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DOMESTIC CAPITAL VS. FOREIGN CAPITAL NEW ENTERPRISE CREATION: THE CASE OF FDI IN INDIA

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Abstract

The attempt of this paper is to find an empirical relationship between Foreign Direct Investment and New Firms (Paid up Capital) and Gross Capital Formation (proxy for business growth) and Credit to Commercial Sector and Gross Capital Formation using the test of stationarity (ADF, PP, and KPSS methods), Johansen Cointegration and Granger's Causality. The results show that FDI crowds out creation of new firms and capital formation and it is the Credit flow to the commercial sector that causes Gross Capital Formation at current price. It shows domestic flow of credit is more influential in capital formation rather than foreign capital inflow.

JEL classification: E22

Keywords: Foreign Direct Investment; Gross Capital Formation; Commercial Sector; Savings-Investment Gap; Paid-Up Capital

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Introduction

India has liberalized the foreign direct investment (FDI) regime for rapid increase in economic growth, industrialization, creation of employment and growth of income, from 1991. For a developing country, FDI not only helps in bridging the saving-investment gap, but also brings in the technology, new managerial techniques, improvises marketing techniques, capital formation, boosts exports, enhances competition in the domestic market, increases the quality of human capital, promotes research and development, structural changes and has other spillover effects (Romer, 1993). FDI brings about increase in the total factor productivity of inputs (Rappaport, 2000). FDI is desirable because it ushers technical progress through introducing advanced technology and competitive management practices emulated by domestic firms (Findlay, 1978). The neoclassical growth model assumes that increase in knowledge is embodied in the production function attributed to foreign direct investment (Wang, 1990). However, most companies start by serving a new market via exports, before investing in it, via FDI. With the liberalization of the Indian economy, there was a boost in companies willing to export their products to India, and eventually, in investing in it, via FDI (Conconi et al., 2016).

Through the new firm entry, it is possible to have an insight into the spillover effects of FDI and how domestic entrepreneurship is enhanced through innovation and it is also possible to exploit new opportunities to generate employment and income (Markusen & Venables, 1999) and thereby reaching the main objective of achieving GDP growth (Baumol & Strom, 2007; Minniti & Levesque, 2010). Findlay (1978) wrote that when the foreign direct investment increases, it boosts new technology creation and its multiplier effect on the domestic economy is seen, as well as the new innovative business practices used by the foreign firms. Wang (1990) says that according to neoclassical growth model, knowledge is part of the production function attributed to foreign direct investment.

However, there is literature and empirical finding that FDI crowds out capital formation and new enterprise creation. It is also important for a country to achieve a threshold level of development and undergo appropriate reforms in terms of ease of doing business in order to assimilate and realize the benefits of FDI for economic growth. It is equally important that in an era of globalization, the external shocks do not destabilize the domestic economy (Christopherson et al., 2010). One of the advantages for domestic economies is that foreign direct investment helps it to tide over the external crises and shocks (Mata & Freitas, 2012; Phelps et al., 2003). It is important to have the capability of the domestic entrepreneurship to help the home economy bounce back (Martin, 2012; Martin & Sunley, 2014). The domestic entrepreneurship needs to be resilient to absorb the shock of external crises (Huggins & Thompson, 2015). The more robust the influence of FDI, the greater will be the birth rate of new firms than the death rate, and the recovery of the economy will be easy and rapid (Thompson & Wenyu, 2014).

Using the Augmented Dickey-Fuller test and non-parametric tests, we attempt to study whether foreign direct investments influence new enterprise formation (paid-up capital) at current prices, gross capital formation at current prices and if the gross capital formation is affected by credit to the commercial sector. The article starts with the literature survey and the attractiveness of the country for FDI, followed by the analysis of the data and the testing of the hypotheses and the conclusions of the study. Even though India ranks second next to China in attracting FDI, such investments do not help in gross capital or new enterprise formation and credit to the commercial sector mainly helps in domestic investments which are inhibited by foreign ones.

Literature survey

The dynamism of the modern economy is essential in creating entrepreneurship, the more the addition of new firms, more will be the competition, productivity and innovation (Klapper et al., 2006). Entrepreneurship is defined as the activities of an individual or a group, initiating an economic enterprise in the formal sector, under a legal form of business (Klapper & Love, 2011).

