

Review Paper

Globalization in India: With special reference to 1990s

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The paper describes the process of economic integration in India and the benefits that the economy received from the same, especially in the era of 1990s. Internationalization of capital flows (represented by FDI inflows) and internationalization of trade flows (represented by trade openness) are used as the indicators for this study. The paper also explores the interface between FDI inflows and trade openness in the Indian economy during 1970 - 2008. The empirical investigation confirms that India's performance on trade openness and foreign direct investment is very positive, especially during the 1990s. The Granger causality further confirms the presence of uni-directional causality from trade openness to FDI inflows. The paper finally suggests that, there is need of more economic integration to get more trade and FDI inflows in the Indian economy.

Key words: Economic integration, trade, FDI, granger causality.

INTRODUCTION

Globalization is a process of socio-economic integration across the globe and is one of the most hotly-debated topics in international economics. It is a progression by which events, decisions and activities in one part of the world have significant consequences on other parts of the globe. Globalization is a total mindset in which the entire world becomes a single market so that the corporate strategy is based on the dynamics of global business environment (Mishkin, 2006; Wadhva, 2003; Stiglitz, 2002; Kanda et al., 2001; Bartlett and Ghoshal, 2000). In the present era, it has been accelerated tremendously because of the advent of science and technology, improvement in global infrastructure, increase in the availability and access to information technology and reduced policy barriers to trade and investment by the public sectors (Kreinin and Plummer, 2008; Frankel and Romer, 1999; Brenton et al., 1999; Borensztein et al., 1998).

There are four possible ways, the process of globalization can be measured: reduction of trade barriers to permit free flow of goods across national frontiers; creation of an environment in which free flow of capital can take place among nations; creation of an environment permitting free flow of technology; creation of an environment in which free movement of labour can take place in different countries of the world. However, in the present paper, the flows of globalization are measured by two indicators (OECD, 2005): internationalization of

capital, measured by foreign direct investment (FDI) and internationalization of trade, measured by trade openness.

The objective of this paper is to examine the trends and causality between FDI inflows and trade openness in India during the globalization era of 1990s. The residual of the paper is divided into four sections including the earlier introduction. Section II describes the benefits of globalization. Section III examines the interrelationship between FDI inflows and trade openness. Section IV provides conclusion and future challenges.

THE BENEFITS OF GLOBALIZATION IN INDIA

India all through, followed a closed economy policies since her independence. It was only after 1985, a shift towards globalization was started. The attempts were, however, seems to be considered as half-hearted, self-contradictory and often self-reversing in nature (Harris, 1987). In contrast, globalization in the 1990s had been much wider and much deeper and decidedly marked a U-turn in many ways in the direction of economic policy followed by India during the last fifty-eight years of centralized economic planning (Sachs et al., 1991).

The globalization of 1990s were undertaken in many ways such as devaluation of rupee, dismantling import license system, full convertibility on trade account, fiscal

Table 1. India's performance in the internationalization of trade and capital flows.

Internationalization of trade flows (Openness)						
	1990		2000		2006	
	Inflows	Outflows	Inflows	Outflows	Inflows	Outflows
India	13.1	16.5	20.3	28.5	28.5	36.7
China	16	19	21	23	32	39
DC1	34.5	41.6	53.3	61.9	62.1	72.6
World	32.3	40.0	41.03	50.02	47.3	57.3

Internationalization of capital flows (FDI)						
	Inflows	Outflows	Inflows	Outflows	Inflows	Outflows
	India	0.5	---	3.8	0.4	5.7
China	5.4	1.2	17.9	2.6	11.1	2.8
DC1	10	4.2	26.0	13.3	27.0	14.0
World	8.4	8.7	18.3	19.7	24.8	26.1

Note. DC1: developing Countries; Internationalization of capital flows is measured as FDI inflows and outflows as a percentage of GDP; and Internationalization of trade flows is measured as trade inflows and outflows as a percentage of GDP. Source: World investment report, 2007.

retrenchment and credit squeeze, abolition of export subsidies, introduction of import entitlement scheme for exporters, unification of the exchange rates, removal of the quantitative restrictions, massive reduction in the tariff rates and protection rates, easing the restrictions on foreign investments and so forth (Ramakrishna, 2003). The impact of globalization is, however, multidimensional and can be judged in many ways in the direction of socio-economic development. That involves both benefits and failures in the Indian economy.

