevalence of reduced rates in inflation, lowering prices of commodities, reserved growth in developed economies and uncertainties prevailing due to geo political and political conditions. Estimates by International Monetary Fund for economic growth worldwide were 3.1% in 2016 and to pickup to 3.4% during 2017. Against the gloomy economic position, India’s challenges against restrained manufacturing, lower exports of services, fading impact of demonetization which leads to increase in private consumption and lower capital expenditure is noteworthy. But India’s favorable indicators such as moderate level of inflation, reduced Current Account Deficit (CAD), Fiscal consolidation, the country is currently characterized as a stable economy; India’s GDP’s growth is likely between 6.75% to 7.5% during 2017-18. According to the Projection by IMF for India in its World Economic Outlook, October 2016, India’s GDP is said to grow at the highest pace when compared among economies, with the growth prediction at 7.6 per cent in 2016-17. As per United Nations report, India’s economy is significantly gaining impetus for growth in GDP mentioned at 7.3 during 2016 and 7.5 per cent during 2017. According to OECD Interim Economic Outlook, September 2016, India’s projected GDP growth is 7.4 per cent for 2016 and 7.5 per cent for 2017. According to the Global Competitiveness Report 2016-17 published by World Economic Forum, despite of unconventional monetary policy, growth in GDP worldwide has fallen from 4.4 per cent in 2010 to 2.5 per cent in 2015. India leads the group of South Asian economies, climbed to 39th rank from 48th rank in 2007-2008. India’s competitiveness in increasing efficiency in goods and services market, business sophistication, and innovation has accelerated the momentum of economic growth.
India’s exports in merchandise goods reached a point of USD 262.00 billion during 2015-16 registering a pessimistic growth rate of 1.29 % when compared with the previous year. During the year 2015-16, the cumulative value of exports was USD 262.00 billion as against USD 310.34 billion over the subsequent period of the previous year recording a down beat of 15.57 %. Increasing value of imports for the year 2015-16 was USD 380.36 billion as adjacent to USD 448.03 billion during the subsequent period of the previous year recording a pessimistic growth of 15.11 %.

Chart 1: Growth of exports in top 10 export destinations (%)
3. Review of Literature

India remained a protected economy prior to 1990’s describing as ‘import substituting country par excellence’. The study of relationship between economic growth, Exports and Imports has been a subject of considerable interest to a lot of development economists. Trade is considered as a major driver of economic growth by traditional theories. Origins of theoretical literature between economic growth and trade is highlighted well in the absolute and comparative advantage theories and in Hecksher–Ohlin theories (Jayme, 2001). Kaldor (1970) developed an export led growth model indicating that exports are the main components of demand for trade. On the other hand, Keynesian models support demand pull characteristics of exports acts as a channel between trade and economic growth. Although empirical linkage between economic growth and trade have been widely discussed a lot during the last two centuries, In spite of the tests and discussions a lot of arguments still exists about their actual effects. The arguments in favor of trade can be traced to the classical school of economic thought that started with Adam Smith (Medina–Smith, 2001). Then came the widespread use of neoclassical models which centres on trade and its role in coordinating and integrating macroeconomics, public finance and international economics of an economy.

Given the paucity of long run time series data for a wide range of countries, many researchers had investigated the determinants of economic growth using time series and cross
sectional data. The early empirical approaches relied on statistical techniques that limited to applying only association or correlation between the chosen variables. (Michaely 1977) applied simple correlation technique and found that there exists a positive correlation between exports and economic growth, as exports are inevitable part of GDP. (Balassa 1978) used production function approaches. In their studies growth rate of GDP was regressed on the growth rate of exports, with additional variables such as imports, domestic investment, and foreign capital. In a large number of studies (Ram, 1987) exports and GDP are not co integrated, implying the absence of long run relationship between the study variables. In certain studies by (Bahmani-Oskooee and Alse, 1993, Kugler and Dridi, 1993) exports and GDP are found to be co integrated, implying the existence of long run relationship among variables.

In addition, Bhat (1995) found positive long run relationship exists between output growth and exports growth by applying cointegration test. On the contrary, to assess the causation between economic growth and export growth, bivariate framework was applied by authors Pandey (2006), Pradhan (2007), Ray (2011) and Devi (2013) in their studies. Results of these studies also concluded towards Export led growth hypothesis.