In order to understand the relationship between FDI inflows and domestic investment, it is necessary to understand how the profitability of the domestic firms is enhanced. By the acquisition of the ownership of domestic firms, FDI channelizes more funds for gross capital formation. There are empirical evidences that FDI crowds out domestic investment (Apergis et al., 2006). A study by Desbordes (2022) for the period of 2002-2014, shows that FDI in the retail banking sector of developing countries is associated with better relative economic performance of externally financially dependent manufacturing sectors. This happens because the entry of foreign financial institutions increases local financial development and in doing so, fosters economic growth of the host country.

The overall effect of FDI can be divided into the agglomeration effect and the competition effect, the former being moderated by the absorptive capacity of domestic firms (Lu et al., 2017). To counteract the competition effect, the local entrepreneurs may rise to the challenge posed by FDI and hence increase the domestic investment (Mello, 1999). The resources available could be used for building the requisite infrastructure

mix and thus increase the profitability of domestic firms (Blomstrom, 1989). This will eventually go a long way in increasing the demand for local inputs and thereby enhance local income (Cardoso & Dornbusch, 1989). The total factor productivity growth is one of the benefits accrued to the domestic economy (OECD, 2002). An economy which has an ideal mix of resources and inputs would attract FDI and create compatible resources for the domestic firms (Markusen & Venables, 1999). It is the extent of free trade that attracts more FDI (Bhagwati, 1978), however, the evolution of political disagreement among policymakers on topics such as tariffs, subsidies, and trade agreements can have the opposite effect (Azzimonti, 2019). The extent of development in the financial markets and the extent of availability of technically and skill trained labor force will dictate the level of superiority of the foreign firms that can better exploit the resources and elbow out the domestic firms, given the fact that they are willing to pay better wages than the domestic firms (Fry, 1992). This would constrain the domestic investment (Aitken & Harrison, 1999) and domestic firm may lose market share. A superior foreign firm can attract the local skilled labor creating shortages for local firms. Moreover, the wage rate in the domestic economy will increase and local firms´ cost of production will go up leading to unprofitability and closure, which in turn may increase the unemployment (Borensztein et al., 1998; Kokko, 1994).

A study at aggregate and intra industry level shows that FDI has negative effect on entrepreneurship (Hülya et al., 2013). Countries that have undergone inadequate reforms may hamper the growth of new firms despite FDI inflows (Klapper & Love, 2011). It has been observed that the presence of FDI increases the imports adversely impacting the balance of payments and eventually, there will be an increase in the cost of imported capital and in the cost of production, coupled with a reduction in domestic investment. Finally, FDI would replace the domestic firms. It is important that the country encourages development of infrastructure and other availability of sophisticated financial instruments for the domestic economy (Suliman & Elian, 2014) and labor markets that would encourage FDI to create more firms. Sometimes the technology ushered in by FDI is able to exploit the economies of scale and creates technological barriers to entry for the domestic firms (Ayyagari & Kosová, 2010). The superior technology of the foreign firms is capable of realizing economies of scale and cannot be emulated by the domestic firm, hence creating entry barriers for the domestic players. It is the state of domestic firms that would attract FDI. Sometimes the size of domestic investment, extent of openness to trade and the size of local market has no impact on FDI (Harrison & Revenga, 2015). Many a times, FDI does not accelerate economic growth (Carkovic & Ross, 2002; Mansfield & Romeo, 1980). A country will have to frame policies to ensure that FDI benefits the economic growth. If the FDI is attracted to areas and sectors that would not be otherwise attract investment, the economic growth can be assured, so the government can always try to restrict the FDI to unattractive sectors (Crescenzi et al., 2021). Sustainable economic development cannot rely solely on the introduction of FDI and should instead emphasize the importance for firms to improve value capture so as to better capitalize on the positive spillovers generated by foreign investment (Lu et al., 2022).

Until the late nineties of the last century, India fared poorly in attracting FDI, despite offering a large domestic market, rule of law, low labor costs, and a well working democracy. This was mainly due to a restrictive FDI regime, high import tariffs, exit barriers for firms, stringent labor laws, poor quality infrastructure, centralized decision-making processes, and a very limited scale of export processing zones (Bajpai & Sachs, 2000).

