Export and Economic Growth in India: An Empirical study

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Abstract:

The connection among trades and economic development in India has been broke down by countless exact investigations in the ongoing past. In any case, this paper analyses the connection among trades and financial development in an unexplored manner. The examination utilizes month to month dataset unexpectedly. Granger causality tests were utilized in the observational investigation, utilizing Augmented Dickey Fuller (ADF) and Dickey Fuller (DF) tests. The current examination covers information of 12 years' time frame from 2005 to 2017. The factors utilized for the examination are of I (1) for example first request of contrast implies that they are fixed from the start request distinction. The consequences of the Granger causality test show that there is bidirectional causality running among sends out and monetary development (IIP). Therefore, the examination affirms that there is bidirectional causality has been found between sends out and monetary development which backing trade drove development and development drove trade speculation. However, this examination at last recommends that both developments just as fare advancement procedure are to be sought after reliably with an accentuation on maintainable and inclusive growth.

Keywords: exports, economic development, causality, India.

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Introduction:

The connection among trades and economic growth possesses the middle stage being developed writing when business analysts attempt to dissect the various degrees of monetary development of an economy (Shihab et al., 2014). Fares assume a significant function in the financial advancement of any nation and are considered as a significant improvement for homegrown creation by utilizing common, human and different assets. Over the previous a very long while, there has been an incredible discussion among the researchers and academicians between two speculations in the exchange and improvement writing, i.e., Export leg Growth (ELG) and Growth-leg Exports (GLE) theory. A large portion of the experimental examinations call attention to that the development

of trades positively affects economic development (ELG speculation) for example (Michaely, 1977; Balassa, 1978; Feder, 1982; Helpman and Krugman 1985; Krueger 1985; Al-Yousif, 1997; Vohra, 2001; Sabual Foul, 2004; Abou-Stait, 2005; Tang et al., 2015).

Then again, a few examinations have upheld the bidirectional causal relationship among trades and monetary development (Ghartey, 1993; Edwards, 1998; Werenheimer, 2000; Ramos, 2001; Hatemi-J, 2002; Awokuse, 2007; Balcilar and Ozdemir, 2013). In differentiation to the Export-led Growth theory, studies, for example, Bhagwati (1988) have pointed that an expansion in Gross Domestic Product (GDP) regularly prompts a relating development of exchange, except if the patterns of development incited gracefully just as elating request frames an enemy of exchange predisposition. Besides, not many experimental examinations note that the monetary development can influence decidedly trades (GLE theory) (Oxley, 1993; Sharma and Dhakal, 1994; Ghatak and Price, 1997; Shan and Tian 1998).

On account of India, the distinctive exact confirmations have been advanced, for example, (Ghatak what's more, Price, 1997; Agrawal, 2014; Dhawan and Biswal, 1999; Marjit and Raychaudhari, 1997; Sharma and Panagiotidis, 2005; Kaushik and Klein, 2008). In the end, the exact writing on sends out and economic development has introduced blended proof of the since quite a while ago run relationship just as the course of the causal relationship. Notwithstanding, it relies upon the example of the investigation time frame, recurrence of information and system which is applied. Export-led growth (ELG) speculation inspected by different investigations in India give generally, more weight of economic development to sends out. This examination inspects whether expanding portion of fares, sends out development prompts financial flourishing in India or not. In any case, the fundamental point of the current investigation is to investigate the since quite a while ago run connection between the factors and to explore the heading of the causality among trades and monetary development in India in another measurement.

This paper adds to the overall writing and attempts to fill the accompanying gaps shown up. To begin with, the investigations which analysed the connection among trades and financial development have principally centred around the yearly information. This restriction won't give a clear picture thus we analyse the month to month information in order to draw out a reasonable picture. Second, most examinations that investigate the fare and development nexus for India, don't will in general cover the ongoing time span. Consequently, the current examination researches a hearty information set for a time of 12-years ongoing time-frame (April 2005 to March 2017). It is, subsequently, a more cutting-edge experimental examination for India. Hence, this examination will give strategy to the since quite a while ago run monetary development of India. The remainder of the investigation is coordinated as follows: Section 2 presents the audit of the writing. Segment 3 quickly portrays the information and approach. Segment 4 presents the exact outcomes and translation of the outcomes. The last segment gives end and strategy suggestion.

