



## ASIAN ECONOMIC INTEGRATION AND TRADE DEVELOPMENT

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### **Abstract**

*East Asian economies ushered into a new era from the spectre of 1997 economic impasse which embarks upon greater economic coordination and cooperation among the major Asian Countries to withstand challenges of globalisation and to enhance Asia's role in world trade. India's unilateral liberalisation, deregulation and a shift in its economic paradigm towards integration with the world economy in a market consistent manner have contributed to congenial environment for the emergence of New Asia. If Asia is to increase its economic and political weight in world affairs India's involvement would have to be an integral part of Asia wide cooperation. Closer cooperation among Japan, ASEAN, South Korea, India and China would provide considerable win-win, opportunities and will have far ranging implications for the world.*

*The present paper examines India's merchandise trade with East Asia analyses rapid growth and diversification among trading partners and visualises the nexus between foreign trade and economic growth.*

*India's overall merchandise trade with east Asia more than doubled from about US \$ 1.3 billion in 1997-98 to about US \$ 27 billion in 2003-04 registering a compound annual growth rate of 13%. The bulk of this increase in bilateral merchandise trade between India and China which expanded more than fourfold from about US \$1.7 billion in 1997-98 to \$ 12.7 billion by 2003-04. Total trade Intensity Index, Export Intensity Index and Import Intensity Index have been devised for measuring trade intensity.*

*FDI flows play a catalytic role in economic development of India as India received US \$ 4.7 billion in FDI equal to 0.6% of GDP and \$ 11.4 billion in portfolio investment.*

*Export led growth hypothesis postulates a positive relationship between export growth and economic growth. An empirical test of export led growth hypothesis for five largest economies of South Asia i.e. India, Pakistan, Bangladesh, Srilanka and Nepal has been conducted by A.R. Kemal, Muslehuddin, Usman Qadir, Lloyd Fernando and Srimevan S Colombage based on application of Granger Causality Test, Augmented Dicky Fuller Test, Philips Perron Test, Johansen's Co-integration Test and causality test based on Error Correction Models ADF and PP test indicate acceptance of unit root hypothesis in the level of real exports and real GDP for 5 countries. The results indicate that the first difference of the variables are on a stationary process and hence both real exports and real GDP are integrated of order I. Export development concentrates investment in the most efficient sectors of the economy fostering a pattern of production consistent with comparative advantage of the concerned country leading to faster output growth.*

*India's growth strategy based on the strong and increasingly globally competitive and networked domestic companies could provide a balance for highly trade and FDI dependent east Asian economies. Indo – Japanese and Chinese trade pact will be conducive for strengthening Asian Economic Community integration. China's role in the process of Asian economic unification not only influence the unification process but also exert a significant influence on the nature of the world in 21<sup>st</sup> Century. As observed by India's PM, bringing together all major Asian countries in Asian Economic Community would constitute an arc of advantage across which there would be large scale involvement of goods, services, capital, ideas and creativity.*

### **INTRODUCTION**

East Asian economies ushered into a new era from the spectre of 1997 economic impasse which embarks upon greater economic coordination and cooperation among the major Asian countries to withstand challenges of globalisation to enhance Asia's role, in world trade. India's unilateral liberalisation, deregulation and a shift in its economic paradigm towards integration with the world economy in a market consistent manner have contributed to congenial environment for the emergence of New Asia. India's unilateral liberalisation policies since 1990's and purposeful and strategic pursuit of its Look East Policy have resulted in considerably greater integration with the rest of Asia than is commonly realised or acknowledged. The enabling conditions for greater economic integration among major Asian economies have been laid. If Asia is to increase its economic and political weight in world affairs India's involvement would have to be an integral part of Asia wide cooperation. In this context closer cooperation among Japan, ASEAN, South Korea, India and China would provide considerable win-win opportunities and will have far ranging implications for the world. In Asia there have been several efforts towards sub-regional, cross regional and bilateral regional trading arrangements. Bilateral initiatives largely involve



ASEAN economies viz. Singapore and Thailand, Sub-regional economic cooperation efforts are the Bay of Bengal initiative among member states for Multi Sectoral Technical and Economic Cooperation (BIMSTEC) comprising Bangladesh, India, Myanmar, Nepal, Bhutan, Sri Lanka and Thailand. All the major Asian economies and some of the sub-regional organisations such as ASEAN have been pursuing bilateral regional trading agreements. India has operationalised bilateral trade agreements with Sri Lanka and Thailand and has negotiated a comprehensive pact with Singapore and ASEAN. The bilateral agreements with China and Korea have been proposed and joint study groups have been established. An India – Japan study group to examine the feasibility for a similar agreement has also been established. It is anticipated that this group will enable two countries to evolve a strategic partnership.