However, with the gradual opening of the economy since 1991, and the governmental focus on liberalization of policies to welcome FDI, India has been able to fare better in attracting investments at a positive growth rate, through technology transfer, employment generation, improved access to managerial expertise, global capital, product markets and distribution networks. It is rated as the second most favored destination in the world for FDI after China, but in future, it is expected to surpass it, as it has a large proportion of young population (Azhar & Marimuthu, 2012). By 2019, the country ranked as the 9th largest recipient of FDI (and 7th by 2021) with inflows around $ 83.6 billion, both in horizontal and vertical types of investments, and in 2020, the government is now scrutinizing every FDI under the Ministry of Commerce and Industry to ensure that opportunistic takeovers or acquisitions of Indian companies do not take place. Our study is thus limited to the period up to 2018-19, before the changes in the FDI regulations.

Table 1: FDI, New Firms, Gross Capital Formation and Credit to Commercial Sector

Time Series of	Denotation	Units	Data Span	Data Source
FDI (Current Price)	FDI	Rs. Cr.	2000 to 2018	Department of Industrial policy and planning
New Firms (Paid up Capital)	NF	Rs. Cr.	2000 to 2018	India stat.com
FDI (Current Price)	FDI	Rs. Cr.	2000-01 to 2018-19	Handbook of Statistics on Indian Economy 1999-20
Gross Capital Formation (Current price)	GCFRNT	Rs. Cr.	2000-01 to 2018-19	Handbook of Statistics on Indian Economy 1999-20
Credit to Commercial Sector (Current price)	CCS	Rs. Cr.	2000-01 to 2018-19	Handbook of Statistics on Indian Economy 1999-20

Note: Rs. Cr. (Rupees in Crores. A Crore is an Indian unit that is equal to 10 million)

Source: Author's own work.

Test hypothesis

In our hypotheses, we aim to test the bidirectional causality between FDI and several domestic factors like new enterprise creation, gross capital formation and increase in credit to the commercial sector, while most studies rely only on the effects of FDI on the local economies.

H_1: There is bidirectional causality between FDI and New Enterprise Creation (paid up capital) at current price.

As per the OECD (2002), the overall benefits of FDI for developing economies can be seen via technology spillovers, human capital formation, contribution to international trade integration, creation of more competitive business environments and enhancement in enterprise development, as well as the transfer of cleaner technologies and leading to more socially responsible corporate policies.

In a study on a sample of African countries by Munemo (2015), it was found out that FDI significantly crowds-in new domestic firms, when business start-up regulations are lower.

H_2: There is bidirectional causality between FDI and Gross Capital Formation at current price.

As per Khan (2007), FDI is the most important source of external funds flow for the developing countries over the years and becomes a significant part of capital formation, being widely recognized as a growth-enhancing factor for developing economies.

An empirical study by Krkoska (2001) in Eastern European economies showed that FDI, domestic credit and local capital markets are all important financing sources for capital formation, with FDI having a greater impact as compared to domestic credit and capital market financing.

Similarly, Ntamwiza and Masengesho (2002) discovered a significant positive effect between capital formation, foreign direct investment and economic growth, in the long run, in Rwanda. A study in India by Khan and Masood (2022) found out that FDI have a great impact and are deep rooted in the economy and are essential for the growth of the economy.

H_3: There is bidirectional causality between Credit to Commercial Sector and Gross Capital Formation current price.

According to OECD (2001), gross capital formation measures the value of acquisitions of new or existing fixed assets by the business sector, governments and households less disposals of fixed assets, or in other words, how much new value is added to the economy rather than consumed. The higher the cost of credit, lower will be the gross capital formation.

Analytical model

Augmented dickey fuller test (ADF)

In order to test the data for stationarity, as the first step of data analysis in economics and financial research, formal or informal methods can be used. While informal methods encompass charts and diagrams, the formal way to test the stationarity can be accomplished using the Dickey-Fuller test or the Augmented Dickey-Fuller test, with the latter being used more commonly to test the unit root. In this study, the Augmented Dickey-Fuller (ADF) stationarity test and the nonparametric test will be used. The first considers the autoregressive models of an order greater than the unity, as shown by the expression:

$$\Delta Y = \alpha_0 + \gamma Y_{t-1} + \sum_{i=2}^{p} \beta_i \Delta Y_{t-i+1} + \varepsilon_t \quad (1)$$

In which:

$$\gamma = -(1 - \sum_{i=1}^{p} \alpha_i), \text{ and } \beta_i = \sum_{i=1}^{p} \alpha_i \quad (2)$$

being that α_0 is the intercept γ, order of the autoregressive model which describes the behavior of the temporal series; Y - dependent variable; Δ - difference op-

erator; and ε_t - error structure, which is identically and independently distributed.