Review of Literature:

There is a broad writing focusing on the causal connection between trades and economic development. This writing underscores on the advantages of outer situated exchange strategy of fare advancement over the deficiencies of internal arranged exchange strategy of import replacement. In any case, some experimental investigations found the proof in backing of the ELG theory others discovered proof on the side of the GLE speculation while a few exact confirmations exhibit a bidirectional causal relationship. There is the praised contention about the more prominent accomplishment of fare situated modern improvement (Bhagwati, 1982; Srinivasan, 1985), when contrasted with import-subbing industrialisation (Myrdal, 1957; Frank, 1969). The differentiating sees on exchange as a "motor" of development (Lewis, 1980) or a "handmaiden" of development (Kravis, 1970), are moreover notable. There have been different examinations that have discovered some connection between fares or fare development and financial development (GDP). On account of arising nations, expository work previously centred around relationship among fares and pay (Emery, 1967; Kravis, 1970), proceeding onward to examinations with inadequate examples (Balassa, 1978), trailed by contemplates pointing on total creation works, that involved trades as a free factor (Feder, 1983). Thus, it is profoundly suitable to give a concise survey of the exact investigations done in this field and furthermore it is useful to distinguish the regions which need further examination.

Also, a few exact examinations are found in the Indian setting. Dhawan and Biswal (1999) analysed the ELG theory by researching the relationship between genuine sends out, terms of exchange and genuine GDP for India for the time of 1961-1993 utilizing vector autoregressive (VAR) model. They utilized a multivariate methodology utilizing Johansen's Co-joining procedure. They found the since quite a while ago run connection between these factors, and the causal affiliation streams from the terms of exchange to the development in sends out and development in GDP. Notwithstanding, they inferred that the causal connection among GDP and exports are by all accounts a short run marvel. Run and Kumar (2007) experimentally affirmed that the ELG theory for five 'South Asian' countries including India, utilizing board information for the time of 1991 to 2005. The investigation found that there exists a since quite a while ago run balance connection among GDP and other autonomous factors and causality has running from sends out development to GDP, supporting ELG theory. Additionally, this examination upheld the view that a fare is the 'driving force of development' under changed exchange period. Sinha (1996) has analysed the connection between the receptiveness of exchange and financial development in India and found the bi-directional causality between these factors. This shows that the two export and imports add to economic growth over the long haul. Ghatak and Price (1997) bring up that genuine fare development Granger-brought about by non-trade genuine GDP for the time of 1960 to 1992 in India.

Jung and Marshall (1985) have inspected causality among trades and financial development for 37 arising nations. The examination discovered proof in help for Export-led Growth theory just for Ecuador, Indonesia, Costa Rica, and Egypt for the time of 1950 to 1981. Chow (1987) explored the causality between fares of mechanical merchandise and modern yield development in eight Newly Industrialized Countries (NIC) utilizing Sim's causality test in a bi-variate model. He discovered strong bidirectional causality between these factors for most of the NIC's for the time of 1960 to 1980. Berg and Schmidt (1994) have analysed the Export-drove development theory for 17 Latin American nations and furthermore found the co-coordination relationship for 11 countries. Likewise, this investigation found a positive just as huge impact of fare on financial development in Peru and Colombia while no huge impact was found on account of Argentina. Afzal (2006) found a steady

just as solid connection between monetary development and fares there exists bidirectional causality between modern fares and financial advancement for Pakistan economy.

From the above literature review, it is extremely evident that the consequences of these observational examinations are different however it advocates all in all that the degree of progress is a fundamental factor in deciding the export development affiliation. Also, the consequences of various investigations are recognizably delicate to the factors included in a relationship, the hypothetical methodology utilized and even on the time-frame taken and factual and econometric (experimental) strategies utilized.

Data and Methodology:

The current examination investigates the connection among sends out and financial development for India during 2005 to 2017 dependent on month to month time arrangement information. Fares are the total of oil and non-oil fares of India and, financial development is proxied by Index of Industrial Production (IIP). Information has been gathered from the Handbook of Indian economy and insights, RBI. All the factors of the investigation are changed over into a characteristic logarithm. Since the examination is in view of month to month time arrangement information, the month to month information of GDP isn't accessible. Thus, we take the Index of Industrial Production (IIP) as the intermediary for monetary development. The determination of IIP as an intermediary for monetary development is for two reasons. To start with, IIP is fundamentally connected with genuine GDP (0.97 with an essentialness level of 0.01) and with the genuine yield of the administrations and hence, is a solid intermediary for monetary development. Second, IIP is discovered to be a dependable significant pointer of business cycles in India (Mazumdar, 2005). The present study utilizes the assortment of econometric models to do the observational investigation furthermore, those models clarified in the accompanying segment.

In the present exact investigation, the log-straight determinations of the factors are utilized furthermore, the accompanying assessment condition is utilized as a model:

$\ln = + \ln +$

where , represents economic growth (IIP), exports respectively. The parameter is the intercept term. β1 and β2 contribute for the elasticity of the explanatory variables.