The major benefits that the country has been received during this globalization of 1990s are as follows: accelerated rate of economic growth, trade openness, capital flows, low inflation, stable current account balance of payments, and reduction of poverty, etc. On the contrary, the failures are high fiscal deficit, low agricultural growth, lack of socio-economic infrastructure, growing inequalities, low employment growth, etc. (Pradhan, 2006; Goyal, 2006). In this paper, the study gives emphasis on benefits of globalization. It first discusses on the trends of trade flows and FDI inflows and then examines the interrelationship between the two.

Internationalization of trade

India's internalization of trade during the globalization era has been very encouraging. The amount of exports has been increased from a low of USD\$ 17865 million in 1991 to a high of USD\$ 182631 million in 2008 and it is about ten-fold increase in the past 18 years. On the contrary, the amount of imports has increased from a low of USD\$ 19411 million in 1991 to a high of USD\$ 291475 million in 2008 (WFB, 2009) and it is about fifteen-fold increase in the last 18 years. There is also considerable variation in

the annual growth rates of export and imports. While the percentage change of exports varied from a low 3.76 % in 1991 to a high of 30% in 2003, import varies from a low of 1.73% in 2000 to a high of 42.7% in 2003. In each year, India's export and its growth is comparatively low in contrast to imports. Hence, trade balance is negative and has been increasing over the years, both in absolute term and in relation to total trade. The export-GDP ratio varied from 6.7% in 1991-92 to 14.6% in 2008 and the import-GDP ratio varied from 7.3 - 25.2% during the same period. The trade openness, as measured by total trade to GDP, has also been increased from a low of 14% in 1991 to a high of 38.8% in 2006. Furthermore, the amounts of exports as a percentage of amounts of imports have been declined from 92.0% in 1991-92 to 57.7% in 2008. This indicates that the flow of imports is much higher in contrast to flows of exports in the country during the globalization era. This leads to overall increase in trade in the economy. However, the flows of trade are comparatively low in contrast to China and other emerging countries in the World (Table 1).

There is also change in the diversification of trade. In the cross-country comparison, India's export trade during the initial phase of planning was with UK, other commonwealth countries and USA. But with respect to time, the share of India's foreign trade with UK has been declined and other hand, its share with USA and other EU has been increased. The major destination countries for India's export are the Developed Market Economies (DMEs). Among them, European Union (EU) is the single destination and has the largest share and the exports accounted for around one-fourth. Again within the EU, the share of UK, Germany, France, Italy, Belgium and Netherlands are substantially high. These six countries absorb the most of the exports from India that goes to the

EU. Most of India's export goes to the DMEs, the real categories of which is the OECD, the Industrial Triad and within Triad, the EU. The share of OECD in India's export varied between half and two-third of India's total exports to the rest of the world. The share of the "Triad", in year-wise, is a little behind that of the OECD. In short, the share of EU in India's exports during the era varied between one-fifth and one-third of India's total exports to the rest of the world.

On the imports side, India's total imports from the rest of the world are one-fourth and most of the India's import is also from DMEs. As mentioned above, these DMEs are functionally the countries in the OECD, the Industrial Triad, etc. The EU, Japan, and the US constitute the "Triad" and the "Triad" share in India's import is a little less than the share of the OECD. The members of the EU are also the members of the OECD. These are also the countries, which dominate the share in OECD. The major countries are also UK, Germany, France, Belgium and Netherlands. India's import share from these countries, however, declined during the globalization era. The composition of India's foreign trade during the globalization era has also shown a significant change (Pradhan, 2009).

Goods that India used to export previously are now in imports list. So far as India's export is concerned, the major once are traditional items like tea, jute, cloth, leather, iron, cashew and spices and variety of finished goods like capital goods (machineries), engineering goods, chemicals, chemicals products, ready-made garments, gems, processed foods, handicrafts, etc. But over the years especially, in the globalization era, the share of conventional exports in the total exports has been decreased and on the contrary, the share of finished goods, iron and steel, engineering goods, jewellery and gems increased substantially.

In the imports side, the major items are primary products like food grains, wool, cashew nuts, edible oils, etc. as well as manufacturing products like petroleum, fertilizers, steel, iron, non-ferrous metals, industrial raw materials, machinery, capital goods, chemicals, etc. While the share of primary products to total imports has been declined since the time immemorial, of the share of manufacturing goods has been increased considerably (GOI, 2008-09). Internationalization of trade plays a paramount role in the economic development of a country and treats as an engine of economic growth, both directly and indirectly. One of the important roles of trade is to attract FDI inflows in the economy.

