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Empirical Analysis of Trade Related Investment Measures On Foreign Direct Investment in India

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ABSTRACT

For the last two decades, there has been extensive growth in Foreign Direct Investment (FDI) flows to the developing countries. An increased competition amongst the developing countries to attract FDI, ensuing in higher investment incentives offered by the host governments and removal of restrictions on operations of foreign firms in their countries. WTO has provided Trade Related Investment Measures (TRIMs) for global level investment. FDI is governed by provisions of TRIMs in host country. TRIMs were proposed by the India in the 1995 Uruguay Round as a way to create a better investment environment in India. In this scenario, the question is addressed by this study that how effective is this investment agreements in attracting FDI flows to developing countries like India? To answer this, the present study has considered the impacts of the TRIMs in India by taking time series data for the period 1991-2010. For this, the present paper is divided into three parts : In First one reviews of literature has been studied for relevant variables, the second one examines the linkages of these variable with FDI, whereas, the third part discusses about methodology, model building and data analysis.

Using Ordinary Least Square linear equation, the explanatory variables are regressed to test the significance of these variables. The multiple regression analysis has been used and the regression results indicated that Export performance requirement(volume of export), Technology Transfer Requirements (Expenditure on R&D and No of M&A in Manufacturing sectors), Foreign Exchange Balancing Requirements(liquidity position, Exchange Rate) Local content requirements (Number of SSI units in millions), TRIMs Agreement (WTO membership) are significant in explaining FDI inflows in India, whereas, Trade balancing requirements(current A/C balance % GDP, Debt/Export) are significant but have negative relationship in explaining FDI inflows in India.

KEYWORDS : FDI, TRIMS, Performance requirements

Introduction

The principles of World Trade organizations emphasizes free trade principles, transparency in trade management, removal of trade barriers, preferential treatment for developing countries regarding technology and financial aspects, rule based trading system with competition and environmental protection for sustainable growth(Cherulinam,2007). As such, India is capital-deficit and Technology lacking country; it is accessory to know provisions made by WTO under TRIMs. After 1991, India has followed Liberalization, Privatization and globalization policy to boost our global trade. The Nature of Finance in the form of FDI, equity investment and technological collaborations have bridged missing link in modernization of various industries in general, and many firms in particular.

The term "TRIMs" represents "Trade-Related Investment Measures". Governments impose these measures to either support or oblige investment to achieve certain national priorities. These Conditions which affect to trade are known as TRIMs.

Foreign Direct investment is regulated by performance requirement such as (local content requirement, local manufacturing, export performance and technology transfer requirement.). The government also aims at investment incentives such as loans and tax rebate now as (financial incentives and fiscal incentive). It is necessary that performance requirement need to ensure foreign investment contributes to the host countries development and consistent with policy goal. When these incentives are related to trade in goods, they are called TRIMs.

One can define like this Trade Related Investment Measures deals with preparations duties and functions of host countries similarly code of conduct for the host country for development of Trade Related Investment.

I
Review of literature

1. Krishna Kumar (2002) attempted to study performance of Indian Industry and growth of trade in Industrial sector in era of post WTO. His comprehensive study expressed contribution of foreign trade of Industrial sector with reference to business ventures at abroad. The findings of the paper show post-liberalization growth of Indian corporate and Industrial sector, liberalization and globalization helped to increase Indian exports and imports for these author has made use of tables during pre-WTO five years and post-WTO five years to measure performance of Industry. He expresses need for developing new models for arresting the fall of Indian corporate sectors. As a policy, he concluded that value capturing and value creation by Indian exporter and Importers appear necessary with terms of trade on regular basis.
2. S P Das(2003) In foreign direct investment in India on the viewing angle of the WTO rules. According to him, FDI jurisdiction touches on general trade and services agreement. The TRIMS allocated for FDI strategy to show that the optimal strategy for foreign direct investment in India, which gives the potential benefits as well as effective costs on foreign direct investment. He has been explained different types of TRIMs : 1. Trade balancing requirements 2. Foreign exchange restriction 3. Export performance requirements 4. Local Production Requirement 5. Production tasks 6. Restrictions on foreign stocks 7. Mandatory technology transfer remittance.

