Make In India Vision Heading Towards Reality - An Empirical Study

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Abstract: Indian economy is passing through the transformation phase and still manufacturing sector’s contribution in the national total GDP is quite low as compared to developing peer economies. The Prime Minister of India has called for make in India to revive the country’s economy. Foreign direct investment (FDI) plays a key role in processes of reviving economy. There are many factors which may impact the capital inflows into the country i.e. GDP, lower labor cost, ease of doing business, global competitive index, inflation etc. The present study aims to cover the various key factors affecting the foreign direct investment (FDI) coming to the country. This paper includes analysis of various variables empirically through various tools like OLS Regression analysis, Unit root test, Granger Causality test and ARDL approach for long run relationship among the important variables. Global competitive Index (GCI) and Ease of Doing Business (EDB) are such factors which are found significant and need to be addressed seriously to make India a global manufacturing hub.

Keywords: FDI, GDP, global competitive index, Ease of doing business, ARDL, Granger causality.

I. INTRODUCTION:

Make in India is the priority drive of government of India to revive the in-house manufacturing industries as preferred hub around the globe to create high quality products and to set up factories to generate jobs to boost the economy with a mission of manufacturing in India and sell the products worldwide. This drive to stimulate the foreign investors to invest into the key sectors of Indian economy with the aim of first develop India. The government has distinguished twenty-five key sectors which has great potential to make India top destination for foreign direct investment (FDI). These sectors are identified as automobiles, automobile components, aviation, biotechnology, chemicals, construction, defense manufacturing, electrical machinery, electronic system, food processing, IT and Business Process Management (BPM), leather, mining, media and entertainment, oil and gas, pharmaceuticals, port and shipping, railways, renewable energy, roads and highways, space, textiles and garments, thermal power, tourism and hospitality and wellness. Initiatives have been taken to target the companies across the world to push the FDI inflows aims to transform the economy from service-driven growth to manufacturing driven growth liberalizing key identified sectors. Major Regulatory reforms and modification process are being consider to reduce the investor’s burden of compliance.

CURRENT SCENARIO:

The manufacturing sector of India had been potential industry running under the political lacking and regulatory incompetence. Despite of these obstacles manufacturing sector grown almost at the same rate of growth of the national economy during last two decades. Manufacturing sector’s contribution to Gross Domestic Product (GDP) has grown from 1.2 percent to 2.5 percent while share of global manufacturing has grown 0.9 percent to 2.0 percent during last two decades, (World Bank) while Contribution of manufacturing sectors were 15 percent of national GDP in 1993. Pace of contribution today remained almost same as it was in 1993 while other developing economies shares increase to more than 25 percent of their national GDP particularly some Asian developing economies like Indonesia (24%), Malaysia (24%), Philippines (31%), China (32%) and Thailand (34%).

Indian economies has emerged one of the most favored FDI destination to enabled India a manufacturing hub. Majumdar, B S and Nag, R N (2015) found FDI one of the key component of capital inflow. Presently India is among top ten country to attract highest FDI during 2014. However it declined one place to 7th for the most promising investment destination for the period 2014-15. Developing economy inflows accounts for 55 percent of global FDI inflow. India ranked 9th among top twenty host economy of the world in 2014 with 22 percent rise in FDI inflows from $28 billion to $34 billion in 2014 and ranked 5th host economy among developing countries, (UNCTAD). Although India remain the only BRIC (Brazil, Russia, India and China) country who still unable to cross the $50 billion a year FDI inflows. According to UNCTAD china again emerged as number one FDI recipient of the world.
in 2014. There is road ahead for India to become most favored FDI destination. The present study will try to find the most important factors which play the crucial role in determining the most favorite FDI destination.

II. LITERATURE REVIEW:
Foreign direct investment is being one of important source of financing and investment among developing countries. Cross border capital flows accounted for by the FDI has been on rising in developing countries as largest type of capital inflows. FDI associate with financial and product markets through technological advancement, managerial techniques, labor market integration surrounded by regulatory revision, privatization and globalization to attract FDI. The FDI inflow was seen with doubts before 1980s by most of the developing economies but later on from early 1990s it has been considered as one of most source of economic growth resulted in sharp increase in inflows.