It is often argued that an era where each country needs to both compete and cooperate at the same time, it is imperative that all the major Asian economies begin a dialogue process so that the win-win opportunities can be explored and translated into concrete benefits for Asia as a whole. This will require a mindset change in certain circles in East Asia which continue to view India from a cold war perspective and which are not conversant with rapid integration of India with world economy. The Indian policy makers and businessmen have undergone a significant mindset change and now determined to engage East Asia in the spirit of win-win cooperation and they recognise that there are many areas where East Asia's experience and expertise could be helpful in meeting India's developmental challenges.

The present paper seeks to examine India's merchandise trade with East Asia, analyses the rapid growth and diversification among trading partners and visualises foreign trade and economic growth nexus.

The study is based on secondary data made available from research books, journals, Govt. of India Foreign trade statistics, Govt. of India Economic Survey, CMIE publication, EPW Research Foundation publication etc.

The entire study has been schematised into four sections: Section I deals with Introduction, objectives and methodology, Section II encompasses India's merchandise trade with East Asia highlighting growth and diversification among trading partners. Section III analyses the nexus between foreign trade and economic growth. Section IV embraces concluding observations on the strong case for India to be an integral part of new Asia.

### INDIA'S MERCHANDISE TRADE WITH EAST ASIA

India's trade with East Asian countries has increased rapidly since the crisis of 1997 – 98. Barring few exceptions, the growth rate of India's exports to and imports from East Asian economies viz. China, Japan, Korea and ASEAN – 6 was in general higher than that of India's exports and imports to the world. India's overall merchandise trade with East Asia more than doubled from about US \$ 1.3 billion in 1997-98 to about US \$ 27 billion in 2003-04 registering a compound annual growth rate of 13%. The bulk of this increase was contributed by the rapid increase in bilateral merchandise trade between India and China which expanded more than fourfold from about US \$ 1.7 billion in 1997-98 to about \$ 7 billion in 2003-04. India's bilateral trade with ASEAN – 6 expanded from US \$ 5.8 billion in 1997-98 to US \$ 12.7 billion by 2003-04 while the corresponding increase with Korea was about \$ 1.5 billion to US \$ 3.2 billion. There has been considerable diversification of India's trade relations among ASEAN members. Among ASEAN – 6, Malaysia, Singapore, Thailand and Indonesia are all emerging as strong trading partners of India. This has significantly increased the prospects for achieving India – ASEAN bilateral trade goal of US \$ 30 billion by the end of the decade.

The below tables reflect India's merchandise trade with East Asia from 1997-98 to 2003-04

**Table – I, India's Exports to East Asia 1997-98 to 2003-04 (US \$ million)**

Countries	1997 – 98	1999 – 2000	2002 – 03	2003 – 04
World	35048.7	36760	52856	63622
China	719 (2.1)	539 (1.5)	1981 (3.7)	2967 (4.7)
Korea	468 (1.3)	476.5 (1.3)	646 (1.2)	764 (1.2)
Japan	1901 (5.4)	1685 (4.6)	1869 (3.5)	1719 (2.7)
ASEAN – 6	2419.6 (6.9)	2190.3 (6.0)	4528 (8.6)	5700 (9.0)

**Figure in parenthesis indicate share in India's total world exports. ASEAN – 6 includes Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. (Source : CMIE - 2004 )**

From the above table it can be construed that India's export to China has increased from \$ 719 million in 1997-98 to \$ 2967 million in 2003-04 registering an increase of 2.1% to 4.7%. India's export to Japan declined from 5.4% to 2.7% but in respect of ASEAN – 6 it increased from 6.9% to 9.0% during the corresponding period. The bilateral trade between India and Japan



has exhibited a sharp downward trend. The two sides must urgently consider ways to deepen their bilateral merchandise trade relationship as there are wider areas where their interest converge.