The above requirements contribute to the achievement of commitments aimed at eliminating restrictions in the industrial sector. He has been examined FDI pollCy of India 1947 to 1991. His conclusion is that the effective rules of India's foreign direct investment should be forthcoming therefore the foreign direct investment is not enough to attract more and more foreign companies.

3. Chaterjee, Suman (2009)has examined integration of Indian Economy with world economy through regional distribution of FDI flow from the global level. The study made pattern of originating and destination country of Indian FDI flows, structure of cross border merger and equation of India. The study examines inward and outward investment in India by using linear regression analysis. The research concluded with charts of determinants of FDI in India.
4. Shri Prakash; Shrma S; Kasidi F.,(2007):The authors presented the paper at International conference Brazil . They developed export

–led growth model in which they expressed that real GDP depends on labor, domestic capital stock, exports and technological progress through time. According them technology is one of the powerful variables and time is defined as parameter of functional shift. They examine impact of FDI by I-O modeling to impound growth effects of 1. Change in technology and 2.Domestic investment. With the help of ANOVA of Maximum and average output effect.

5. Li Hai-Qing (2001) the author has given challenges and postulate of trade and foreign investment (FDI) as parallel and comparable international modes in his thesis. He argued that FDI is neutral capital flow that underpins both international production and independent intra-firm trade and therefore FDI always support trade in international production and distribution. Author has examined the impact of measure on FDI and FDI measures on trade respectively. He concluded that except for the liberal trade and FDI measure, restrictive and incentive trade and FDI measures restrict or distort both trade and FDI and so it reduced domestic and/or worldwide economic welfare. He suggested that government should abandon restrictive and incentive trade and FDI measures, or Endeavour to discipline these measures through multilateral arrangement.
6. Larry D. Qiuy Zhigang Tao (2001) Local content requirement is an important government policy in developing countries to control foreign direct investment. In this study the authors establish a model with heterogeneous multinational firms and show that (1) the LCR policy affects the firms' modes of entry to a new market, with FDI being more likely to be adopted for a lower LCR; and (2) when facing the same LCR, a less efficient firm is more likely to adopt the FDI mode than a more efficient firm. Furthermore, the authors have investigated the design of optimal LCR policy. Authors have are considered two types of FDI benefits and two types of LCR policy to compare.
7. This review of literature introduces the background information of an Agreement on TRIMs. As there is no definition on TRIMs, so the site quotes some examples of TRIMs which are inconsistent with WTO agreement. It has mentioned the exclusion and the transition period for WTO Members to eliminate their TRIMs, the extension request negotiation moreover, an illustrative list has been given.
8. Burt E M(1997) The author has discussed FDI multinational Enterprise and International law on host country Investment measures. He discussed The regulation of Foreign Direct Investment in The GATT frame work in which Uruguay round and FDI-GATS, TRIMS and TRIPs. In this he has give the setting for WTO Negotiations , Issues and Recommendations
9. Manee V(20) The author has attempted to study Indian Foreign Trade Policy in relation to World Trade organization in the context of globalization. World Trade organization came into existence in January 1995; since then India has been its member country. He discussed that Quantitative Restriction (QR) imports are currently being maintained on balance of payment grounds for around more than twoo thousand tariff lines at the eight digit level. The agreement on trade related Intellectual property rights (TRIPS) establishes certain minimum standards concerning the availability, scope and use of Intellectual Property Rights (IPR) India has agreed to amend its domestic laws in line with these obligations, under the Agreements of Trade Related Investment Measures (TRIM's) India has already notified the TRIMS maintained by it. Since 1995, the trade policy reforms in India have been I tune with the commitments to the WTO. However, India's trade policy reforms have not been thoroughly influenced by WTO but these reforms guided by the provisions of the WTO. In the period of globalization, India's foreign Trade Policies have undergone many changes. There are three major features of trade policy reforms in the process of globalizing Indian economy these are dismantling QR's reducing tariffs, and exchange rate flexibility.
10. Hooda S (2011) has examined inflows of FDI in India since 1948 to 2010 so as to view trends and patterns of FDI inflow, assess the determinates of FDI inflow and examine impact of flow of FDI on Indian Economy. She analyzed the data with simple regression technique and model given by her shows growth pattern of different segment of Indian economy.
11. Dunning J (2001) studied an Eclectic Paradigm of International production in mid-1950 to 2001. He concluded that Eclectic Paradigm is still a powerful and robust framework to examine contextual specific theories on FDI and International production. He expressed that it is in appropriate to compare merits and demerits of Eclectic Paradigm with that of Internationalization and other theories of the firm.
12. Mirchandani A (2013), In this paper Researcher has been carried out in order to investigate various macroeconomic variables leading to acute variations in the exchange rate of a currency. She studied that the Foreign Exchange Market in India has undergone substantial changes over last decade. It is imperative by the excessive volatility of Indian Rupee causing its depreciation against major dominating currencies in international market. Researcher has made to review the probable reasons for the depreciation of the Rupee and analyze different macroeconomic determinants that have impact on the volatility of exchange rate and their extent of correlation with the same.