There are other group of studies taken by Price and Ghata (1997), Biswal and Dhawan (1999), Nataraj et.al. (2001), Panagiotidis (2003) and Mishra (2011) which do not support Export led growth hypothesis. The major reasons attributed for, is the variations in time periods, differences in variable definition and the statistical techniques used in their study. All other studies, other than Mishra (2011) had applied multivariate structure to study the causation between economic growth and growth in imports, but failed to conclude that imports growth causes GDP growth. In contrast to multivariate analysis, lots of studies (Riezman et al., 1996; Konya, 2004), used bivariate analysis and found sufficient evidence for export-led growth hypothesis.

Finally, a number of studies investigated, the Granger causality test by means of vector error correction models (Marin, 1992; Thangavelu and Rajaguru, 2004), indicated mixed causality results. Dutt and Ghosh (1996) reports there was no causality as there is no cointegration between economic growth and growth in exports, while four studies applied
augmented VAR-level Granger causality test in their studies. Toda and Yamamoto (1995) suggested there was no export-led growth (Yamada, 1998), growth-led exports (Konya, 2004; Awokuse, 2005) and (Hatemi-J, 2002) found the existence of bidirectional causality between growth in exports and economic growth. Whereas (Islam, 1998) (P. Muralidhara and Chokka Lingam 2017) applied causality test introduced by Granger and the results indicated an evidence of export-led growth. On the other hand (Boltho, 1996; Riezman et al., 1996) in their study found the application of growth led exports in their study.

4. Data and Methodology

4.1 Data

The data used in this study are sourced from the database of the India’s Central Bank, Reserve Bank of India the time series annual data set consists of proper interpretation on India’s exports and imports of goods and services and economic growth. Gross Domestic Product is used as a proxy variable to assess the growth of Indian economy. All the time series employed in the study covers the period from 1980:2016. For the purpose of analyzing data we have used Eviews-7 and got the results. The following chart clearly explains the methodology of tests carried out in the study.

4.2 Unit Root Test

Studying stationarity properties of time series is the first step in analysis so as to identify the variables is stationary or nonstationary. In this study, Augmented Dickey–Fuller test (ADF)
(Dickey & Fuller, 1981) is used to test presence or absence of unit root among the chosen variables and their order of integration. The test involves estimating the regression

$$\Delta Y_t = \alpha_0 + \alpha_1 t + \alpha_2 Y_{t-1} + \sum_{j=1}^{p} \alpha_j \Delta Y_{t-j} + \epsilon_t$$

In the above equation, $\alpha$ is constant, $\rho$ is coefficient of time drift, $Y$ denotes the variable under consideration. In our study, the variables include Exports, Imports and Gross Domestic Product. $\Delta$ denotes the first difference operator; $t$ denotes drift in time, $\epsilon$ is a stationary random error. The test for stationarity is applied on the coefficient of $Y_{t-1}$ in the above equation. If the coefficient $\alpha_T$ is found to be notably different from 0, the null hypothesis is rejected interpreting that the variable $Y$ contains a unit root and states that the variable does not have unit root. Akaike Information Criterion is used to determine the proper lag length criterion in ADF test.

### 4.3 Johansen Cointegration Test

The purpose of using this test is to reveal the existence or absence of long-run relationship among the chosen variables. Validity of long-run relationships between variables is tested using Co-integration test, provided all variables are non-stationary at level, meaning to say they are integrated at same order. This method is also otherwise known as the maximum likelihood method, which aids in testing the complete system of equations for the existence of cointegration among variables. This is also written as vector autoregressive equation of order $p$ as,

$$X_t = A_0 + \sum_{j=1}^{p} B_j X_{t-j} + \epsilon_t$$

$X_t$ denotes $n \times 1$ vector of non-stationarity variables integrated of $I(1)$ order, $p$ denotes the lag length, $A_0$ denotes $n \times 1$ vector of constants, $B_j$ is $n \times n$ coefficient matrix and $\epsilon_t$ is white noise error terms. Two likelihood ratios, the trace and maximum Eigen value (Johansen, 1988) indicate the co-integrating rank and are used to determine the number of co-integrating vectors.

$$\lambda_{\text{trace}} = -T \sum_{j=4}^{p} \ln(1 - \lambda_j)$$

$$\lambda_{\text{max}} = - T \ln(1 - \lambda_j)$$

Number of co-integrating vectors are identified using the test results obtained from $\lambda_{\text{trace}}$ and $\lambda_{\text{max}}$ test, $T$ denotes number of observations and $\lambda_j$ indicates estimated value for the $j^{th}$ ordered...
characteristic roots or the eigen value. Eigen value greater than zero indicates the existence of co-integrating vector. Trace statistics is used as a combined test to test the null hypothesis about the presence of number of co integrating vectors which is less than or equal to r, against the general choice that the presence of co integrating vectors are additional to r. The maximum eigen value tests the presence of co-integrating vectors is equal to or less than r against the option of r+1 co integrating vectors in the null hypothesis.

