

THE SPILLOVER EFFECT OF FDI ON EXPORT GROWTH IN INDIA: AN EMPIRICAL STUDY

***Mr. Biswaranjan Parida**

****Prof. (Dr) Kumar B Das**

ABSTRACT

Export has always been a significant factor for the favorable balance of payment in world economy. It has been viewed as an engine of economic growth as well. Further, Foreign Direct Investment (FDI) promotes exports, facilitates access to foreign markets, augments domestic capital, provides training to the local workforce, and helps in transfer of technology for the host countries. Most importantly, in the country like China, the foreign investment has catalyzed its economic growth. As per the report of Ministry of Commerce, the contribution of enterprises having FDI is over half of the China's export and import, and they provide 30 percent of the Chinese industrial output. Interestingly, industries with higher FDI seem to have higher productivity than other industries.

As far as Indian economy is concerned, with the adoption of new economic policy (NEP) in 1991 and inward- looking policy of import substitution, the government tried to remove all sorts of biases against export reforms. The export- led growth strategies facilitated by FDI has laid impact on host country's technology and country's comparative cost advantage. With this backdrop, this paper focuses firstly, on the aspects like the trend of both FDI and exports growth from 1991 to 2013-14 in three basic periods such as 1991- 2007, 2008-2013 and the overall period of 1991 to 2013. Secondly, the paper adopts the time series data in order to find out the relationship between FDI and exports growth for the same period.

Key words: Balance of Payment, domestic capital, FDI, Export promotion and import substitution

Introduction:

The composition of India's foreign trade has undergone a phenomenal change since economic reforms introduced in 1991. India has witnessed a steady growth momentum in comparison to other developing economies

during global financial crisis of 2008. Similarly, after the grim year of 2015-16, the year 2016-17 started with the hope of stability and recovery optimism, registering a positive growth of 0.75 percent in Dollar terms. However, as per projection made by

***Mr. Biswaranjan Parida**, Asst. Professor, ASTHA School of Management, email: biswaranjan74@rediffmail.com

****Prof. (Dr) Kumar B Das**, Former VC, FM University, email: drkumardas@gmail.com

the IMF, growth in India's export for 2017 and 2018 will be 3.4 and 3.6 percent respectively.

Keeping the “Make in India” vision in view, and to facilitate trade, the government of India launched the FTP- 2015-20 on April 1, 2015 by introducing a slew of measures by providing two new schemes .a) 'Merchandise Exports from India Scheme' (MEIS) for exports of specified goods to specified markets, and b) 'Services Exports from India Scheme' (SEIS) for increasing exports of notified service. Along with this the FTP also includes linking rules, procedures, incentives with other initiatives such as “Make in India”, “Digital India” and “Skills India” and e-Commerce exports supported under Merchandise Exports from India Scheme.

Objectives of the Study:

The present study pursues the following objectives.

- To study the trend of FDI and Export in India from the period 1991-92 to 2013-14.
- To examine the causal connection between FDI and export growth of India.

Hypothesis of the study:

- **H₀:** There is no causal connection between FDI and export growth of India.
- **H_a:** There is a causal connection between FDI and export growth of India.

Research Methodology:

The data for this research is collected from various secondary sources like the website of RBI and DIPP, Government of India. In this paper, the annual data of inflow of FDI and volume of export for 23 years from 1991-92 to 2013-14 is considered to study the relationship between FDI & export growth of Indian economy. The period of study covers two phases. The first one is from 1990-91 to 2007-08 which represents the period from post economic reforms till the global economic crisis 2007-08. The second phase covers the period from 2007-08 to 2013-14 which represents the recovery phase of Indian economy after the country is suffered from recession. Regression analysis is used for the study of the causal relationship between FDI and export growth in India. The statistical software SPSS20 is used for analyzing the data.