Internationalization of FDI flows

Foreign direct investment usually defines as a transfer of package of resources across the countries in the globe, which includes capital, technology, management and marketing expertise. It takes in the form of starting a

subsidiary and acquiring a joint venture in the foreign country. In India, it comprises those investments which are generally approved by Secretariat for Industrial Assistance (SIA), Foreign Investment Promotion Board (FIPB), Reserve Bank of India (RBI) and Non-Resident Indians (NRIs). FDI is very complementary, catalytic and valuable to the nations especially during the globalization era, where increasing competition and rapid technological change are very frequent. Most of the developing countries, therefore, offer a welcoming attitude to multinational enterprises (MNEs) that are usually associated with FDI. India's case is typical in this context.

After pursuing a restrictive policy towards FDI over the last four decades of planning with a varying degree of selectivity, India changed tracks in 1990s and embarked on a broader process of reforms designed to increase her integration with the global economy. The new economic policy marked a major departure with respect to FDI policy with the abolition of industrial licensing system except where it was required for strategic or environmental grounds. There was creation of automatic clearance of FDI to various sectors like mining, banking, insurance, telecommunications, construction and management of ports, harbours, roads and highways, airlines etc. This is resulted mounting FDI inflows in the Indian economy during 1990s. In the below, we highlight the trends of FDI inflows during the globalization era of 1990s.

India's FDI inflows was about USD\$ 79 millions in beginning of 1980 but shown a very diverging picture throughout the 1980s. While the inflows of FDI was fallen to USD\$ 6 million in 1983, it was increased to a high of USD\$ 252 million in 1989 and then again fallen to US\$ 97 million in 1990. The flow of FDI is, however, increasing since 1991. For instance, the FDI inflow was about USD\$ 155 million in 1991 and increased to a peak of USD\$ 3613 million in 1997. However, after stagnating for a few subsequent years at around USD\$ 2500 million, it was increased to USD\$ 3400 million in 2001 and to a height of US\$ 41554 million in 2008 (WIR, 2009). In brief, globalization in general and liberalization of FDI policy in particular has affected the magnitude and pattern of FDI inflows in the Indian economy in the post 1990s. But its share has appeared small in contrast to other emerging countries in the globe like China, Singapore and Vietnam. In 2008, India's reported FDI inflows were about US\$ 41554 million, which represented a mere 6.69% of total FDI inflows by developing countries. On the contrary, China received an amount of US\$ 108312 millions of FDI in the same year, representing nearly 17.45% of the total developing country's FDI inflows. There have also been significant differences in the sectoral patterns of India's FDI inflows and its composition thereof (Kumar, 2005). India's FDI inflows have been comparatively low because of weak industrial development strategy and the very cautious foreign investment policy followed by the nation.

Furthermore, India's factor market is less efficient as compared to many East and South-East Asian countries

to whom India could compete in international market (Srinivasan, 1998). This is probably due to lack of structural reforms and host of other macroeconomic indicators. In short, it is argued that the current openness policy of the government is not sufficient to boost adequate amount of FDI inflows in the Indian economy.

INTERFACE BETWEEN INTERNALIZATION OF TRADE AND FDI FLOWS

The growing literature has recognized the existence of interface between FDI and openness (Nourzad, 2008; Aizenman and Noy, 2006; Liu et al., 1997). However, the nature of interface between the two is very controversial, as they have been recognized under four different angles. Uni-directional causality from foreign direct investment (FDI) to trade openness (OPEN):

- [FDI => OPEN and OPEN ≠ > FDI]
- (I) Uni-directional causality from trade openness (OPEN) to foreign direct investment (FDI)
- [OPEN => FDI and FDI ≠ > OPEN],
- (II) Bidirectional causality from foreign direct investment (FDI) to trade openness (OPEN)
- [FDI => OPEN and OPEN => FDI],
- (III) No causality from foreign direct investment (FDI) to trade openness (OPEN):
- [FDI ≠ > OPEN and OPEN ≠ > FDI].

The present paper here tries to explore the same by using the Error Correction Model (ECM) technique. However, the discussion of methodological issues begins with the investigation of the integration and cointegration properties of the variables. If these variables are integrated of order one, we precede with the determination of the cointegration rank using Johansen and Juselius (1990) maximum likelihood cointegration procedure.