If the series are not co integrated then the selection of either the Vector Autoregressive (VAR) or the Vector Error Correction (VEC) models for efficient estimation and forecasting can be tested. Lag length for VAR is selected based on Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC). The estimation of co integration using the above said method, involves estimation of following unrestricted VAR model

\[ Y_t = A_0 + \sum_{i=1}^{p} A_i Y_{t-i} + \epsilon_t \]

Where \( Y_t \) is nx1 vector indicating non stationarity of variables integrated of order I(1) \( A_0 \) is nx1 vector constants, \( n \) is number of lags, \( A_i \) denotes nxn matrix of estimated parameters, \( Y_{t-i} \) is nx1 vector and \( \epsilon_t \) is independent error term.

4.4 Granger Causality Test

Granger during 1969 developed this causality test. A variable (Exports) is said to granger cause another variable (Gross Domestic Product) if the past and present values of exports help to predict the values of Gross Domestic product. To examine whether Gross Domestic Product granger causes exports or exports granger cause Gross Domestic Product involving two variables exports and Gross Domestic Product is written as:

\[ EXP_t = \sum_{j=1}^{p} \alpha_j EXP_{t-j} + \sum_{j=1}^{p} \beta_j GDP_{t-j} + u_t \]

\[ GDP_t = \sum_{j=1}^{p} \gamma_j EXP_{t-j} + \sum_{j=1}^{p} \theta_j GDP_{t-j} + V_t \]

From the above equation, \( H_0: \beta_j = 0, j=1….p \) means that exports does not granger cause GDP and \( H_1: \beta_j = 0, j=1….p \) means that GDP does not granger cause exports. If null hypothesis
is rejected, then it implies that exports do Granger cause Gross Domestic Product growth rate in the economy and Gross Domestic Product growth rate also does Granger cause exports and indicates that the two variables are independent of each other.

5. Empirical Results and Discussions

In this section, the empirical findings for the stationarity test, Johansen Cointegration test, Granger Causality test based on Vector Auto Regression are presented. Many time series are found to be non-stationary, but few are stationary. Therefore to avoid spurious results, testing stationarity of the variables is important. The test results of Augmented Dickey-Fuller test are presented below,

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>p-value</th>
<th>First Difference</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogEXP</td>
<td>0.018309</td>
<td>0.9542</td>
<td>-5.799477*</td>
<td>0.0000</td>
</tr>
<tr>
<td>LogIMP</td>
<td>0.169706</td>
<td>0.9667</td>
<td>-4.425216*</td>
<td>0.0012</td>
</tr>
<tr>
<td>LogGDP</td>
<td>3.343453</td>
<td>1.0000</td>
<td>-6.275500*</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

*Denotes dismissal of null hypothesis at 5% level of significance

Test result shows that all data are set to be non-stationary at level, I(0), after first differencing the (H₀) for the existence of a unit root in the three variable sin rejected, implying that the three variables used in the study are integrated at order one I(1). The findings confirm that the Johansen cointegration mechanism is an appropriate technique used to check whether the variable are co-integrated.

To implement the Johansen Cointegration test, the first thing to do is to decide the optimal lag structure. In this paper AIC statistics are employed to select the appropriate lag structure. Results of the bivariate and multivariate Johansen co integration tests are presented in Table 2:
Table 2: Johansen Cointegration test results