Literature Review:

Hirsch (1976) developed an international trade and investment theory by focusing on two aspects: (a) when a profit-maximizing firm chooses to serve a foreign market, and (b) the conditions under which foreign market servicing is carried out either through exporting or local manufacture as a result of direct investment. Hirsch asserted that FDI could be analyzed within the framework of industrial organization and location theory models. However, it is not consistent with trade models that assume perfect markets, factor immobility, zero transportation costs, international identical production functions and constant returns to scale. FDI will also not take place even if it is assumed that international factor mobility is possible. For example, if it is assumed that capital is completely unhampered, capital costs between two nations will be equalized; hence, there is no incentive to undertake FDI. The relaxation of constant returns to scale also cannot explain FDI (as cited in Nayak & Choudhury's Working Paper, pp.15).

In another article, Helpman et al (2004) focused on a firm's choice between exports and horizontal FDI. They developed a model

of international trade in which firms choose to serve the domestic market, to export or to engage in FDI to cater to markets abroad. They contended that every industry was characterized by heterogeneity; therefore, the productivity of firms will differ. The consequence of this is that firms are organized on the basis of their productivity. The most productive firms will decide to serve the foreign market via FDI while less productive firms will sell in the foreign market through exports. Thus, by embodying elements of the proximity-concentration tradeoff in the theory of horizontal FDI, the model predicts that foreign markets are better served by exports relative to FDI sales when trade frictions are lower or economies of scale are higher. They tested their hypothesis with the help of export and FDI sales by United States firms in 38 countries and 52 industries; the results supported their theoretical predictions.

Chandrama Goswami, Saikia Karuna Kanta (2012) examines the relationship between FDI and exports using the vector error correction model (VECM). The data are tested for stationarity by ADF test. They are found to be non-stationary at level but stationary at the first differences. Then, by

applying Engle-Granger cointegration method the two variables are found to be co-integrated.

Puspendra Kumar (2012) found that there is bi-directional causality between the two variables, i.e., FDI causes manufactured export growth and then export-led growth further encourages the flows of FDI. Zuzana Szkorupova (2014) analyzed the relation between foreign direct investment, economic growth and export in Slovakia in the period 2001-2010. The co-integration method and vector error correction model applied on quarterly data, confirmed the existence of long-term causal links between variables studied in Slovakia. Thus, the study revealed a positive impact of foreign direct investment and positive impact of export on gross domestic product.

Foreign Trade Policy in India:

In the era of globalization, the foreign trade policy is getting a central role in the economic policy of all the countries including India. The task has become more complex after the global financial meltdown. In order to arrest and reverse the declining trend of exports and to provide additional

support, the government of India announced the foreign trade policy. The policy followed a host of measures like fiscal incentives, institutional changes, procedural rationalization and market access across the world, diversification of export markets, and improvement in infrastructure related to exports; bringing down transaction costs, and providing full refund of all indirect taxes and levies to meet the above objectives.

For India, the need of the hour is to diversify the export markets and offset the inherent disadvantage for exporters in emerging markets of Africa, Latin America, Oceania and CIS countries such as credit risks, higher trade costs etc., through appropriate policy instruments. That is why the FTP 2009-14 endeavored to diversify products and markets through rationalization of incentive schemes including the enhancement of incentive rates, to enable competitive exports through the Market Development Assistance Scheme and Market Access Initiative Scheme which would catalyze the next phase of export growth.

As part of India's Look East policy for expanding market, the government has signed a Comprehensive Economic Partnership Agreement with ASEAN and

South Korea for enhancing market access to Indian exports. However, the most inherent part of the policy is to upgrade the technology to reduce the cost. In order to support the growth of exports, the government has appointed a high level coordination committee established in the Department of Commerce. For this, the government has initiated recognition on the basis of export performance, called 'status holders'. The 'status holders' can import specified capital goods that are duty free for manufacturing products to be exported. Apart from this, for the development of MSMEs and to avail their rights through trade remedy instruments under the WTO, the government proposes to set up a Directorate of Trade Remedy Measures. In order to reduce the transaction cost and institutional bottlenecks, the e-trade project is likely to be implemented in a time bound manner to bring all stake holders on a common platform. Along with this, additional ports/locations will be equipped

with Electronic Data Interchange over the next few years. An Inter-Ministerial Committee has been established to serve as a single window mechanism for resolution of trade related grievances.