In a nutshell, the empirical investigation follows three step procedures: unit root test, used for stationarity of the variables; cointegration test, used for long-run equilibrium relationship between the two; and ECM, used for direction of causality. The descriptions of these three tests are given below.

Unit root test

The Augmented Dickey Fuller (ADF) test is applied to know the stationarity of these variables. The test procedure of ADF (Dickey and Fuller, 1979) is as follows:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{i=1}^p \alpha_i \Delta Y_{t-i} + \epsilon_t \dots \dots \dots (1)$$

Where, Y is the variable of choice, Δ is the difference operator, t is time trend and ε is the variable that adjusts the errors of autocorrelation. The coefficients β₁, β₂, δ, α₁

α₂, and α_p are being estimated. The arguments in favour of beginning with the most general specification including the intercept and time trend is the usual one involving omitted variable bias verses loss of efficiency caused by redundant regressors.

A time trend must be included initially to allow for the possibility of a deterministic trend in the alternative hypothesis when the null hypothesis of a unit root is tested (Hamilton, 1994). The variable of interest in the above model is to know the stationarity is Y_{t-1}. That means the coefficient δ should be significant.

To determine the order of integration of the series, the equation has to be modified to include second differences on lagged first and p lags of second differences. This is as follows:

$$\Delta^2 X_t = \eta_1 \Delta X_{t-1} + \sum_{i=1}^p \mu_i \Delta^2 X_{t-i} + \xi_t \dots \dots (2)$$

Where, Δ² is the second-difference operator; η₁ and μ_i are constant parameters; and ζ_t is a stationary stochastic process. The p lagged difference terms are included so that, the error terms (ε_t and ζ_t) in the respective equations are serially independent. The Akaike Information Criterion and Schwarz Information Criterion are used to determine the same. The null hypothesis are H₀: δ = 0 against H₀: δ ≠ 0 for equation 1 and H₀: η₁ = 0 against H₀: η₁ ≠ 0 for equation 2, respectively. Let ‘d’ denotes the number of times that a variable needs to be differenced in order to reach the stationarity. In this case, such a variable is said to be integrated of order ‘d’ and denoted by I (d). For instance, if the variable is stationary at the level data then it is said to be integrated of order zero [that is, I (0)]. Similarly, if the variable is stationary at the first difference, then it is said to be integrated of order one [that is, I (1)] and if the variable is stationary at the second difference, then it is said to be integrated of order two [that is, I (2)] and so on (Tsay, 2002; Enders, 1995).

Cointegration test

The study used Johansen’s maximum likelihood (ML) approach to test the cointegration. The method involves estimating the following unrestricted vector autoregressive (VAR) model (Johansen, 1991).

$$X_t = A_0 + \sum_{i=1}^k A_i X_{t-i} + \epsilon_t \dots \dots \dots (3)$$

Where, X_t be a (n X 1) vector of non-stationarity I (1) variables, in this case X = (economic growth, foreign direct investment and trade openness) the number of variables in the system. A₀ is a 2 X 1 vector of constants, p is the number of lags, A_i is a 2 X 2 matrix of estimable parameters, and ε is a 2 X 2 vector of independent and

identically distributed innovations. If X_t is cointegrated, it can be generated by a vector error correction model (Brooks, 2004):

$$\Delta X_t = \Pi X_{t-k} + \Gamma_1 \Delta X_{t-1} + \Gamma_2 \Delta X_{t-2} + \Gamma_{k-1} \Delta X_{t-(k-1)} + \varepsilon_t \dots\dots\dots (4)$$

Where,

$$\Pi = \left(\sum_{j=1}^k \beta_j \right) - I \text{ and } \Gamma_i = \left(\sum_{j=1}^i \beta_j \right) - I$$

The VAR contains g variables in the first differenced form on the LHS, and $k-1$ lags of the dependent variables (differences) on the RHS, each with a Γ coefficient matrix attached to it.