**Table – 2, India's Import from East Asia 1997- 98 to 2003- 04 (US \$ million)**

Countries	1997 – 98	1999 – 2000	2002 – 03	2003 – 04
World	41534.6	49798.6	61571.6	77237
China	1120.7 (2.7)	1288.3 (2.6)	2799.3 (5.3)	4059.1 (6.4)
Korea	1002.9 (2.4)	1274.9 (3.5)	1525.9 (2.9)	2460.1 (3.9)
Japan	2147.5 (5.2)	2538.9 (6.9)	1841.1 (3.5)	2649.3 (4.2)
ASEAN – 6	3382.3 (8.1)	4918.9 (9.9)	4825 (7.8)	6959 (9.0)

Figure in parenthesis indicate share in India's total world Imports. (Source : CMIE - 2004 )

From the above table it can be construed that India's import from China has increased from 2.7% to 6.4% from Korea marginally increased from 2.4% to 3.9% but from Japan declined from 5.2% to 4.2%. However, from ASEAN – 6 it increased marginally from 8.1% to 9.0% for the period 1997-98 to 2003-04.

However the trade shares do not provide any indication as to the extent to which two countries prefer to trade amongst themselves, relative to their other trading partners in the rest of the world. For this bilateral trade intensity indices are often considered as more useful tool for analysing bilateral trade linkages. The indices are designed to capture the extent to which the home country (India) regards its trading partners i.e. the east Asian economics as being important in relation to the former's trade with the rest of the world (ROW) and vice versa. An index value above unity indicates a relative over representation of the trading partner in the home country's trade. The indices are computed using the data from IMF's Direction of Trade Statistics year book.

India's trade intensity indices with China, Japan, Korea and ASEAN – 6 over the period 1993 – 2003 reveal that before 1997 crisis in east Asia, ASEAN – 6 economics were the only ones to have a value of trade intensity greater than or equal to unity. However since 2000, India's export as well as import intensity with Korea and china have also been increasing, although the latter's values are yet to be greater than unity. This trends represent an over representation of ASEAN – 6 as a trading partner for India vis-à-vis ROW and an over representation of Korea as an import source for India's imports compared to ROW. The trend in export index values for India's trade with China, Japan and Korea suggest an under representation of these countries compared to India's export to ROW. This indicates that although bilateral trade shares may have expanded potential for expansion of India's trade linkages with these countries vis-à-vis India's other trading partners are potentially significant. Considerable acceleration in the merchandise trade linkages notwithstanding rapid growth and substantially enhanced capacities strongly reveal that there is substantive scope for the expansion of trading relations between India and east Asia. India's 2004-09 National Trade Policy envisages its merchandise exports and imports to rise to US \$ 195 billion and US \$ 210 billion respectively by 2009. If trade in service transaction is added, India's total international trade will exceed US \$ 500 billion by the end of the decade.

The statistical formulæ devised for measuring trade intensity indices are mentioned below.

a. **Total Trade Intensity** – The bilateral trade intensity index for total trade is

$$T_{ij} = [(x_{ij} + M_{ij}) / (x_i + M_i)] / [(x_{wj} + M_{wj}) - (x_{ij} + M_{ij})] / [(x_w + M_w) - (x_i + M_i)]$$

Where  $T_{ij}$  denotes total trade intensity index of country i with country j  $x_{ij}$  denotes Exports of country i to j,  $M_{ij}$  denotes imports of country I from j,  $x_i$ , denotes total exports of country i,  $x_{wj}$  denotes total world exports to country j,  $M_{wj}$ , denotes total world import from country j,  $x_w$  denotes total world exports and  $M_w$  denotes total world imports.