Unit root test:

Before assessing causal connection between the time arrangement factors, the above all else step is to test their stationarity to avoid any deceptive or deceiving connection between them. A progression of information is supposed to be stationarity if its mean and fluctuation are time invariant. Henceforth, this examination applied the Dickey-Fuller (DF) and Augmented Dickey-Fuller (ADF) test to look at the equivalent. The invalid theory of non-stationarity rejects when negative and huge test insights. The DF test accepted that the blunder term (u) is uncorrelated however on account of ADF test (created by Dickey and Fuller known as the ADF) they are corresponded. The recipe of this test is as per the following:

$$= + \qquad (1)$$

$$-1 \leq$$

where, is a variable of interest and is white noise error term. This test follows the calculation of t-statistics which is tested under the null hypothesis: Ho: $\rho = 1$ (that is we have a unit root or time series under consideration is non-stationary) against an alternative hypothesis: Ha: $\rho \neq 1$. Subtract Yt-1 from the both side of equation-1.

$$- - +$$

$$+$$

$$+ \qquad (2)$$

where $\delta = (\rho-1)$ and Δ is the first difference operator. In practice, therefore instead of estimating equation-1, we estimate equation-2 and test the null hypothesis that $\delta=0$. (If $\delta=0$, then $\rho=1$). Null hypothesis Ho: $\delta = 0$. Alternative hypothesis Ha: $\delta \neq 0$. However, on the off chance that are corresponded the DF test is to be altered by adding, as an extra slacked estimation of the subordinate variable (ΔYt-1) which then it becomes ADF, which is as per the following:

$$= + + + \alpha i \sum + i \qquad (3)$$

where 't' is time pattern, εi is background noise term and β1, β2, δ and αi are the boundaries, which are to be assessed. For this situation still the invalid

speculation is same as in DF test and ADF test follows a similar asymptotic conveyance as the DF measurement. Actually, if the figured estimation of the tau-insights surpasses the (Mackinnon) basic tau-values, the invalid speculation must be dismissed and the other way around. It is a significant inquiry in time arrangement information examination whether every factor is fixed in levels or fixed after the first differencing. On the off chance that the time arrangement in levels are discovered to be non-fixed and fixed simply after its first differencing, it implies they are coordinated to a request for 1, for example I (1). Hence, in the event that the information arrangement is fixed after the first differencing, at that point it tends to be fundamental to test for co-mix.

Test of Granger Causality

To analyse the causal connection between export and financial development the examination has utilized Granger causality procedure proposed by C.W.J. Granger (1969). Granger causality technique relapses a variable y on a slacked estimation of itself and other variable x. On the off chance that x is viewed as measurably huge, it clarifies a portion of the difference of y which isn't characterized by slacked estimations of y. This shows that x is causally going before to y and said to powerfully cause y. The current investigation utilized the following model particular of Granger causality.

$$= + +$$

The null hypothesis (Ho) for each situation is that the variable viable doesn't Granger cause the other variable. At that point invalid theory tried against the other option theory and we apply the F-test which follows the F-distribution. On the off chance that the processed F-value surpasses the basic F-value at the picked level of importance, the invalid theory will be dismissed and the other way around. The Granger causality test relies basically upon the number of slacked terms presented in the model.

Results and Discussion:

Unit root test:

To accomplish the point of the current examination, we utilize 'Johansen's Cointegration as well as Granger Causality test' for Exports and Economic development. Be that as it may, previously analysing these tests it is fundamental that the information is inspected for fixed or non-fixed

(testing the time arrangement properties of month to month information). For this reason, we utilized ADF (Enlarged Dickey-Fuller) and DF (Dickey-Fuller) tests. Table 1 shows the aftereffects of these tests. The tests depend on the invalid theory that a unit root exists in the variable.

Variable	Statistics	Level		Difference	
		Intercept	Intercept & Trend	Intercept	Intercept & Trend
Index of Industrial production(Y)	ADF	-1.7686	-3.0028	-7.0033	-6.9934
	DF	0.7895	-1.8826	-4.4667	-4.9830
Export (X)	ADF	-1.4183	-2.1298	-12.0525	-6.5731
	DF	0.4040	-1.9993	-6.3306	-5.7911

The stationarity test is a lot of supportive to evade false and inclination result, which may lead to bogus ends. To maintain a strategic distance from this issue, the examination led the unit root tests for all the factors. The above table shows that exports (X) and IIP (Y) are non-fixed at level. Be that as it may, the invalid speculation of a unit root test is dismissed in the first contrast at the suitable critical level.

Granger Causality test:

In the wake of testing the cointegration (since quite a while ago run connection) between factors, we expect that at least unidirectional causality among the factors. The aftereffects of the Granger causality test are introduced in Table. The proof in this segment offers help for the causality connection among exports and financial development (IIP). There is a solid proof recommending that the heading of causality runs from fares to financial development and from financial success to sends out on account of India. These results show that we reject the invalid speculation in all the cases. Subsequently, we found that there is bidirectional causality among Exports and financial development in India.