The coefficient matrix Π is called the impact matrix and contains information about the long-run relationships between the variables in the data vector. If the rank r is equal to zero, the impact matrix is a null vector. If the Π has full rank, n , then the vector process X_t is stationary. If $0 < r < n$, there exist r cointegrating vectors, meaning r stationary linear combinations of Y_t . In that case, the impact matrix can be written as follows:

$$\Pi = \alpha \beta' \dots\dots\dots (5)$$

Where, both α and β are $(n \times r)$ matrices. The cointegrating vectors β have the property that $\beta' X_t$ is stationary [$I(0)$] even though X_t is non-stationary [$I(1)$]. Johansen and Juselius likelihood ratio test looks for two statistics: Trace statistics and Maximum Eigen value. The likelihood ratio test statistic for the null hypothesis that there are at most r cointegrating vectors is the trace test and is computed as:

$$Trace = -T \sum_{i=r+1}^n \text{Log}(1 - \hat{\lambda}_i) \dots\dots\dots (6)$$

Where,

$\hat{\lambda}_{r+1}, \dots, \hat{\lambda}_n$ are $(n - r)$ smallest estimated of Eigen values.

The likelihood ratio test statistic for the null hypothesis of r cointegrating vectors against the alternative of $r + 1$ cointegrating vectors is the maximum Eigen value test and is given by

$$\lambda_{\max} = -T \text{Log}(1 - \hat{\lambda}_{r+1}) \dots\dots\dots (7)$$

Here, the null hypothesis of r cointegrating vectors is tested against the alternative hypothesis of $r + 1$ cointegrating vectors. Hence, the null hypothesis $r = 0$ is tested against the alternative $r = 1$, $r = 1$ against the alternative $r = 2$, and so forth. It is well known that, the cointegration tests are the very choice of lag length. The Schwarz

Bayesian Criterion (SBC) is used to select the number of lags required in the cointegration test.

Error correction model

According to Granger (1988), if two variables are cointegrated, there is possibility of causality between them at least in one direction. The study, hence, using Granger causality test is applied to examine the nature of the relationship between openness and FDI inflows. Following Johansen (1988); Johansen and Juselius (1990), the error correction model is approached as follows (Brooks, 2004; Engle and Granger, 1987):

$$\Delta OPEN_t = \phi_1 + \sum_{i=1}^p \alpha_i \Delta OPEN_{t-i} + \sum_{j=1}^q \beta_j \Delta FDI_{t-j} + \delta_1 EC_{t-1} + \xi \dots\dots\dots (8)$$

$$\Delta FDI_t = \phi_2 + \sum_{i=1}^r \eta_i \Delta FDI_{t-i} + \sum_{j=1}^s \mu_j \Delta OPEN_{t-j} + \delta_2 EC'_{t-1} + \zeta \dots\dots\dots (9)$$

Where, OPEN represents trade openness and FDI represents FDI inflows. EC_{t-1} and EC'_{t-1} are the lagged stationary residuals from the cointegration equation. The null hypotheses are $H_0: \beta_i = \delta_1 = 0$ (for all i and k) against $H_A: \beta_i \neq \delta_1 \neq 0$ for equation (8) and $H_0: \mu_i = \delta_2 = 0$ (for all i and k) against $H_A: \mu_i \neq \delta_2 \neq 0$ for equation (9). The short run causality is tested by the significance of β and μ coefficients, while the long run causality is tested by the significance of δ_1 and δ_2 . The coefficient of δ_1 and δ_2 contain the information about whether the past values of variables affect the current values of the variable in the ECM system.

To select an appropriate lag length, we use Akaike Information Criterion. The data used under this section covers the period from 1970 - 2008. These are obtained from Handbook of Statistics on Indian Economy, Reserve Bank of India, Mumbai and World Investment Report, UNCTAD, Geneva. We divide the entire data set into three different time periods: Period I: 1970 - 2008; Period II: 1970 -1990; and Period III: 1991 - 2008. The division is for checking the interrelationship between trade flows and FDI inflows during the pre- and post- globalization era of 1990s.

RESULTS OF INTERFACE BETWEEN INTERNATIONAL OF TRADE AND FDI INFLOWS

This section scans the results of the interface between internationalization of trade and FDI inflows in India during the 1990s. The results start with the stationarity of the time series data and this is the prime requirement for cointegration and causality test. The unit root test results confirmed that both internationalization of trade (openness) and internationalization of capital (FDI) are having

Table 2. Unit root test results.