Although it is still low which requires the monitoring of inflows to find the factors determining a sound FDI inflow. Recent trend still shows FDI inflows focusing mostly service sectors (Jana et al. 2020, Mandal 2016). Some of the recent literature shows decrease in corporate tax and improvement in infrastructure may boost FDI inflows in SAARC countries (Rai and Sharma 2020). Nishant Ghuge (2020) found facilities to ease land procurement, labour laws, cheap power tariffs, and cheap transport attracts FDI. Khurana et al., 2020 also found Lean production, sustainable manufacturing major factors attracting FDI. Its need for the policymakers to channelize the inward-FDI into tradable goods Jena et al. 2020. FDI inflow depends upon the return on investments and the factors affecting the investments which may be size of the market, labour cost, infrastructure, ease of doing business, human capital, exchange rate, governance etc. thus here we are classifying the literature based on these factors.

MARKET SIZE:
The main objective of an investor is to grab the market of the country in which they are intended to invest. The investors wish to invest into large market in which they may be able to produce and sell the product. Large market size providing huge opportunity of sale and profitability to FDI investors (Pfefferman and Madarassy 1992). Many studies found market size as one of the major determinant of FDI inflows Jyoti Gupta 2018, Shiba Shankar Pattayat 2016, Bhasin and Manocha 2016, Iqbal 2018). That is the reason china being become the most desired place for the investors (Barry Eichengreen Hui Tong.2006). Although there are some studies which shows market size factor may differ under different condition Loree and Guisinger (1995) and Wei (2000). According to C Rodriguez et al. 2009. The FDI inflows was linked with the market size but the potential of attracting investment was below average. Although the study cannot underestimate the impacts of market size on FDI. Thus we can assume that the large market size economy should attract more FDI inflows. Many empirical study consider Market size as one of the important factor influencing FDI measured by GDP, size of middle class consumer and the per capita income (Armstrong2009; Adhikary and Mengistu2008).

GROWTH PROSPECTS:
It is absorbed that the country having large and lower volatile growth rate along with market size attracts more FDI inflows in comparison to high volatile economy. Many studies found the significant impact of growth rate on FDI inflows (Durham.2004 and Fan et al. (2007). Elian et, al. (2020) found significant flow between the GDP growth and FDI inflows for India. Sengupta and Puri 2018 also find instrumental in enhancing the economic growth. One of the reason of china’s emergence as top FDI destination was its higher and sustainable growth rate (Fan et al. (2007). Although Chakraborty et.al. (2002) studied the relationship between FDI and Indian GDP by using econometric tools like cointegration and error correction model and found equilibrium relationship between GDP and FDI inflow. The prospect of growth generally measured by GDP growth rates.

MARKET OPENNESS:
When we talk about the market openness, it means promoting the international trade linkage between domestic market with the global market and for this purpose a country need to liberalize the trade barriers and restriction to provide scale of economy and environment similar to the targeted foreign investors groups. UNCTAD (2009), Shagufta (2019), Shalini (2020) etc. clearly speaks about the positive influence of trade openness over the export-oriented FDI inflow into an economy. Many empirical studies have used various measures as proxy of trade openness. Total trade volume as percentage of GDP were used as proxy of trade openness, World Bank (1993) and Yanikkaya (2003) while Sin and Leung (2001) and Moosa and Cardak (2006) use partial trade measures like ‘export as a percentage of GDP”.