This index is interpreted as a relative measure of two ratios. The numerator represents the share of bilateral trade between country i and j as a percentage of total trade of country i. This forms the numerator of the total trade intensity index. The second ratio in the denominator represents the total trade of country j with the world excluding country i as a share of total world trade excluding country i. This forms the denominator of the total trade intensity index. If the numerator exceeds the denominator i.e. if the value of  $T_{ij} > 1$ , it implies that the bilateral trade intensity for country i with country j is greater than that of country i's trade with (ROW). For instance India is regarded as country i and China country j then value of  $T_{ij} > 1$  implies that India prefers to trade more intensely with China than trading with the rest of the world.

b. **Export Intensity Index**

The bilateral export intensity index between country I and j can be stated as

$$x^a_{ij} = [x_{ij} / x_i] / [(M_j - M_{ji}) / (M_w - M_i)]$$



Where  $M_j$  denotes total imports of country  $j$  and  $M_{ji}$  denotes imports of country  $j$  from country  $i$ . A value of this index above unity implies that country  $i$ 's relative share of exports to country  $j$  exceeds country  $j$ 's share of imports from ROW. This implies an over representation of country  $j$  in country  $i$ 's export market. From country  $i$ 's point of view the value of greater than one indicates that country  $i$  has relatively more intense preference for exporting to country  $j$  as against country  $j$ 's imports from ROW.

### c. Import intensity Index –

It can be stated as

$$M^a_{ij} = [M_{ij}/M_i] / [x_j - x_{ji}] / [x_w - x_i]$$

Where  $x_j$  denotes total exports of country  $j$  and  $x_{ji}$  denotes exports of country  $j$  to country  $i$ . A value of this index above unity implies that country  $i$ 's relative share of imports to country  $j$  exceeds country  $j$ 's share of exports to ROW. This implies an over representation of country  $j$  in country  $i$ 's import market. From country  $i$ 's point of view the value of greater than one indicates that country  $i$  has relatively more intense preference for importing from country  $j$  as against country  $j$ 's exports to ROW.

### INVESTMENT FLOWS BETWEEN INDIA AND EAST ASIA

Foreign Direct Investment (FDI) has a crucial role to play in respect of global economy. FDI has potential to facilitate technological diffusion and promote greater trade and integration of developing economics with the global market. It can potentially play a catalytic role in economic development, provided the recipient country has the requisite institutions and governance structures. In 2003 – 04 India received US \$ 4.7 billion in FDI equal to 0.6% of GDP and US \$ 11.4 billion in portfolio investment.

### Export and Economic Growth in South Asia –

Developing countries can enhance their growth prospects through export promotion strategies. Export led growth hypothesis postulates a positive relationship between export growth and economic growth. Factors contributing to export – economic growth nexus are : First a vibrant export sector allows economies with narrow domestic market to overcome size limitations and reap economies of scale. Second by easing the foreign exchange constraint, higher exports can permit higher imports of capital and intermediate goods, thereby enlarging the productive capacity of the economy. Third exports lead to an improvement in economic efficiency by increasing competition. Fourth exports contribute to productive gains through diffusion of technical knowledge and learning by doing.

An empirical test of export led growth hypothesis for five largest economies of the South Asian region i.e. India, Pakistan, Bangladesh, Srilanka and Nepal has been conducted by A.R. Kemal, Musleh ud Din, Usman Qadir, Lloyd Fernando and Srimevan S Colombage. The export lead hypothesis suggest a sharp growth in output through various avenues. First an increase in exports allow a country to import more. If these imports include capital and intermediate goods, they can act as a catalyst for faster output growth. Second export development tend to concentrate on investment in the most efficient sectors of the economy, wherein lies its comparative advantage specialisation in these sectors improves productivity in the economy leading to faster output growth. Third the addition of international market to the domestic market creates scope for economies of scale in the export sector which stimulates growth of output. Fourth export growth represents an increase in aggregate demand which increases output. Fifth the relaxation of exchange control and the export growth that relaxation induces can lower allocative inefficiencies in the economy, yielding faster output growth. Sixth faster export growth can lead to higher investment. Seventh the spread of technology and market innovation that exports capture can affect output. All these characteristics of export growth tend to reinforce each other, stimulating further expansion of export, investment and consumption which result in significant growth of output.