II

Performance requirement			
Export performance requirement	Export	Volume of export	EX
Technology transfer requirements	Joint ventures	No of M&A in Manufacturing sector	M&A
	R&D	**Expenditure in R&D *Rs Million***	R&D
Foreign exchange balancing requirements	Liquidity Position	**foreign exchange reserve *Rs Million***	FOREX
	Exchange Rate	Real exchange rate	EXR
Trade balancing requirements	Balance of Payment	Current account balance(% of GDP)	BOP
	External debt position	Debt/Export	DET/EX
Local content requirements	Protection of infant industry	Number of SSI units in million	SSI
	Employment	Number of Employment in Public and private (No millions)	EMPL
TRIMs Agreement	Membership of WTO	WTO(dummy)	WTO
Performance requirement			
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It has been observed that TRIMs are more frequently used by developing countries than developed countries. It is because most infant industries in developing countries are not well prepared to compete in the world market, it is essential for developing countries to use TRIMs to protect their local industries during the transitional period. Moreover, TRIMs encouraged joint venture requirements, allow local enterprises to take advantage during the transitional period to learn from foreign subsidiaries and to enhance their competitiveness by cooperating with foreign subsidiaries. There are glaring examples of TRIMs that are commonly used, which are as under:

Local Content Requirements (LCRs)

It is one of the commonly used measures the local content requirements (LCRs). They are accepted government policies in developing countries to regulate FDI. Foreign investors are required to utilize a certain amount of local parts and components in their production. By regulating the multinational enterprises to use local resources and factor inputs, employment which support the local industries of the host countries to boost investment.

In addition, governments also require the multinational enterprises for technology transfer to the local industries so as to maintain the quality of the finished products. Imposing LCRs consolidates the positive impacts of FDI on employment opportunities and up and about the level of technological in the host countries investment.

Under these requirements, foreign subsidiaries are required to buy a proportion of resources from local suppliers. So in the meantime, foreign subsidiaries also gain under the local content requirements. In order to become the providers of resources to the foreign subsidiaries, the local suppliers will compete against each other by lowering the sales prices.

H1: Positive flow of FDI protects small scale Unit

H2: The higher a host country's international competitiveness indicated by employment in public and private sectors can attracts positive the foreign investment inflows.

Export performance requirements (EPRs)

These requirements are the limitations on the sales of products in home market, that is, a certain proportion of production should be set for export. Countries with aims of export-led growth have the tendency to enforce EPRs on foreign investors because these regulations help the penetration of domestic products to overseas markets, fitting well with the development objectives of the host countries.