ADF statistics for critical values 10%					
	LD	OUR	LD	OUR	Conclusion
Period I: 1980-2008					
OPEN	-1.252	-3.447*	-3.268	-3.324	I [1]
FDI	2.400	-4.478*	-3.268	-3.324	I [1]
Period II: 1980-1990					
OPEN	-2.64	-2.835*	-3.268	-3.324	I [1]
FDI	-3.21	-3.976*	-3.268	-3.324	I [1]
Period III: 1991-2008					
OPEN	-3.048	-3.396*	-3.268	-3.324	I [1]
FDI	-1.192	-3.354*	-3.268	-3.324	I [1]

Note 1. ADF: Augmented dickey fuller test; PP: Phillips- perron test; LD: Level data; OUR: One unit root; OPEN: Trade openness; FDI: FDI Inflows; I (1): Integration of order one; and *: Indicates statistical significance.

Note 2. The estimated model follows constant with linear trend.

Note 3. MacKinnon's (MacKinnon, 1991) tabulated value has been used to test the level of significance.

unit root at the level data. This is because the ADF statistics cannot reject the null hypothesis of non-stationarity at 10% level of significance. They are, however, stationary at the first difference level, as the null hypothesis of non-stationarity is rejected at 5% level of significance (Table 2). Hence, they are integrated of order one [that is, I (1)] and confirms the possibility of cointegration between the two. This is true in all the three periods (Period I: 1970 - 2008; Period II: 1970 -1990; and Period III: 1991 - 2008).

Having confirmed the existence of unit roots for all the data series, the next step is to check the possibility of long run equilibrium relationship between them and is obtained by using Johnsen's Maximum Likelihood (LM) test. The estimated results for Eigen values (λ_{max}) and Trace statistics (λ_{trac}) are reported in Table 3. Both the statistics indicate that there is cointegrating relationship among the variables. This is because the null hypothesis of no cointegration is clearly rejected at 5% significance level. That means, they are cointegrated at 95% confidence interval, indicating the existence of long run equilibrium relationship between trade openness and FDI inflows in India. This is also true in all the three periods. Since cointegration relationship is found between trade openness and FDI inflows, Granger's Error Correction Model (ECM) has been deployed to determine the direction of causality. The estimated results of ECM are reported in Table 4. We used F-statistics and t- statistics for the error correction term and that is tested under the null hypothesis of non-causality. The rejection of null

hypothesis implies that corresponding variable Granger causes the dependent variable (and vice versa).

The estimated results confirmed that, there is unidirectional causality from trade openness to FDI inflows (OPEN = > FDI) in India during 1970 - 2008 and 199 - 2008. However, the study does not find any causality between trade openness and FDI inflows during 1970 -1990. This confirms that globalization of 1990s has created an environment in India for linking the interrelationship between trade flows and FDI inflows. The estimated coefficient of error term is also statistically significant in period I, which provides important information on the long run relationship between internationalization of capital and trade. This suggests that, there is need of reviewing the globalization policy in such a manner that the extent of disequilibrium between short run and long run could be eliminated quickly to maintain the equilibrium path in the short run and long run.

CONCLUSION AND FUTURE CHALLENGES

The paper described the process of economic integration and the benefits that the economy received from the same. The performance indicators that we used in the study are internationalization of capital flows, measured by foreign direct investment inflows and internationalization of trade flows, measured by trade openness. The study finds that India's performance on trade openness and foreign direct investment is very positive. But considering global trends, it is comparatively low in contrast to other emerging countries like China. This is mostly because of low economic integration, both in terms of internationalization of capital and trade. The paper also explores the interface between FDI inflows and trade openness in the country. The empirical investigation confirms the existence of unidirectional causality from trade openness to FDI inflows. This is typically true during the post-globalization era of 1990s. Overall, several lessons can be obtained from this study. First, globalization of 1990s is considered as an instrumental in India for boosting its trade and FDI inflows. This evokes that economic integration can bring more trade and FDI inflows in the economy. Second, there is direct linkage between trade and FDI inflows and they have strong cointegration, indicating the presence of long run equilibrium relationship between them. This indicates that increasing trade flows can affect FDI inflows in the long run and vice versa. That means, India continues to receive benefits from the economic integration. Hence, there is need of more economic integration to bring more trade and FDI inflows in the economy. The country, however, face many challenges for economic integration and hence, the promotion of trade and FDI inflows. This is because of various needful requirements in the economy. These include creation of infrastructure, formulating effective strategy to harness the positives of globalization, better distribution channel, sector-wise

Table 3. Johansen's cointegration likelihood ratio test for multiple cointegrating vectors.