<table>
<thead>
<tr>
<th>Lag</th>
<th>Null($H_0$)</th>
<th>Alternate($H_1$)</th>
<th>$\lambda_{trace}$</th>
<th>5%CV</th>
<th>$\lambda_{max}$</th>
<th>5%CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model 1: $Y = [\text{GDP, Exports}]$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$r = 0$</td>
<td>$r \geq 1$</td>
<td>7.053976</td>
<td>15.49471</td>
<td>6.571765</td>
<td>14.26460</td>
</tr>
<tr>
<td></td>
<td>$r \leq 1$</td>
<td>$r \geq 2$</td>
<td>0.482211</td>
<td>3.841466</td>
<td>0.482211</td>
<td>3.841466</td>
</tr>
<tr>
<td></td>
<td>Model 2: $Y = [\text{GDP, Imports}]$</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>$r = 0$</td>
<td>$r \geq 1$</td>
<td>13.36838</td>
<td>15.49471</td>
<td>8.857968</td>
<td>14.26460</td>
</tr>
<tr>
<td></td>
<td>$r \leq 1$</td>
<td>$r \geq 2$</td>
<td>4.510414</td>
<td>3.841466</td>
<td>4.510414</td>
<td>3.841466</td>
</tr>
<tr>
<td></td>
<td>Model 3: $Y = [\text{GDP, Exports and Imports}]$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$r = 0$</td>
<td>$r \geq 1$</td>
<td>19.13519</td>
<td>29.79707</td>
<td>10.41358</td>
<td>21.13162</td>
</tr>
<tr>
<td></td>
<td>$r \leq 1$</td>
<td>$r \geq 2$</td>
<td>8.721608</td>
<td>15.49471</td>
<td>5.242651</td>
<td>14.26460</td>
</tr>
<tr>
<td></td>
<td>$r \leq 2$</td>
<td>$r \geq 3$</td>
<td>3.478957</td>
<td>3.841466</td>
<td>3.478957</td>
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<tr>
<td>2</td>
<td></td>
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<td></td>
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<td></td>
<td>Model 1: $Y = [\text{GDP, Exports}]$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$r = 0$</td>
<td>$r \geq 1$</td>
<td>17.07908</td>
<td>15.49471</td>
<td>16.16265</td>
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<tr>
<td></td>
<td>$r \leq 1$</td>
<td>$r \geq 2$</td>
<td>0.916431</td>
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<td>3.841466</td>
</tr>
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<td></td>
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<tr>
<td></td>
<td>$r = 0$</td>
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<td>16.90444</td>
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<td>13.71791</td>
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<tr>
<td></td>
<td>$r \leq 1$</td>
<td>$r \geq 2$</td>
<td>3.186528</td>
<td>3.841466</td>
<td>3.186528</td>
<td>3.841466</td>
</tr>
<tr>
<td></td>
<td>Model 3: $Y = [\text{GDP, Exports and Imports}]$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$r = 0$</td>
<td>$r \geq 1$</td>
<td>35.06055</td>
<td>29.79707</td>
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<td>16.09725</td>
<td>15.49471</td>
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<td>14.26460</td>
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<tr>
<td></td>
<td>$r \leq 2$</td>
<td>$r \geq 3$</td>
<td>1.800524</td>
<td>3.841466</td>
<td>1.800524</td>
<td>3.841466</td>
</tr>
</tbody>
</table>

To implement the Johansen cointegration test, the first thing is to decide the optimal lag structure. In this paper, AIC statistics are employed to select the appropriate lag structure. Johansen Cointegration test results are presented in Table 2. For all the three models, the empirical result confirms that the values of the trace tests and those of the Eigen value tests are statistically not significant ($p>0.05$) and lesser than the critical values. This confirms that the $H_0$
of no cointegration \((r=0)\) is accepted by both the trace test and maximum Eigen value test statistics in the three models. This indicates the absence of long run relationship between Exports, Imports and GDP for the period being studied.

The direction of causality cannot be traced only through Cointegration tests; therefore to test the existence of short run causation among the variables, the Granger Causality test under Vector Auto Regression model is applied. The study focuses on bivariate Granger causality analysis to examine the causal impact of Trade on India’s economic growth. For the empirical analysis, there are three models to be estimated via using bi variate Granger causality tests. The Findings of the causality analysis are presented in table 3. These results also show that the absence of any Granger cause between Gross Domestic Product, Exports and Imports.

Table 3: Granger Causality Test results

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>observations</th>
<th>F- Statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>logEXP does not Granger cause logGDP</td>
<td>35</td>
<td>4.73514</td>
<td>0.0366</td>
</tr>
<tr>
<td>logGDP does not Granger cause logEXP</td>
<td>35</td>
<td>1.26073</td>
<td>0.2980</td>
</tr>
<tr>
<td>logIMP does not Granger Cause logGDP</td>
<td>35</td>
<td>1.01369</td>
<td>0.3750</td>
</tr>
<tr>
<td>logGDP does not Granger Cause logIMP</td>
<td>35</td>
<td>3.18036</td>
<td>0.0559</td>
</tr>
</tbody>
</table>

In VAR model all the variables are treated as exogenous and all the variables and its lags are used as endogenous variables in order to examine a dynamic relationship among different variables. Test results of using VAR are presented in table 4