The ADF test requires us to take the first differences of Y_t, $(Y_t - Y_{t-1}) = \Delta Yt$ and regress them on lagged values of ΔY_t , and Y_{t-1} and see if the estimated slope coefficient in this regression (= ˆ δ) is zero or not. If it is zero, we conclude that Y_t is nonstationary. But if it is negative, we conclude that Y_t is stationary. Where t is the time or trend variable and ε_t is a pure white noise error term. If the null hypothesis is rejected, it means that Y_t is a stationary time series. The MacKinnon (1996) one sided p-values are taken to reject/accept the null hypothesis.

This hypothesis should be rejected when the calculated value of the t statistic exceeds the critical value of Dickey-Fuller, signaling that the series will be stationary; otherwise the series will not be stationary (Dickey & Fuller, 1981).

MacKinnon (1991) provided finite-sample critical values for the ADF test. The analysis yields the estimates of critical values not for only a few sample sizes but for any sample size. Like Fuller (1976), the critical values can be based with k = 1 only, for the ADF test. While proper correction for the lag effect in implementing the ADF is desirable, the analysis is useful for researchers in practical applications as the appropriate critical values for ADF can be computed with reasonable accuracy from response surface equations for any sample size and lag length (Cheung & Lai, 1995).

KPSS test

We propose a test of the null hypothesis that an observable series is stationary around a deterministic trend. The series is expressed as the sum of deterministic trend, random walk, and stationary error, and the test is the Lagrange Multiplier test of the hypothesis that the random walk has zero variance. The asymptotic distribution of the statistic is derived under the null and under the alternative hypotheses that the series is difference stationary.

The KPSS test (Kwiatkowski et al., 1992) differs from the other unit root tests described here in that the series y_t is assumed to be (trend-) stationary under the null hypothesis. The KPSS statistic is based on the residuals from the OLS regression of yt on the exogenous variables x_t.

$$y_t = x_t{}'\delta + u_t \tag{3}$$

The LM statistic is be defined as:

$$LM = \sum_t S(t)^2 / (T^2 f_0) \tag{4}$$

Where f_0, is an estimator of the residual spectrum at frequency zero and where S(t), is a cumulative residual function:

$$S(t) = \sum_{r=1}^{t} u_r \tag{5}$$

based on the residuals ut = yt - xt' δ(0), We point out that the estimator of δ, used in this calculation differs from the estimator for δ used by GLS detrending since it is based on a regression involving the original data and not on the quasi-differenced data.

To specify the KPSS test, one must specify the set of exogenous regressors xt, and a method for estimating f_0. The KPSS test is therefore considered as a suitable complement for unit root tests not only due the fact that it directly tests the stationarity, but especially because it can be used for shorter time series.

In the case where samples are small or medium-sized, finite-sample size distortions that arise in the stationarity test are by and large a consequence of the poor properties of the long-run variance estimator applied to the small samples. The size distortions can be controlled in small and medium-sized samples by conditioning the distribution of the KPSS test on the sample size and the choice of truncation lag. However, there is always a possibility of having a considerable loss of power, that can be quite severe that the test may become biased (Kristian, 2006).

Cointegration test

Further to estimate the long-run relationships, i.e., to run the regression on the equations on FDI and new firms (paid up capital), FDI and gross capital formation at current price, gross capital formation and credit flow to commercial sector, the cointegration test is run. Two sets of variables are cointegrated if a linear combination of those variables has a lower order of integration. For example, cointegration exists if a set of I(1) variables can be modeled with linear combinations that are I(0). The order of integration here - I(1) - tells one that a single set of differences can transform the non-stationary variables to stationarity.