Null hypothesis	F -test	Probability
Export does not cause IIP	3.2756	0.0135
IIP does not cause Export	5.1570	0.0007

The aftereffects of the examination show that bidirectional causality running among sends out and financial development (IIP) also monetary development at 1% level of hugeness. These outcomes demonstrate that the development drove sends out (GLE theory) and send out drove development (ELG speculation) are found with the exact proof in India. Consequently, development drove fares and fare drove development theory are substantial for India. Decisively, our outcomes affirm bidirectional causality among trades and monetary development. Subsequently, in India on one side where the monetary development floods by expanding send out on the opposite side there is a positive effect of fares on financial development.

Conclusion:

The connection among sends out and financial development has for some time been a subject of extraordinary worry in the improvement writing. The hypothetical assent on trade drove development arose during the 1980s, after the prosperous presentation of the East-Asian Economies. In any case, numerous observational examinations have discovered that fares provoking financial development and the other way around in various countries and locales. This examination looks at the connection among trades and monetary development in India over the period 2005–2017. To satisfy this, first, it is discovered that all the

factors viz. trade and monetary development (IIP) are fixed after the primary distinction structure by utilizing ADF and DF test. We close our examination that it is all the more away from presence of bi-directional causality among sends out and monetary development which prompts the supporting of fare drove development and development drove sends out theory. We currently take an away from with the conceivable huge degree of the dataset in help to approve our outcomes. Definitively, a drawn-out relationship was found to exist among the factors utilized in this investigation. Besides, our outcomes affirm bidirectional causality running among sends out and monetary development. In this way, in India on one side where the monetary development floods by expanding trade on the opposite side there is a positive effect of fares on monetary development. The examination at long last recommends that both development just as fare advancement system is sought after reliably with an accentuation on supportable and comprehensive development.

References:

1. Michaely, M., 1977. Exports and growth. An empirical investigation, *Journal of Development Economics.* 4(1), pp. 49-53.
2. Balassa, B., 1978. Exports and economic growth: Further Evidence. *Journal of Development Economics,* 5(2), pp. 181-189.
3. Feder, G., 1982. On exports and economic growth. *Journal of Development Economics.* 12(1),pp. 59-73.
4. Helpman, E. and Krugman, P.R., 1985. Market structure and foreign trade: Increasing returns, imperfect competition, and the international economy. MIT Press.
5. Vohra, R., 2001. Export and economic growth: Further time series evidence from less developed countries. *International Advances in Economic Research,* 7(3), pp. 345-350.
6. SAbual-Foul, B., 2004. Testing the export-led growth hypothesis: evidence from Jordan, *Applied Economics Letters,* 11(6), pp. 393-396.
7. Abou-Stait, F., 2005. Are exports the engine of Economic Growth? An application of cointegration and causality analysis for Egypt 1997-2003. African Development Bank, Economic Research working paper series, (76).
8. Ghartey, E., 1993. Causal Relationship between Exports and Economic Growth: Some Empirical
9. Evidence in Taiwan, Japan and the US, *Applied Economics,* 25, pp. 1145-1152. Werenheimer, M., 2000. Cointegration and Causality in Exports-GDP nexus: The Post-War Evidence for Canada, *Empirical Economics,* 1, pp. 111-125.
10. Awokuse, T.O., 2007. Causality between exports, imports and economic growth: Evidence from transition economies. *Economic Letters,* 94(3), pp. 389-395.
11. Balcilar, M. and Ozdemir, Z., 2013. The export-output growth nexus in Japan: a bootstrap rolling window approach, *Empirical Economics,* 44(2), pp. 639-660.
12. Oxley, L., 1993. Cointegration, causality and export-led growth in Portugal, 1865-1985 *Economics Letters,* 43(2), pp. 163-166.
13. Sharma, S.C., and Dhakal, D., 1994. Causal Analysis between Exports and Economic Growth in Developing Countries, *Applied Economics,* 26, pp. 1145-1157.
14. Ghatak, S. and Price, SW., 1997. Export Composition and Economic Growth: Co-integration and Causality Evidence for India, Weltwirtschaftliches Archive. 133(3), pp. 538-553.
15. Marjit, S. and Raychaudhuri, A., 1997. *India's Exports - An Analytical Study,* New Delhi, Oxford University Press.
16. Sharma, A. and Panagiotidis, T., 2005. An Analysis of Exports and Growth in India: Cointegration and Causality Evidence (1971–2001), *Review of Development Economics,* 9(2), pp. 232-248.