Table 4: Vector Auto Regression Model

<table>
<thead>
<tr>
<th>GDP</th>
<th>EXPORTS</th>
<th>IMPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP(-1)</td>
<td>-0.752953</td>
<td>-0.560166</td>
</tr>
<tr>
<td></td>
<td>(0.18663)</td>
<td>(0.34939)</td>
</tr>
<tr>
<td></td>
<td>[-4.03455]</td>
<td>[-1.60329]</td>
</tr>
<tr>
<td>Variable</td>
<td>Coefficient 1</td>
<td>Coefficient 2</td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>GDP(-2)</td>
<td>0.085239</td>
<td>-1.079512</td>
</tr>
<tr>
<td></td>
<td>(0.27262)</td>
<td>(0.51037)</td>
</tr>
<tr>
<td></td>
<td>[0.31267]</td>
<td>[-2.11515]</td>
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<tr>
<td>EXPORTS(-1)</td>
<td>0.149314</td>
<td>0.585672</td>
</tr>
<tr>
<td></td>
<td>(0.13747)</td>
<td>(0.25736)</td>
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<tr>
<td></td>
<td>[1.08617]</td>
<td>[2.27573]</td>
</tr>
<tr>
<td>EXPORTS(-2)</td>
<td>-0.095417</td>
<td>0.299780</td>
</tr>
<tr>
<td></td>
<td>(0.12282)</td>
<td>(0.22994)</td>
</tr>
<tr>
<td></td>
<td>[-0.77686]</td>
<td>[1.30374]</td>
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<tr>
<td>IMPORTS(-1)</td>
<td>-0.143408</td>
<td>0.184622</td>
</tr>
<tr>
<td></td>
<td>(0.11910)</td>
<td>(0.22297)</td>
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<td></td>
<td>[-1.20408]</td>
<td>[0.82801]</td>
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<td>IMPORTS(-2)</td>
<td>0.202955</td>
<td>-0.354047</td>
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<tr>
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<td>(0.11934)</td>
<td>(0.22343)</td>
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<td>[-1.58462]</td>
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<td></td>
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<tr>
<td></td>
<td>[0.79239]</td>
<td>[-1.47134]</td>
</tr>
</tbody>
</table>

R-squared  | 0.994806 | 0.993649 | 0.993819 |
Adj. R-squared | 0.993693 | 0.992288 | 0.992495 |
F-statistic  | 893.7716 | 730.1118 | 750.3375 |
Akaike AIC   | -2.899073 | -1.644930 | -1.644799 |

Determinant residual covariance
(dof adj.) 1.33E-07
Determinant residual covariance 6.79E-08
Log likelihood 139.8485
Akaike information criterion -6.791340
Schwarz criterion -5.858131

To check if exports and imports have effect on economic growth, C(1) must be significant and the coefficient of C(1) should be negative for the VAR model to be significant. In our case C(1) is significant because the value of probability is (0.0001) which is less than 5%, also the coefficient of C(1) is negative. So we can say that GDP and exports have effect on India’s economic growth.

6. Conclusion and Policy Implications

The objective of the study was to empirically examine the causal effect of India’s Economic growth, Imports and Exports over a time period from 1980:2016. The series were tested for stationarity and found all series are non-stationary at level form but found to be stationary after first differencing, interpreting they are integrated at the order of I(1). The Johansen cointegration test states that the null hypothesis of absence of cointegration (r=0) cannot be rejected. Based on the results, we cannot find a cointegration of vectors. This in effect suggests that the presence of long term relationship between variables employed in our study. The study found no Cointegration among GDP, Exports and Imports. Next we carried Granger Causality test. The result shows the existence of unidirectional causality between GDP and Exports, meaning increase in exports granger cause increase in GDP of India. But imports does not granger cause GDP. And finally we applied VAR which also supports the evidence that Exports and GDP have effect on economic growth of India.

This study confirms that export growth is instrumental in accelerating economic growth in India. The evidence of causality from exports to GDP implies that exports can have positive effect on economic growth. Exports in turn can boost output growth in the short run by allowing the use of excess capacity in cases where domestic demand requires less than full capacity production. Trade as vehicles, if not as engines of growth are important to India by improving
their factor utilization, expanding factor endowments, generating a multiplicity of forward and backward linkages, earning valuable foreign exchange, keeping up with technological changes and protecting international competitiveness. Thus, by further opening up India’s market and continuing the ongoing trade(export/import) promotion policy reforms, India can not only boost its economic growth but also can fuel growth in entire south Asian region.

References