A cointegration means the two series shift from short run equilibrium to long run equilibrium (Dickey et al., 1991).

$$\Delta e_t = \beta_1 + \beta_2 t + \delta e_{t-1} + \sum_{i=1}^{m} \alpha \Delta et - 1 + \varepsilon t \tag{6}$$

We tested whether the residuals are stationary using again the standard ADF test. The software E-views provides the default lag length of 11 in our test and it is sufficient to get rid of auto-correlation problem in the annual data series being used here. The Johansen Cointegration Test for the above-mentioned variables is done with trend assumption of no deterministic trend (restricted constant), linear deterministic trend and linear deterministic trend (restricted). The hypothesized number of cointegrating equations (CE) is at None and At most 1. The Eigen values, Max-Eigen

Statistic and Trace statistic at 5% Critical Value and 1% Critical Value are used to accept or reject the hypothesis of no cointegration.

As compared to the Engle Granger´s test of causality, Johansen´s tests tend to find spurious cointegration more often and the results hold asymptotically as well as in finite samples (Gonzalo & Lee, 2000).

Engle granger's test of causality

A variable X is said to cause another variable Y, with respect to a given information set that includes X and Y, if current Y can be predicted better by using past values of X than by not doing so, given that all other past information in the information set is used (Granger, 1969).

$$(X)t = \alpha + \sum_{i=1}^{m} \beta i(X)_{t-1} + \sum_{j=1}^{n} \tau j(Y)_{t-1} + \mu 1t \quad (7)$$

$$(Y)t = \theta + \sum_{i=1}^{p} \phi i(Y)_{t-i} + \sum_{j=1}^{q} \psi j(X)_{t-j} + \mu 2t \quad (8)$$

where it is assumed that the disturbances u1t and u2t are uncorrelated. In passing, note that, since we have two variables, we are dealing with bilateral causality. In this case there is Granger causality, thus

$$\sum_{j=1}^{n} \tau j \neq 0, and \sum_{j=1}^{q} \psi j \neq 0 \quad (9)$$

Table 2: Augmented Dickey Fuller Test of Stationarity for FDI inflow and new enterprises paid up capital

Variables	Level		
	Intercept	Trend and intercept	None
FDI INFLOW	-2.27**	-3.49**	-1.04**
New enterprises paid up capital	4.14	2.10	4.49
Variables	**First difference**		
	Intercept	**Trend and intercept**	**None**
FDI INFLOW	-3.02**	-1.08**	-1.57**
New enterprises paid up capital	1.16	-4.35	2.51
Variables	**Second difference**		
	Intercept	**Trend and intercept**	**None**
FDI INFLOW	-2.89**	-3.15**	-2.91
New enterprises paid up capital	-5.35**	-5.94**	-6.57**

** Reject the null hypothesis of unit root and is significant at 1% level

Source: Own compilation.

The null hypothesis unit root exists and if the calculated value is less than the table value, the null hypothesis is rejected, and the series is stationary.

Both the above mentioned time series are stationary after second difference, hence they are integrates of order I(2).

Table 3: Results from cointegration test. Trend assumption: No deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	27.2500 (0.0001)	02	22.7200 (0.0003)	02
1	4.5300 (0.0395)		4.5300 (0.0395)	

Source: Author's own work.

Table 4: Trend assumption: No deterministic trend (restricted constant)

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	28.0500 (0.0034)	01	22.9100 (0.0033)	01
1	5.1400 (0.2677)		5.1400 (0.2677)	

Source: Author's own work.

Table 5: Trend assumption: Linear deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	22.560000 (0.003600)	01	20.1700 (0.0052)	01
1	2.391664 (0.122000)		2.3900 (0.1220)	

Source: Author's own work.

Table 6: Trend assumption: Linear deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	31.1500 (0.0100)	01	20.5000 (0.0343)	01
1	31.1500 (0.1008)		10.6400 (0.1008)	

Source: Author's own work.

The above table shows at least one cointegrating equation in each of the above-mentioned trend assumptions. Hence it is possible to test the Engle Granger Causality.

Table 7: Granger's Test of Causality

Sr No.	Null Hypothesis:	Observation	F-Statistic	Probability
1	No. of new enterprises (paid up capital) does not cause FDI inflow	17	1.16935	0.3436
2	FDI inflow does not cause new enteprise formation	17	1.78286	0.2099

Source: Author's own work.

Since the P value is greater than 0.05, we accept the null hypothesis, there is no bidirectional causality between FDI Inflow and New Enterprise creation. Hence H_1 is not satisfied.