Data Analysis:

The trend analysis of the study period is done with the help of MS excel. The table-1 represents the export volume and the inflow of FDI into Indian economy.

From the table -1 it is evident that there has been a simultaneous increase both in FDI inflow and the Export from India. The same has been represented in graphical form in figure-1 below.

Figure-1, Figure-2 and Figure-3 represent exponential, linear and quadratic trend lines of export growth of India from the periods 1990-91 to 2013-14. It is quite obvious from these three graphs that the exponential trend line fits better than the other two trend lines. This implies that the growth of India's export follows an exponential trend.

Table- 1
Export and FDI (Rs. Crore) data from 1990-91 to 2013-14

Year	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Export	326	440	537	698	827	1064	1188	1301	1398	1596	2036	2090
FDI	174	316	965	838	4126	7172	10015	13220	10358	9338	18404	29245
Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Export	2551	2934	3753	4564	5718	6559	8408	8455	11429	14660	16343	19050
FDI	24397	19830	26947	39457	102652	139421	190645	157819	132338	154961	146954	186830

Source: Handbook of statistics on the Indian economy.

Figure-1
Exponential Trend line of Export in India.

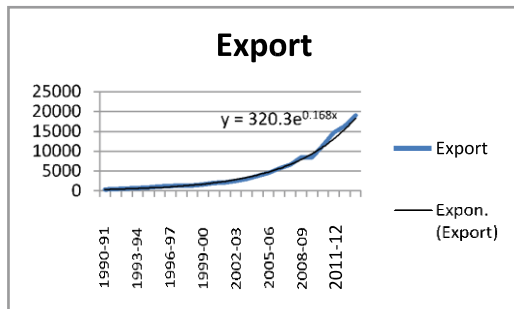


Figure2
Linear Trend line of Export in India

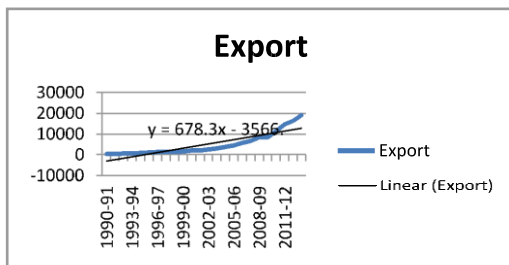
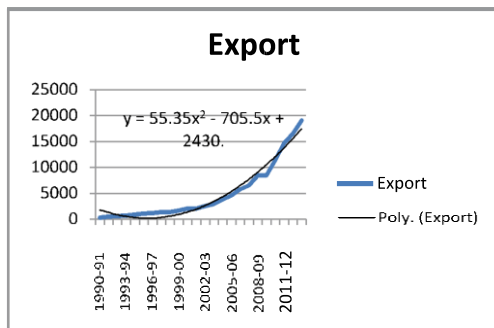


Figure-3
Quadratic Trend line of Export in India



Regression analysis

Regression analysis is a preferred tool in comparison to correlation analysis because of the fact that regression analysis not only finds the direction of movement of one variable as compared to the other variable,

but it also helps to predict the cause and effect relationship between two or more variables. Through regression analysis we can predict the value of the dependent variable with respect to a known independent variable. In this analysis the value of the export has been taken as the dependent variable and the inflow of FDI into India is the independent variable.

Table- 2 represents descriptive statistics of FDI and Export growth. It reveals the mean value of FDI to be 704.4343 and standard deviation value as 820.49925. The mean value of Exports is 5112.945 and standard deviation value is 5481.75013.

Table2

Descriptive Statistics			
	Mean	Std. Deviation	N
FDI	704.4343	820.49925	23
Exports	5112.945	5481.75013	23

Source: Author's own calculation

Table-3 represents the correlation between FDI and Exports. The data shows there is a positive correlation between FDI and Exports. As the Pearson correlation value is .934. The concept of correlation says the value of correlation should lie between -1 and +1. The significance value or the *p-value* tells whether we should consider there is a

relationship between two variables or not. If the calculated *p-value* is higher than the observed *p-value* then there is no significant relationship between variables. But in this case the calculated *p-value* is less than the observed *p-value* i.e. the calculated *p-value* is .0000 which is less than 0.05 (.0000 < .05). Therefore, it can be concluded that there is a significant relationship between FDI and Exports.