On account of liberal trade policies in recent years, the volume of foreign trade in South Asian economies has increased phenomenally. During 1990-98 the share of exports in GDP increased from 6.3% to 13.8% in Bangladesh, from 7.6% to 11.2% in India and from 10.5% to 23.2% in Nepal. In recent years export promotion has been the hall mark of trade policies of the major South Asian economies. Although trade liberalisation episodes have generally reduced the anti export bias, the South Asian economies also rely on a variety of direct export measures to facilitate export growth. The successive export policies of India have relied on various export incentives with a view to sustaining high growth rates through the expansion of exports. Export promotion measures include exemptions or concessional tariff on raw materials and capital inputs and access to special import licenses for restricted inputs. Concessional income tax provision apply to exports and commercial banks provide export financing on soft terms. For exporters who need to import specific items subject to high custom duty on advanced licensing scheme provides exemptions from all kinds of duties such as basic custom duty. Countervailing duty special additional duty, anti-dumping duty and safeguard duty. Replenishment license allow exporters to import certain raw



materials that are normally banned or restricted. In addition, special economic zones have been setup to attract investment in export oriented activities.

### Data and Methodology for export led growth hypothesis

The analysis is based on annual time series data on real exports and real GDP in local currency units. For Bangladesh, Nepal and Pakistan, data are obtained from world Dev. Indicators 2001 for the period 1960-98, 1975-98 in case of Nepal. For India, data on real exports and real GDP are collected from various issues of International Financial Statistics yearbook for 1960-98. In case of Srilanka the data cover the period 1960-2000 and collected from several sources including publications of the Central Bank, census bureau, national statistics department and custom office. Within VAR frame work the concept of Granger causality is employed to assess whether or not each South Asian country exhibits statistically significant evidence of export led growth. In a two variable universe  $y_t$ , it is said to cause  $x_t$ , in the Granger sense if the one step ahead forecast of  $x_t$  improves by taking into account values of  $y_t$ . Test for Granger causality are based on the following VAR model.

$$x_t = a_0 + \sum_{i=1}^m b_{oi} x_{t-i} + \sum_{j=1}^n C_{oi} y_{t-j} + u_t \quad (1)$$

$$y_t = a_1 + \sum_{i=1}^p b_{li} y_{t-i} + \sum_{j=1}^q C_{li} x_{t-j} + u'_t \quad (2)$$

if the coefficients  $C_{oi}$  are jointly significant but  $C_{li}$  are not, there is uni-directional causality from  $y_t$  to  $x_t$ . On the other hand if  $C_{li}$  are jointly significant but  $C_{oi}$  are not, there is uni-directional causality from  $x_t$  to  $y_t$ . There is bi-directional causality between the two variables if both sets of coefficients on the lagged independent variables are jointly significant in their respective equations.

### Testing for the order of Integration

Engle and Granger define a variable  $x_t$  to be integrated of order  $d$ - denotes as  $x_t \sim I(d)$  – if it achieves stationarity after being differenced  $d$  times since the causality test require that the variables be integrated of the same order, the first step is to check the order of integration of the time series variables. This is accomplished by testing for unit roots using the Augmented Dickey Fuller (ADF) and Phillips – Perron (PP) testing procedures. ADF test is based on the equation

$$(1 - L) x_t = a + \sum_{i=1}^k b x_{t-i} + \sum_{i=1}^k c_i (1 - L) x_{t-i} + w_t \quad (3)$$

Where  $L$  is the lag operator and  $K$  is chosen to ensure that the residuals are white noise. The null hypothesis is that  $x$  is generated by a unit root process i.e.  $b = 0$ . ADF test statistic is calculated by dividing the estimate of  $b$  by its standard error, since  $x$  is not stationary under the null hypothesis, the test statistic does not have the standard  $t$  – distribution. The critical values for the test statistic have been provided by Fuller. If the absolute value of calculated ADF test statistic is less than the critical value, the null hypothesis of a unit root can't be rejected and  $x$  is said to be non-stationary. The order of integration of  $x$  is determined by conducting the ADF test on its first difference. The series is integrated of order  $I$  if its first difference does not possess a unit root.