H3: FDI has substantially provided vital boost to the export performance during the period.

Foreign Exchange Balancing Requirements

Another type of TRIMs that protects the interests of the host countries is the foreign exchange balancing requirements. These requirements intend to link the imported level of a foreign firm to the value of its exports in order to maintain a net foreign exchange earnings. This measure is similar to exchange control under which the amount of foreign currencies available to multinational enterprises is limited by the performance of their exports.

Having presence of these requirements, foreign subsidiaries cannot import goods as much as they want. Governments can also directly limit the domestic sales of home currency to foreign currencies, thus preventing the adverse effects on foreign exchange reserves and reducing the possibility of provisional attacks. Countries are commonly using these measures to maintain a stable balance of payments for this reason.

H4: Currency depreciation, there is mixed evidence on the impact of depreciation of real exchange rate of host country currency on FDI inflows

H5: Rising Foreign Exchange Reserves has positive impact on FDI flows in the host country.

Trade Balancing Requirements

Trade balancing requirements is another type of performance requirements that limit the amounts of imported products purchased or used by foreign enterprises which are located in host countries and require the foreign enterprises to export a certain amount of their finished products. Trade balancing requirements can ensure that imports coming in would not be more than exports going out to avoid potentially serious balance of payments deficits in host countries. The preventative measure of balance of payments crisis is an incentive for governments to use this type of TRIMs.

H6: Lower the level of a host country's external debt obligations relative to its output or export revenues, the higher is its creditworthiness, which may lead to the higher the foreign investment inflows.

Technology Transfer Requirements

Foreign investors are required to share new technologies and researches with local researchers, government agencies, businesses or local communities. The aim is clear that the governments want to improve the technological level of the host countries. These requirements restrict specified technologies to be transferred and/or specific levels and types of research and development (R & D) to be conducted locally.

Joint Venture Requirements

The objective of these requirements is to facilitate local partners achieve more technology transfer through the cooperation with foreign investors. On the other hand, these requirements also benefit the foreign investors. The host countries try to limit foreign ownerships of the firms located in home countries and influence the activities of foreign investors by requiring them to take on local partners in joint venture rather than to own the whole firm. Foreign investors can acquire the location-specific knowledge regarding the host-country market without any costs with the help of their local partners, In this the local partners can also support them establish backward linkages to the domestic industrial base. So, foreign investors can access the local market and input suppliers more easily.

H7: Higher the Technology Transfer, that Increase M&A, R&D which may lead to higher the foreign investment flow.

III.
Methodology, Model Building and data analysis

Data and Methodology

Data for the study was obtained from secondary sources, such as Handbook of Statistics on Indian Economy (various issues), Reserve Bank of India various Bulletin, Economic Survey, Government of India, various issues, Department of Industrial Policy and Promotion (DIPP) Secretariat of Industrial Assistance (SIA) (Various issues of SIA new letters),Central Statistical Organization (CSO). The time period taken for the study is from 1991 to 2010 because the economic liberalization was initiated in India from 1991 onwards.

Model Specification

This researcher has attempted to apply Ordinary Least Square (OLS) method for the estimation. In order to capture the effect of Trade Related Investment Measures on Foreign Direct Investment, a multiple regression model is used. The natural log transformations for some exploratory variable like FDI, FOREX, R&D and M&A of these models are fitted and specified. The prime objective of generating natural log transformation regression equations (i.e. log to the base 10) is to determine the degree of sensitivity of the dependent variable to change in the explanatory variables.