Table 8: Augmented Dickey Fuller Test of Stationarity for FDI inflow and gross capital formation

Variables	Level		
	Intercept	Trend and intercept	None
Gross capital Formation	1.27	-0.51	1.97
Foreign Direct invesment	-0.70	-7.26	1.56
Variables	**First difference**		
	Intercept	**Trend and intercept**	**None**
Gross capital Formation	-5.88**	-3.60	-5.25**
Foreign Direct invesment	-3.83*	-7.26**	-5.81**
Variables	**Second difference**		
	Intercept	**Trend and intercept**	**None**
Gross capital Formation	-5.57**	-5.37**	-5.25**
Foreign Direct invesment	-5.51**	-5.88**	-5.84**

** Stationary at 1% significance level.

Source: Author's own work.

Since the timeseries are stationary in the ADF Test and KPSS Test, attempt is made to run the cointegration test on the two time series data of the variables mentioned above. Here the null hypothesis is satisfied, and as such H_2 is not accepted.

Table 9: KPSS test for foreign capital inflow

	Exogenous	LM-Stat	Critical values		
			0.01	0.05	0.10
Level	Intercept only	0.53**	0.73	0.46	0.34
Level	Constant, Linear Trend	0.10**	0.20	0.14	0.11
First Difference	Intercept	0.22**	0.73	0.46	034
First Difference	Constant, Linear Trend	0.18**	0.21	0.14	0.11
Second Difference	Intercept	0.13**	0.73	0.40	0.34
Second Difference	Constant, Linear Trend	0.10**	0.21	0.14	0.11

** Accepting the null hypothesis of stationarity at 1 percent significance.

Source: Author's own work.

Table 10: KPSS test of stationarity for gross capita formation

	Exogenous	LM-Stat	Critical values		
			0.01	0.05	0.10
Level	Intercept only	0.57**	0.73	0.46	0.34
Level	Constant, Linear Trend	0.18**	0.21	0.14	0.11
First Difference	Intercept	0.27**	0.73	0.46	0.34
First Difference	Constant, Linear Trend	0.20**	0.21	0.14	0.11
Second Difference	Intercept	0.24**	0.73	0.46	0.34
Second Difference	Constant, Linear Trend	0.22	0.21	0.14	0.11

** Accepting the null hypothesis of stationarity at 1 percent significance.

Source: Author's own work.

Table 11: Cointegration test between FDI and gross capital formation (since they do not cointegrate there is no causality test to be conducted). Trend assumption: No deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	11.197940 (0.070000)	none	10.081790 (0.070000)	none
1	1.116154 (0.330000)		1.116154 (0.330000)	

Source: Author's own work.

Table 12: Trend assumption: No deterministic trend (restricted constant)

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	13.714800 (0.300000)	none	10.083970 (0.320000)	none
1	3.630829 (0.460000)		3.630829 (0.460000)	

Source: Author's own work.

Table 13: Trend assumption: Linear deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	10.351060 (0.250000)	none	6.738058 (0.520000)	none
1	3.613007 (0.050000)		3.613007 (0.050000)	

Source: Author's own work.

Table 14: Trend assumption: Linear deterministic trend (restricted)

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	16.31 (0.46)	none	12.260 (0.390)	none
1	4.05 (0.73)		4.050 (0.730)	

Source: Author's own work.

Table 15: ADF and KPSS test for credit flow to commercial sector and gross capital formation

Variables	Level		
	Intercept	Trend and intercept	None
Gross capital Formation	1.27	-0.51	1.97
Credit flow to commercial sector	6.85	-1.41	1.52
Variables	**First difference**		
	Intercept	**Trend and intercept**	**None**
Gross capital Formation	-5.88**	-3.60	-5.25**
Credit flow to commercial sector	-0.42	-3.60	1.46

Variables	Second difference		
	Intercept	Trend and intercept	None
Gross capital Formation	-5.57**	-5.37**	-5.25**
Credit flow to commercial sector	-3.78*	-3.59	-3.10**

** Stationary at 1% significance level.

Source: Author's own work.

Interpretation of the results

In KPSS the null hypothesis series are stationary, hence if the calculated value is greater than the table value, the null hypothesis is rejected in favor of the alternative hypothesis, that time series are non-stationary. So H_3 is accepted.