Hypothesized number of test statistics of critical values (5%) cointegrating relationships.					
H₀	H_A	λ-Max	λ- Tra	λ- Max	λ – Tra
Period 1: 1980-2008					
r = 0	r > 0	17.0*	19.21*	14.26	15.49
r ≤ 1	r = 2	2.139	2.139	3.841	3.841
Period II: 1980-1990					
r = 0	r > 0	13.2*	20.1*	14.26	15.49
r ≤ 1	r = 2	6.82*	6.82*	3.841	3.841
Period III: 1991-2008					
r = 0	r > 0	21.7*	26.97*	14.26	15.49
r ≤ 1	r = 2	5.21*	5.21*	3.841	3.841

Note. r: indicates the number of cointegrating relationships. *: Indicates statistical significance at 5%.

Table 4. Results of error correction model.

	D (FDI) Wald χ^2 Statistics	D (OPEN)	Long Run ECT (-1)	Joint F
Period 1: 1980-2008				
D (FDI)	-----	9.745*	2.491*	18.49*
D (OPEN)	3.577	-----	0.502	3.38
Period II: 1980-2008				
D (FDI)	-----	2.103	-3.362*	3.483
D (OPEN)	1.416	-----	0.462	1.890
Period III: 1980-2008				
D (FDI)	-----	6.351*	0.885	13.41*
D (OPEN)	3.577	-----	1.682	2.268

Note: AIC: Akaike Information Criterion; SIC: Schwarz Information Criterion; D: Difference Operator; *: Indicates Statistical Significance at 5%.

diversification, relaxing trade barriers, providing friendly laws and tax holidays to foreign investors, creation of market friendly environment, exploitation of information technology, better utilization of capital inflows, fiscal consolidation, better utilization of natural resources, more global corporation, creation of knowledge based economy, empowering people through universal education and

health care, developing better R and D to reduce technical gap and awareness (Demekas et al., 2005). That means, a piece-meal approach to economic integration is of serious consequences. What is urgently required is to create an environment and follow a suitable policy for attracting more economic integration. This is not a daunting task, if there is adequate political will in the

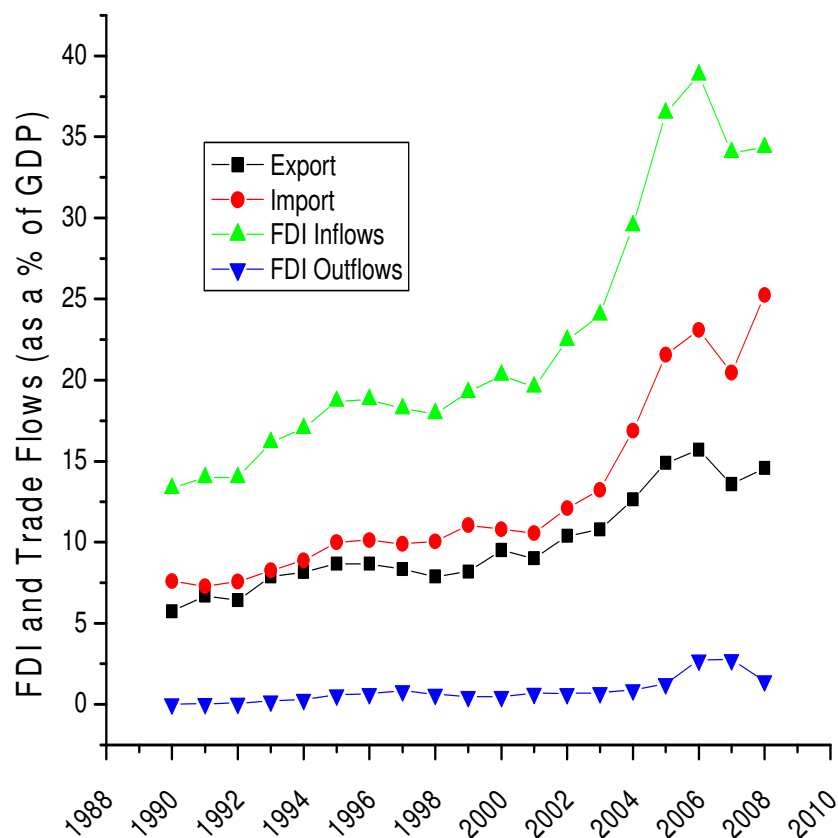


Figure 1. Flows of Capital and Trade (in % of GDP).

economy Figure 1.

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