SKILLED LABOUR COST:
Comparative cost theory of international trade become very important factor for attracting the FDI inflows. Companies wish to establish their business at the place where cost of production is lowest and this cost of production include cheap raw material and cheaper skilled labour cost and its availability to produce the less cost product to sell worldwide. The better example of this is China where almost all prominent companies have their assembling and production center from around the world and this way China has occupied a very significant place in manufacturing world. There are various studies which shows the positive impact of labour cost on FDI inflows Wheeler and Mody (1992) and Loree and Guisinger (1995). Bhattacharai and Negi 2020 found cheap wages one of the significant determent of FDI. NshantGhuge2020 suggest the need of changes in labor laws to make labor cost effective. Whereas, there are also some studies which shows that higher labour cost may associated with skilled labour which will fetch quality product (Zhao and Zhu2000). Although cheap labour cost is desirable for attracting the FDI inflows and it is proved by the today’s status of China being a top preferred FDI destination in Asia.
INFRASTRUCTURE:  
Infrastructure includes buildings, Roads, Railways, electricity, Water and air transportation, telecommunication and other required facilities to facilitate the business to run smoothly. It has direct impact on cost of production which enhances effectiveness of labor in reducing cost of production (Wheeler and Mody 1992). Study found poor infrastructure as one of the major hurdle in attracting FDI inflows, Tripathi and Jain (2016). Studies also found that bad infrastructure affect the productivity of a firm which in turn affects the FDI inflow, Sachs et al. (2004). Thus improvement in infrastructure may boost FDI inflows Rai and Sharma (2020) and country with better infrastructure would attract larger volume of FDI. India witnessed huge growth in FDI in some sectors due to make in India efforts (Mir 2017). There are many studies which shows the positive impact of infrastructure on FDI inflows (Zhang 2001, Asiedu 2002; Kok and Ersoy 2009) etc.

EXCHANGE RATE:  
The exchange rate is one of the important factors affecting FDI Pattayat (2016), Khandare (2016), Goel (2017), Latif (2018), as an investors may have benefit of lower price in host country due to lower exchange rate attracting higher FDI inflows, Ramirez (2006). Yuqing Xing (2006) examined the exchange rate effects on China’s FDI inflows in the context of Japanese FDI selecting nine Chinese manufacturing sectors from 1981 to 2002 and found that devaluation of Yuan as well as policies regarding Yuan to Dollar enhanced China’s competitiveness and real exchange rate between Yuan and Yen plays important role in determination of FDI from Japan. In contrast, if exchange rate of host country is high then it will affect the flow of FDI adversely and the investors may opt to produce the good at their desired place or in home country. In that sense higher exchange rate works as a barrier for the FDI inflows (Walsh and Yu 2010).

EASE OF DOING BUSINESS (EDB):  
Institutions are one of the factor among important factors affecting FDI inflows. Institutions include the government machinery, political effectiveness, regulatory framework, bureaucratic hurdles and red tape, judicial transparency, and the corruption. A Supportive political environment and better governance is linked with the higher economic growth that leads to higher FDI inflow acting as one of the important determinant of FDI level in the home country, (K Piwonski 2010 Hassan and basit 2018). Singh Anjali 2018 found positive effort of make in India project for recent ranking ease of doing business in India important for FDI inflows. Political uncertainty and governance failure make the investors to feel insecure to do good business and as result less attraction for FDI inflow (Walsh and Yu 2010). Wheeler and Mody (1992) Observed in their research that the regulatory framework, red tape and bureaucratic hurdles, judicial transparency have the impact whereas extent of corruption in the host country is insignificant.

INFLATION RATE:  
Inflation is also a crucial factor which influence the country economy to a large extent and when country economy is affected then it has the effect over FDI inflow also. So Inflation can also be included as an important determining factor. Saleem et al. 2013, Goel (2017) found positive relationship between inflation and foreign direct investment (FDI). Although Omankhanlen A.E. (2011) found in his study that Inflation has no effect on FDI. Niazi et al. 2011 also found relationship between inflation and change in FDI insignificant.