Table 16: KPSS test of stationarity for credit to commercial sector

	Exogenous	LM-Stat	Critical values		
			0.01	0.05	0.10
Level	Intercept only	0.57**	0.73	0.46	0.34
Level	Constant, Linear Trend	0.19**	0.21	0.14	0.11
First Difference	Intercept only	0.67**	0.73	0.46	0.34
First Difference	Constant, Linear Trend	0.11**	0.21	0.14	0.11
Second Difference	Intercept	0.11**	0.21	0.14	0.11
Second Difference	Constant, Linear Trend	0.10**	0.21	0.14	0.11

** Accepting the null hypothesis of stationarity at 1 percent significance.

Source: Author's own work.

Since the time series on credit to commercial sector and gross capital formation are stationary and integrated of order I(0).

Cointegration test between credit to commercial sector and gross capital formation

Table 17: Trend assumption: No deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	16.376510 (0.000000)	one	14.104590 (0.010000)	one
1	2.271919 (0.150000)		2.271919 (0.150000)	

Source: Author's own work.

Table 18: Trend assumption: No deterministic trend (restricted constant)

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	20.237190 (0.050000)	none	14.683880 (0.070000)	none
1	5.553315 (0.220000)		5.553315 (0.220000)	

Source: Author's own work.

Table 19: Trend assumption: Linear deterministic trend

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	18.614660 (0.010000)	02	14.537430 (0.040000)	02
1	4.077228 (0.040000)		4.077228 (0.040000)	

Source: Author's own work.

Table 20: Trend assumption: Linear deterministic trend (restricted)

Null Hypothesis	J trace	Trace Statistic: No. of cointegrating equation at 0.05 level	J max-eigen value	Max-eigen test: No. of cointegrating equation at 0.05 level
0	25.464020	none	18.814010	none
1	6.650014		6.650014	

Source: Author's own work.

The results show that the time series data are cointegrated at 5% significance level under the assumption of no deterministic trend and linear deterministic trend.

Since there is cointegration between the above mentioned two variables, attempt is made to test for Engle grangers causality test.

Table 21: Granger's test of causality

Sr No.	Null Hypothesis	Observation	F-Statistic	Probability
1	CCS does not Granger Cause GKF	17	8.35117	0.0053
2	GKF does not Granger Cause CCS	17	0.29519	0.7496

Source: Author's own work.

In the above table, first row, we reject the null hypothesis, hence the credit to commercial sector does not cause Gross capital Formation (proxy for business creation). However, in the second row, the null hypothesis is accepted.

Results

1. In India as believed theoretically, FDI do not help in creating new firms and in gross capital formation (domestic investment).

As per Bhattarai and Negi (2020), FDI contributed positively to sales, profit, employment and wages of firms in India from 2004 to 2018. While the authors discuss the benefits brought in by advanced technology and skill management practices brought in by foreign promoters, they do not discuss the impact that FDIs had in creating new firms or in gross capital formation (domestic investment).

Chakraborty and Nunnenkamp (2008) analyzed the booming FDI in post-reform India and concluded that the results are industry-specific, with growth effects varying across sectors. While the manufacturing sector has seen good growth, the primary sector was not affected, and the services sector had only transitory effects, but the impact on new firms is not studied.

A similar study by Pradhan (2002) on the production function, shows that the Indian economy benefitted positively from FDI.

A comparison between India and China regarding foreign invested enterprises by Huang and Tang (2011), show that while China adopted a more proactive policy towards FDI than India, the latter pursued a more comprehensive domestic reforms policy, establishing a ministry devoted to privatization and undertook a deeper financial liberalization that resulted even in bank privatizations. This was an initiative of the government and not a direct effect of FDI inflows.

Based on these articles, it is clear that the Indian economy, which has a tremendous potential, had a positive impact due to FDI. While FDI inflows supplement domestic capital and bring in new technology and skills to existing companies, and ought to have a posi-

tive impact on new firms´ creation and gross capital formation, our results show that FDI has stifled domestic capital.

2. Flow of credit to commercial sector helps to promote domestic investment (proxy for business creation).

India is a country that needs large scale investments in infrastructure for accelerating inclusive growth aimed at poverty alleviation and improvement in quality of life. Given the fiscal constraints that leave little room for expanding public investment at the required scale, public-private partnership (PPP) is required, with most of the funding being raised from domestic financial institutions (Roy, 2015). A study of the British International Investment regarding their participation in lending for micro, small and medium enterprises in India, found out that between 2013 and 2015, credit had a significant relationship with job creation, SME exhibited impressive financial performance, first-time borrowers could be reached and investment in female managed enterprises increased.