The model Specified as:

$Y= a_0 +b_1x+b_2x2+b_3x3\ldots\ldots.+u$

The functional Relationship between dependent and exploratory variables are:

FDI = f(FOREX, EXR, DET/EX, R&D, M&A, BOP,EMPL, WTO, EX, SSI)……(1)

$In\ FDI = \beta + \beta_1\ In\ FOREX + \beta_2\ EXR + \beta_3\ IDET/EX + \beta_4\ In\ R\&D + \beta_5\ In\ M\&A + \beta_6\ In$

$BOP+\beta_7\ EMPL+ \beta_8\ WTO + \beta_9\ In\ EX+ \beta_{10}\ In\ SSI + U \quad \ldots\ldots\ldots \quad (2)$

Result and Discussion

The Coefficient of Exploratory variables are given in Table-2 shows that there a positive relationship between EXR, DET/EX,R&D,M&A, Employment, WTO, Export and SSI Except BOP. BOP (Current Account Balance) has negative Relationship with FDI.

The R^2 is used to measure the reliability of the model specified. Table

-2 shows that the value of R^2 is 0.97, which implies that 97% change in FDI is caused by exploratory variables.

Table 1 ANNOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.103	10	1.010	38.256	.000[b]
Residual	.238	9	.026		
Total	10.341	19			

Standard error measures the size of the error of the estimate while establishing a degree of confidence in their variability. Theory states that for a estimate to be significant, the standard error of its coefficient must be less than half the value of the coefficient. The result reveals the standard error of FOREX(1.335), EXR(0.24), DET/EX(0.310), M&A(0.94), BOP(0.84), EMPL(0.79), WTO(0.321), Ex(0.008), SSI(0.11) and R&D(2.7) Approx, are half the value of the coefficient , this means Exploratory variable are statistically significant in determining variation in FDI.

F-Statistic measures the overall significance of the explanatory variable in a specified model. Table1 shows the value of F statistics (38.258) is 0.0000, which is less than 0.01, this means that all exploratory variables are significant in explain changes in FDI. The Durbin-Watson test is used to detect the presence of autocorrelation and serial

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	24.714	4.966		4.977	.001
In FOREX	4.493	1.335	3.034	3.366	.008
EXR	.110	.024	1.008	4.635	.001
DET/EX	.663	.310	1.158	2.138	.061
In R&D	11.503	2.724	3.229	4.223	.002
In M&A	3.876	.947	.499	4.094	.003
BOP	-.354	.084	-.579	-4.219	.002
EMPL	.290	.079	.713	3.661	.005
WTO	.760	.321	.423	2.368	.042
EX	.009	.008	.076	1.131	.045
SSI	.062	.011	1.132	5.657	.000
a. Predictors: (Constant), SSI, EX, EMPL,GDP, WTO, M&A, EXR, In FOREX, DET/EX, R&D b. FDI					

correlation in residuals from statistical regression analysis (Durbin and Watson, 1950).

Table-2 Model Summary b		
R		.988[a]
R Square		0.977
Adjusted R Square		0.951
Std. Error of the Estimate		0.16251
Change Statistics	R Square Change	0.977
	F Change	38.256
	df1	10
	df2	9
	Sig. F Change	0
Durbin-Watson		2.194

Table 2 shows that the value of D-W statistic is 2.1 since the value is closer to 2, it means that the chances of autocorrelation is low in the model.

Conclusion:

It can be safely concluded for a country like India that variables measured to affect FDI flows are statistically significant. The empirical results of Determinants of FDI inflows in India shows that, Foreign Exchange Reserves, foreign Exchange rate, No of M&A, Expenditure on R&D, Employment, SSI units, exhibit a positive relationship with FDI while Balance Of Payment has negative relationship with FDI inflows in the country during the period 1991-2010,

FDI is highly welcome for capital-deficit like India. Government of India should go in for liberalized FDI –led investment policy in India. This is proved by testing of the hypotheses in this study. Management of public and private sector invite FDI in needy sectors. Moreover, FDI is highly useful for generation of exportable surplus, foreign exchange reserves, employment and higher rate of growth on competitive basis. This is proved by relationship of variables substantially affecting FDI. The experiments and experiences of many countries witness about this as mentioned in review of this study. India fulfills required condition of TRIMs.

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