### Testing For Co-Integration

If individual time series turnout to be non-stationary in their level i.e. if they contain stochastic trends it is possible that stochastic are common across series, leading to stationary combinations of the level. For instance in a bivariate setup, a Linear combination of two variables may be stationary even though each variable follows a random walk. This is known as a random walk. This is known as co-integration. Considering two series  $x_t$  and  $y_t$  both integrated of order  $d$ . According to Engle and Granger if a Linear combination  $z_t = x_t - \delta_t y_t$  is integrated of order  $(d - b)$  and  $b > 0$  i.e. if  $z_t \sim I(d-b)$  – then  $x_t$  and  $y_t$  are said to be co-integrated. Test for co-integration are carried out using Johansen's testing procedure which involves estimating a vector error correction model to obtain likelihood ratio. Considering VAR of order  $p$  -

$$y_t = A_1 y_{t-1} + KKK + A_p y_{t-p} + v_t \quad (4)$$

Where  $y_t$  is a  $k$  – dimensional vector of non-stationary variables and  $v_t$  is a vector of white noise residuals. The above VAR can be alternatively expressed



$$Uy_t = f y_{t-1} + \sum_{i=1}^p d T_i U y_{t-i} + v_t \quad (5)$$

The rank of  $f$  determines the number of Linear combination of  $y_t$  that are stationary. Given that the rank is  $r$ , the matrix  $f$  can be factored as  $rS$ , where the elements of  $r$  are the adjustment parameters in the error correction model and  $S$  contains the co-integrating vectors. Johansen derives two statistics for testing the co-integrating rank. The first is the maximum eigen value test which examines the null hypothesis of  $r$  co-integrating vectors against the alternative of  $r + 1$  vectors. This test utilises the  $r + 1$  st largest eigen value in the following likelihood ratio.

$$\lambda_{\max} = -T \ln(1 - \lambda_{r+1}) \quad (6)$$

The second test statistic known as the trace statistic provides a test for a more general alternative hypothesis ( $r \leq n$ ) and computed as

$$\lambda_{\text{trace}} = -T \sum_{i=r+1}^n d \ln(1 - \lambda_i) \quad (7)$$

### Testing for Causality the error correction (Restricted VAR) model

In order to determine the direction of causation between exports and output, the error correction (Restricted VAR) model in order to determine the direction of causation between exports and output, the error correction modeling approach is employed. The error correction models are formulated as

$$(1 - L)x_t = a_0 + b_0 v_{t-1} + \sum_{i=1}^n C_{oi} (1 - L)x_{t-i} + \sum_{j=1}^n d_{0j} (1 - L)y_{t-j} + u_t \quad (8)$$

$$(1 - L)y_t = a_1 + b_1 v_{t-1} + \sum_{i=1}^p C_{ii} (1 - L)y_{t-i} + \sum_{j=1}^q d_{ij} (1 - L)x_{t-j} + u_t \quad (9)$$

Where  $L$  is the lag operator and the error correction terms  $v$  and  $v$  are the stationary residuals from the cointegration equations.

### EMPIRICAL RESULTS

The below table reflects the result of ADF and Phillips Perron unit root test from real exports and real GDP.

Table – 3

Country	Variables	ADF TEST				P.P. TEST			
		No. of observations	1	2	3	No. of observations	1	2	3
1	2	3	4	5	6	7	8	9	10
BANGALA DESH	Exports level/ 1 <sup>st</sup> difference / GDP	37	3.42	1.76*	-0.63*	38	3.45	2.37*	-1.14
	Level/1 <sup>st</sup> difference	36	-3.71	-5.12	-6.27	37	-6.85	-8.56	-10.49
		37	3.57	0.75*	-1.51*	37	5.34	0.81*	-1.35
		36	-2.83	-4.72	-4.99	36	-3.98	-5.81	-5.99
India	Exports level/ 1 <sup>st</sup> difference / GDP level / 1 <sup>st</sup> difference	37	4.07	1.19*	-2.04*	38	7.57	1.68*	-2.08*
		36	-1.32	-3.54	-3.77	37	-1.87	-4.66	-4.94
		37	5.81	2.23*	-1.05*	38	22.03	3.6	-1.25
		36	-0.67	-5.53	-7.39	37	-0.48	-5.48	-6.53