III. RESEARCH METHODOLOGY AND ANALYSIS:  
Data Sources, Model Specification, and Methodology: We have used secondary data taken various Centers like World Bank, Reserve Bank of India and Labor bureau of India, National Stock Exchange NSE, and many others based on the availability of data for this study. We have collected 26 year data for the study. Period of the study covers from 1990 to 2015. While we have included some variable having only 6-8 years of data available through all sources, due to its importance in deciding the effects on foreign direct investments, we used them as one of important variables. Before deriving long-run determinants of FDI by using appropriate methodology, we conducted unit root and co-integration test. Our analysis is based on the following factors model:

Model Specification:
\[ \text{LN(FDI)}_t = \alpha + \beta_1 \text{LN(GDP)}_t + \beta_2 \text{OMI}_t + \beta_3 \text{GCI}_t + \beta_4 \text{RER}_t + \beta_5 \text{LABC}_t + \beta_6 \text{INFL}_t + \beta_8 \text{EDB}_t + \epsilon_t \]

FDI = Foreign direct investment inflow  
RER = Real exchange rate  
LABC = Labour cost  
EDB = Ease of doing business  
GDP = Gross Domestic Product(real)  
OMI = Market openness index  
GCI = Global Competitiveness Index

Unit Root Test through ADF:  
Stationarity of the time series data has to be checked for before going for any econometric techniques used for analysis. We have checked these properties of our variables by using ADF unit root test. The Augmented Dickey Fuller or ADF test (1981) is based on the following regression:

\[ \Delta X_t = \alpha_0 + \alpha_1 t + \beta X_{t-1} + \sum_{j=1}^{k} \gamma_j \Delta X_{t-j} + \epsilon_t \]

Here “\( \Delta \)” denotes the difference operator and \( \epsilon_t \) is random error (Stationary). The null hypothesis is that \( X_t \) is non-stationary series, and rejected when \( \beta \) is found significantly negative one. The “constant and the trend” terms are reserved as long as significantly different from zero. The optimum number of lags “\( k \)” is determined by minimum Akaike Information Criterion (AIC).
Granger Causality Test:
Following Granger (1969), an economic time series “Y_t” said to be ‘Granger-caused’ by alternative variable “X_t” if the evidence in the past and present of X_t leads to improve the forecasts of the variable Y_t. The conventional Granger causality comprises specifying a bi-variate pth order VAR as below:
\[ y_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i y_{t-i} + \sum_{i=1}^{p} \beta_i X_{t-i} + \mu_t \]
\[ x_t = \mu_0 + \sum_{i=1}^{p-1} \mu_i y_{t-i} + \sum_{j=1}^{p} \gamma_j X_{t-j} + \nu_t \]
Where $\alpha_0$ and $\mu_0$ are persistent drifts, $\mu_t$ and $\nu_t$ are the error term and more generally used.

ARDL Co-integration:
In the Estimation Procedure used in the ARDL model for defining the long-run association, Pesaran et al. (1997, 2001) developed the ARDL method. This procedure is a good procedure to use for stationary variables as well as for a mixture of I(0) and I(1) variables. The existence of the long-run relationship is confirmed with the help of an F-test that tests that the coefficients of all explanatory variables are jointly different from zero which is the second step in exploring the long-run determinants of FDI. The usual critical values are applicable for the F-test when all variables are I(0). Though, we take the different and upper critical values (Pesaran and Shin 1998) when all or some of the variables are I(1).
The augmented autoregressive distributed lag (ADRL) equation would be as below:
\[ \alpha(L)y_t = \mu_0 + \sum_{j=1}^{k} \beta_j(L)X_{it} + \mu_t \]
Where $\alpha(L) = \alpha_0 + \alpha_1 L + \alpha_2 L^2 + \ldots + \alpha_L L^L$
And $\beta_j(L) = \beta_0 + \beta_1 L + \beta_2 L^2 + \ldots + \beta_j L^j$
Where $\mu_0$ is a constant,
y_t is the dependent variable, and
L is the Lag operator such that $L^L x_t = x_{t-L}$.
In the long term equilibrium, $y_t = y_{t-1} = y_{t-2} = \ldots = y_0$ and $x_{it} = x_{it-1} = x_{it-2} = \ldots = x_{i0}$