As per Liu et al. (2019), bank loans, as compared to stimulate enterprises technological innovations to a greater extent than equity financing and internal financing, both for listed companies and SMEs. Several Indian studies, including those by Ramcharran (2017) and Singh et al. (2002) proved that the flow of credit to the commercial sector helps in promoting domestic investments, or in other words, new business creation. These conclusions match the findings of our study, where FDI result in a crowd out effect that does not support the domestic business enterprises. However, with the domestic policy adopted by the Indian government, domestic businesses have been growing mainly due to bank credit to the commercial sector.

3. Policy changes and more reforms are required so that FDI is better absorbed and helps to create new firms, rather than the crowd out effect. Based on the results, FDI inhibits the domestic investment and new enterprise creation in India.

After the gradual opening of the economy, India witnessed a huge inflow of FDI funds, mainly in the manufacturing sector (Conconi et al., 2017), but due to improper regulations, there is a tendency for FDI to crowd out capital formation and new enterprise creation. It is important for a country to achieve a threshold level of development and undergo appropriate reforms in terms of ease of doing business in order to assimilate and realize the benefits of FDI for economic growth. It is equally important that in an era of globalization, the external shocks do not destabilize the domestic economy (Christopherson et al., 2010).

To counteract the competition effect, the local entrepreneurs may rise to the challenge posed by FDI and hence increase the domestic investment (Mello, 1999). The resources available could be used for building the requisite infrastructure mix and thus increase the profitability of domestic firms (Blomstrom, 1989). A country will have to frame policies to ensure that FDI benefits the economic growth. If the FDI is attracted to areas and sectors that would not be otherwise attract investment, the economic growth can be assured, so the government can always try to restrict the FDI to unattractive sectors (Crescenzi et al., 2021).

By 2019, India ranked as the 9th largest recipient of FDI (and by 2021, the 7th), with inflows around $83.6 billion, both in horizontal and vertical types of investments, and in 2020, the government is now scrutinizing every FDI under the Ministry of Commerce and Industry to ensure that opportunistic takeovers or acquisitions of Indian companies do not take place. While the new rules tried to simplify the existing regulations, some restrictions were imposed on FDI from neighboring countries (countries sharing land borders with India) and the investment horizon was broadened to erstwhile restricted areas like public insurance companies, defense and pharmaceuticals, and further restricted sectors may be opened in future. The end result may be a boost to new firms´ creation and domestic capital formation, that is not seen at present.

Conclusion

Our study concludes that FDI stifles domestic capital due to the fact that local firms do not have the financial backing that foreign firms have. While the entry of FDI backed companies in India brings in new technology and foreign funds, the benefits for the local industry are not seen. Similar results by (Hernández-Catá, 2000; Serván, 1996; Odentha, 2001) found that FDI crowds out domestic investment in African countries. Domestic firms may be constrained by the weak financial intermediation and the inadequate availability of funds could prevent them from taking advantage of the opportunities created by the FDI.

On the other side, domestic flow of capital is helpful in encouraging domestic investment. This domestic investment is mainly supported by local bank loans and financing. It is evident from the empirical work of (Alfaro et al., 2004), that underdeveloped financial markets may be a deterrent to take the advantage of foreign capital inflows. It is a case of negative spillover of international capital inflows (Demirguc et al., 2006).

Finally, the new rules of the government of India tried to simplify the existing regulations and some restrictions were imposed on FDI from neighboring countries (countries sharing land borders with India) and the investment horizon was broadened to erstwhile restricted areas like public insurance companies, defense and pharmaceuticals, and further restricted sectors may be opened in future. The end result may be a boost to new firms´ creation and domestic capital formation, that is not seen at present.

Limitations and further study

Our study had some limitations, due to data availability and was restricted to the period of 2000-2019, before the new FDI regulations came into force. It would be interesting to continue the study for the period after or including 2023 to see if the new regulations on FDI have improved the inflows to the country. The impact of the Covid-19 pandemic could also be a topic of study. Another lead would be the study of FDI inflows for a specific sector of the Indian economy or a study comparing India and China or any other neighboring country.

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