**Table – 3**

Country	Variables	ADF TEST				P.P. TEST			
		No. of observations	1	2	3	No. of observations	1	2	3
1	2	3	4	5	6	7	8	9	10
Nepal	Export level/ 1 <sup>st</sup> diff. GDP Level/ 1 <sup>st</sup> diff.	24	2.65	-1.12*	-2.13*	25	2.89	-0.56*	-1.93*
		23	-2.72	-3.25	-3.2*	24	-3.79	-4.99	-4.85
		37	6.05	2.9*	-0.48*	38	8.18	3.16	-0.76*
		36	-1.73	-4.76	-6.66	37	-3.77	-7.71	-10.25
Srilanka	Exports level/ 1 <sup>st</sup> difference/ GDP Level/1 <sup>st</sup> difference	38	3.44	2.25*	-0.85*	39	3.82	3.09*	-0.59
		37	-3.74	-5.76	-7.60	38	-6.47	-8.08	-11.30
		39	5.71	0.76	-2.17*	40	14.10	1.09	-2.41*
		38	-0.86	-3.68	-3.74	39	-1.22	-6.08	-6.12
Pakistan	Exports Level/ 1 <sup>st</sup> diff./ GDP Level/ 1 <sup>st</sup> difference	37	2.93	-0.59	-1.74*	38	3.21	-0.55*	-2.05*
		36	-3.44	-4.67	4.59	37	-5.67	-6.83	-6.73
		37	4.92	-1.74	-1.26*	38	12.47	-1.72*	-1.37*
		36	-1.05	-3.45	-3.94	37	-1.4	-5.65	-5.98

**Note – Indicates variable is integrated of order 1 at 5% significance level.**

1. No trend, No intercept.
2. Only intercept.
3. Trend and intercept.

**Table – 4, Johansen's Co-integration Tests**

Countries/ Eigen Value	Likelihood Ratio	5% Critical Value	1% Critical Value	Hypothesized No. of CE(s)
1	2	3	4	5
Bangladesh				
0.37	21.66	19.96	24.60	None *
0.12	4.83	9.24	12.97	At most I
India				
0.39	24.89	19.96	24.60	None **
0.20	7.70	9.24	12.97	At most I
Nepal				
0.75	36.71	19.96	24.60	None **
0.20	5.13	9.24	12.97	At most I
Pakistan				
0.52	30.65	19.96	24.60	None *
0.09	3.36	9.24	12.97	At most I
Sri Lanka				
0.34	15.63	15.41	20.04	None *
0.00	0.06	3.76	6.65	At most I

**Note : \* (\*\*) denotes rejection of the hypothesis at 5% (1%) significance level**

**A: This is simply the trace statistic.**

**Table – 5, Causality Results Based on Error Correction Models**

Direction of causation	EC Term T Statistic	F Statistic
	Bangladesh	
Exports to GDP	- 3.663*	5.346*
GDP to Exports	- 4.072 *	2.332
	India	
Export to GDP	- 2.469 *	2.044
GDP to Exports	1.852*	3.248*



	Nepal	
Export to GDP	6.593*	1.808
GDP to Exports	3.952*	4.930
	Pakistan	
Export to GDP	- 5.584*	0.338
GDP to Exports	- 0.453 *	0.669
	Sri Lanka	
Export to GDP	2.34 *	4.77*
GDP to Exports	3.91*	1.57

Note - \* Indicates significance at 5% level.

Table 3 reflects the results of ADF and PP unit root test for real exports and real GDP. Both these test indicate acceptance of unit root hypothesis in the level of real exports and real GDP for 5 countries. In order to determine the order of integration of the time series, unit root tests are applied on first difference as well. The results indicate that the first difference of the variables are on a stationary process and hence both real exports and real GDP are integrated of order 1.

Having determined the order of integration of two variables Johansen's co-integration test to ascertain whether or not the variables share a common stochastic trend. As per table 4 the likelihood ratio test indicates the existence of one co-integration relationship between real exports and real GDP for 5 countries. According to Granger representation theorem a system of co-integrated variables has an error correction representation that combines the short run dynamics of the variables with their long run properties as implied by the co-integrating relationship consequently error correction models are estimated to determine the direction of causality between export growth and economic growth. The selection of lag length in the error correction models is based on Akaike's information criteria.