Table-3

Correlations			
FDI		FDI	Exports
	Pearson Correlation	1	.934**
	Sig. (2-tailed)		0
Exports	N	23	23
	Pearson Correlation	.934**	1
	Sig. (2-tailed)	0	
	N	23	23

Source: Author's own calculation.

Applying the regression analysis equation:

$$\text{Exports} = \beta_0 + \beta_1 \text{FDI} + ?_1 \dots \dots \dots$$

Where the exports are dependent variable and FDI flow is the independent variable. The result of the regression analysis is shown in table-4 below

Table-4

Model Specifications

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
.896 ^a	0.802	0.793	2477.176	0.802	89.31	1	22	0	0.411

Source: Author's own calculation.

Table-4 reveals the R-square value of 0.802, indicating that the variations in exports are being explained by the FDI flow to the extent of 80.02%. This fact is further confirmed by the adjusted R-square value, which says that the changes in export are explained by FDI to the extent of 79.3%. The remaining 20.7% of variation happens due to some other factors which need to be studied in detail in further research.

Generally, values of the regression coefficient β represent the change in the dependent variable resulting from a unit change in the predictor provided that the predictor or the independent variable should have a significant impact on the dependent variable. This test of significance is verified by the t- statistics of the dependent and independent variables. This is represented in table-5. The *p-value* of the FDI is 0.000 which is less than the 0.001. Here, the β is different from 0 and we can conclude that the

FDI makes a significant contribution ($p < .001$) to predicting exports. The result of regression method shows that the p -value is less than .001 at 5% level of significance. Thus, here we will reject the null hypothesis which says that “there is no causal connection between FDI and export growth of India”. Therefore, we will accept the alternate hypothesis and conclude that there is a causal connection between FDI and export growth of India.

Conclusion:

In this paper attempt is made to explain the

dependency of export on the FDI flow in India. Although the changes in export is affected by multiple factors but in this paper the focus is only to find out the impact of FDI on the export growth. The analysis revealed that the exports in India are growing exponentially during the study period 1990-91 to 2013-14. The regression analysis confirms that there exists a casual relationship between FDI and Export from India. Further, 79.3% variations in the export are explained by the FDI flow into India. Further research can be done to identify the other factors that impact variations in export.

Table-5

Model		Un -standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	708.476	673.553		1.052	0.304
	FDI	0.071	0.007	0.896	9.45	0

Source: Author's own calculation.

References

- Annual Report, towards sustainable and lasting growth 2016-17, Government of India Ministry of Commerce and Industry.
- Buthe, T. and H.V. Milner (2008). “The politics of FDI into developing countries: Increasing FDI through international trade agreements?” American Journal of Political Science, vol. 52, No. 4.
- Goswami Chandrama, Saikia Karuna Kanta, “FDI and its relation with exports in India, status and prospect in north east region” Procedia - Social and Behavioral Sciences 37 (2012) 123–132.

Investing across borders report 2010, the World Bank group

<http://iab.worldbank.org/media/FPDKM/IAB/Documents/IAB-report.pdf>

Hirsch, S. (1976). “An international trade and investment theory of the firm”, Oxford Economic Papers, New Series, vol. 28, No. 2.

Helpman, E., M. Melitz and S.R. Yeaple (2003). “Export versus FDI”, NBER Working Paper Series No. 9439. National Bureau of Economic Research, Cambridge, MA, United States. (2004). “Export versus FDI with heterogeneous firms”, American Economic Review, vol. 94, No.1.

Kumar Puspendra, “Impact of FDI on export and growth: an Indian perspective.” SMS Varanasi, Vol. VIII, No.1; June 2012.

Szkorupova Zuzana,” A causal relationship between foreign direct investment, economic growth and export for Slovakia”. Procedia Economics and Finance 15 (2014) 123 – 128.

Sinha Manoj Kumar, “Structural change in composition of India's export during post-