We developed the below long-run relation for Solving ‘y’:
\[ y = a + \sum_{i=1}^{k} b_i x_i + \gamma_t \]
\[ a = \frac{\mu_0}{\alpha_0 + \alpha_1 + \ldots + \alpha_L} \]
\[ b_i = \frac{\beta_{i0} + \beta_{i1} + \beta_{i2} + \ldots + \beta_{it}}{\alpha_0 + \alpha_1 + \alpha_2 + \ldots + \alpha_L} \]
\[ \gamma_t = \frac{\mu_t}{\alpha_0 + \alpha_1 + \alpha_2 + \ldots + \alpha_n} \]

The error correction (EC) representation of the ARDL method can be written as follows:
\[ \Delta y_t = \Delta y_0 - \sum_{j=2}^{p} \hat{\alpha}_j \Delta y_{t-j} + \sum_{i=1}^{k} \beta_{i0} \Delta X_{it} - \sum_{i=1}^{k} \sum_{j=2}^{p} \beta_{i,j} \Delta X_{it} - a(1,p)ECM_{t-1} + \mu_t \]
Where
\[ ECM_t = y_t - \hat{\alpha} - \sum_{i=1}^{k} \hat{\beta}_{i0} \Delta X_{it} \]

“$\Delta$” is the first change operator, $\alpha_i$, $t-j$ and $\beta_{ij}$, $t-j$ are the coefficients estimated through above Equation and $a(1,p)$ processes adjustment speed. For estimating the long-run relationship, a two-step procedure is used. First step, we examine the existence of a long-run relationship predicted by theory. In the second stage, the short- and long-run parameters are estimated if in the first step the long-run relationship is established.
Analysis Results and Discussion:
OLS Regression table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-627998.2</td>
<td>218523.2</td>
<td>-2.873828</td>
<td>0.0639</td>
</tr>
<tr>
<td>GDP</td>
<td>-20.07135</td>
<td>14.52242</td>
<td>-1.382093</td>
<td>0.2609</td>
</tr>
<tr>
<td>GCI</td>
<td>109234.7</td>
<td>44390.18</td>
<td>2.460785</td>
<td>0.0908</td>
</tr>
<tr>
<td>RER</td>
<td>688.4389</td>
<td>489.2021</td>
<td>1.407269</td>
<td>0.2541</td>
</tr>
<tr>
<td>EDB</td>
<td>1409.682</td>
<td>588.3408</td>
<td>2.396030</td>
<td>0.0962</td>
</tr>
</tbody>
</table>

For regression analysis, FDI was used as dependent variable and the other variable such as Gross domestic product, Global competitive index, real exchange rate and ease of doing business were considered as independent variable. From the OLS regression analysis, It was found that GDP is insignificant in determining the FDI inflow whereas Global competitive index (GCI) and Ease of doing business (EDB) was found to be significant at 10 percent significant level and have the capacity to influence the level of FDI inflow to a great extent whereas real exchange rate was found to be insignificant to affect the FDI inflow. R square value was found to be 84 % which shows that alone GCI and EDB is able to affect FDI inflow to a large extent.

Unit root test: For testing the stationarity of the data Augmented Dickey-Fuller Test was used. Time series data which were FDI inflow, GDP, GDP growth rate and Inflation rate were found to be stationary at first difference which pave the way to use time series model like ARDL and Granger causality test for the same time series data.

Granger Causality test:
Pairwise Granger Causality: Tests results are shown in the below table:

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP does not Granger Cause FDI</td>
<td>24</td>
<td>8.11865</td>
<td>0.0028</td>
<td>Unidirectional causality</td>
</tr>
<tr>
<td>FDI does not Granger Cause GDP</td>
<td></td>
<td>1.20227</td>
<td>0.3224</td>
<td>No causality</td>
</tr>
<tr>
<td>GDPG does not Granger Cause FDI</td>
<td>24</td>
<td>4.30756</td>
<td>0.0287</td>
<td>Unidirectional causality</td>
</tr>
<tr>
<td>FDI does not Granger Cause GDPG</td>
<td></td>
<td>0.72349</td>
<td>0.4979</td>
<td>No causality</td>
</tr>
<tr>
<td>INFL does not Granger Cause FDI</td>
<td>24</td>
<td>0.74286</td>
<td>0.4891</td>
<td>No causality</td>
</tr>
<tr>
<td>FDI does not Granger Cause INFL</td>
<td></td>
<td>0.79569</td>
<td>0.4657</td>
<td>No causality</td>
</tr>
<tr>
<td>GDPG does not Granger Cause GDP</td>
<td>24</td>
<td>1.13144</td>
<td>0.3434</td>
<td>No causality</td>
</tr>
<tr>
<td>GDP does not Granger Cause GDPG</td>
<td></td>
<td>0.74906</td>
<td>0.4863</td>
<td>No causality</td>
</tr>
<tr>
<td>INFL does not Granger Cause GDP</td>
<td>24</td>
<td>1.05514</td>
<td>0.3677</td>
<td>No causality</td>
</tr>
<tr>
<td>GDP does not Granger Cause INFL</td>
<td></td>
<td>0.16455</td>
<td>0.8495</td>
<td>No causality</td>
</tr>
<tr>
<td>INFL does not Granger Cause GDPG</td>
<td>24</td>
<td>3.26037</td>
<td>0.0606</td>
<td>No causality</td>
</tr>
<tr>
<td>GDPG does not Granger Cause INFL</td>
<td></td>
<td>2.57372</td>
<td>0.1025</td>
<td>No causality</td>
</tr>
</tbody>
</table>

From the above table it is clear that GDP have the unidirectional relationship and it causes the FDI inflow whereas GDP growth rate was also found having unidirectional relationship and it also causes the FDI inflow.

Long Run Relationship through ARDL Result: Autoregressive Distributed Lag Models is used for co-integration test since the data range is small (less than 40 observation) and it was found that 3 lag was most suitable to run the model since at this level SIC=19.85876 and AIC=19.01568 value was found to be lowest one. Then the model was also cross checked by the residual test to know whether all the precondition such as serial correlation along with stability condition is established by the model. The null hypothesis under the Breusch-Godfrey Serial Correlation LM Test is rejected and it was found that no serial correlation is there in the model. Stability in the model was tested through CUSUM test. Wald test shows that chi-square value is significant and F-Value is 13.05779 and significant. F-value is then compared with the Pesaran critical value at 5% level of significance. When compared with Pesaran table, the lower and upper bound value are 4.95 and 5.73 respectively and therefore observed F-value is greater than...
the upper bound value which is 5.73 at 5% significant value. So we observed long run relationship among four time series variables. And our null hypothesis of $C(14) = (C15) = (C16) = (C17) = 0$ is rejected. It was also found that ECT(-1) coefficient is with negative sign and found to be significant which again established theory that the model would get back to the long run equilibrium at the speed of 185%.

IV. CONCLUSION:

The study is obviously understandable that make in India is the need of the hour to revive the domestic manufacturing industries to make India as global hub of manufacturing, quality products, to create huge jobs, to boost the economy to cope with the pace of global economy. To fulfill the objectives of the campaign on “make in India” India needs to stimulate the investors across the globe especially through foreign Direct Investments among the key sectors of the Indian economy. The inflows of Foreign direct investment into India depends upon many influencing factors. This paper tries to examined the factors which may directly or indirectly influence the investors decision whether to invest or not. From the existing literature, various factors which may affect the FDI inflow were identified and were used in the analysis for this study. From the OLS regression it was found that the GCI (Global competitive Index) and EDB (Ease of Doing Business) have significant impact of the FDI inflow. We have analyzed the data empirically by using unit root test for testing the data stationarity and were found stationary at first difference, Granger causality test was employed to know the causal relationship among the variable and it was found that GDP and FDI inflow have unidirectional relationship where GDP was found to be causing factor. Apart from this GDP growth rate also show the unidirectional relationship and it was found to be causing factor. We also examining the long run relationship among the FDI, GDP, GDP growth rate and Inflation and it was found that there is existence of long term cointegration relationship among variables. Finally study found that infrastructure facilities, good governance, institutions and regulatory effectiveness which comes under ease of doing business (EDB) and GCI (Global Competitive Index) are the key factor affecting the FDI inflows.

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