Table 5 reflects the results of Granger causality test based on error correction models. The first column shows t – statistic for the error correction terms and second column F statistics for the joint significance of the lagged independent variables in the causality equations. The statistical significance of the error correction terms and F statistic indicate respectively the presence of long run and short run causality. It is evident that the results support the hypothesis of short run causality from exports to GDP for Bangladesh and Sri Lanka and reverse short run causation from GDP to exports for India and Nepal. For Pakistan there seems to be no evidence of short run causality in either direction. In case of long run causation between exports and GDP, there is strong support for such causation for Pakistan and India. On the other hand long run bi-directional causality is detected for Bangladesh, Nepal and Sri Lanka. The evidence of both short run and long run causality between export growth and economic growth has an interesting economic interpretation. For example exports can boost output growth in the short run by allowing the utilisation of excess capacity in cases wherein domestic demand is less than full capacity production. The presence of short run causality is also consistent with Keynesian view which postulates that changes in the components of aggregate demand lead to changes in aggregate output in the short run. In a longer term perspective exports can have a positive effect on economic growth through a variety of channels. First increased export can allow economies to benefit from economics of scale due to larger markets. Second by enhancing foreign exchange earnings, higher export can permit increased imports of capital goods, thereby enlarging the productive capacity of the economy. Third exports lead to an improvement in economic efficiency by increasing the degree of competition. Fourth, exports contribute to productivity gains through diffusion of technical knowledge. Lastly export development tend to concentrate investment in the most efficient sectors of the economy, fostering a pattern of production consistent with the country's comparative advantage. Specialisation in these sectors improves productivity in the economy, leading to faster output growth.

## CONCLUSION

India's participation in existing and prospective formal organisations and institutions will significantly enhance Asia's capacity to address the continent's challenges and enhance its leverage and influence in world affairs. Integration effort on east Asia alone is not an optimal strategy for Asia as a continent. India, will need to be more proficient at strategic economic diplomacy and at soft power skill, east Asia will need to shed its cold war mindset and its insularity to grasp win-win opportunities. India is forging partnership with the key entities around the world such as EU and US. It is keen to play a constructive and cooperative role in building a past cold war new Asia. India's growth strategy based on the strong and increasingly by globally competitive and networked domestic companies could provide a balance for highly trade and FDI dependent east Asian economies.





There is a strong case for initiating a strategic partnership between India and Japan. First the two countries have teamed up with Germany and Brazil to coordinate their efforts in becoming permanent members of UN Security Council. A strategic partnership would give greater depth to this cooperation, Second Japan's energy security and trade flows are heavily dependent on secure routes through Indian ocean. India is in a position to cooperate and constructively contribute towards this objective. Third the demographic complementarities between the two provide considerable opportunities for mutual gain from deepening economic linkages. Fourth, there are significant possibilities for cooperation between the two in certain high technology sectors, viz. Space technology and biotechnology. A strategic partnership will provide greater confidence to both sides for cooperation in these areas. Fifth a strategic partnership with India would widen Japan's opportunity set in meeting its regional security and other challenges. Sixth Japan envisages its future sustainability of economic growth in developing and commercialising high technology innovations in the core areas. By partnering with India, Japan will have an additional avenue for expanding its reach and leverage in the core technologies.

Robert Mundell's prediction is not a fairy tale. The regional economic unification process in Asia as part of economic globalisation shall no doubt produce a pan Asian economic community. Asians shall have their own unified currency as experienced by the Europeans. Of course China's role in the process of Asian economic unification should not be neglected. It will not only greatly influence in the unification process but it will also exert a significant influence on the nature of the world in 21<sup>st</sup> Century. It is high time for Asia to put behind the cold war mindset and its institutions. It is imperative that all major Asian economies are represented in the post cold war new Asia. As observed by India's PM, bringing together all major Asian countries in Asian Economic Community would constitute an arc of advantage, across which there would be a large scale movement of goods, services, people, capital ideas and creativity. Thus Asian economic integration will foster the miracles achieved by Asian Tigers for the entire Asian Continent.

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