



A Study on Impact of FDI on Indian Economy– An Empirical Analysis

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Abstract – A lot of debate is going on about the importance of foreign direct investment (FDI) in the process of growth has been hot in a number of nations, including India. The foundation and prerequisite for economic development and growth is investment. In addition to a country's foreign exchange reserves, other factors that are essential to its health include exports, government revenue, financial status, the amount of available domestic savings, and the volume and caliber of foreign investment. The aim of this study is to analyze the impact of FDI on Indian Economy. To meet the objective of the study time series data is used 2005 to 2023. Variables used in the study are Foreign Direct Investment as dependent variable and Gross Domestic Capital Formation (GDCF), export, import, Gross Domestic Product (GDP), Foreign Exchange Reserve (FER) and Wholesale Price Index (WPI) as independent variables. Techniques used in this study are descriptive test, correlation and regression analysis. FDI exhibits a positive correlation with variables such as GDCF (0.44), Export (0.38), Import (0.42), GDP (0.44), and FER (0.44). This implies that a 1% increase in FDI corresponds to a corresponding degree of change in other variables. The correlation between WPI and FDI is negative, or - 0.22, indicating that the two variables go in different directions. The study concluded that FDI statically significantly impact on Indian economy.

Keywords – Gross Domestic Capital Formation (GDCF), export, import, Gross Domestic Product (GDP), Foreign Exchange Reserve (FER) and Wholesale Price Index (WPI)

I. INTRODUCTION

India's economy grew at one of the fastest rates in the 1990s due to the phenomenal growth of the service sector. The composition of foreign direct investment (FDI) has changed globally as well towards services. During the early 1970s, just 25% of foreign direct investment went into the global service sector. This percentage was less than half as high in 1990 as it is now, and by 2003 it had risen to around 67%. Major Service industries nowadays include air transportation, electricity insurance, telecommunications, and IT-enabled services.

International direct investments are "the primary means of supplying them to foreign markets," according to the United Nations Conference on Trade, Aid, and Development (UNCTAD), "because many services are neither transportable nor storable, but must be created where they are consumed." Outsider since FDI is essential to the host nation's economic growth, governments aim to draw in a sizable quantity of FDI, which can quicken the process by bringing in more capital, cutting-edge management strategies, technology, and job creation. Because they may be able to help them understand the amount and direction of FDI flows, policymakers should focus on FDI drivers. It enables them to create a foreign investment policy that will draw in the most foreign direct investment. India started to let foreign direct investment (FDI) into its formerly closed economy in the early 1990s. As part of India's liberalization process, permission for foreign direct investment was gradually granted in a number of economic areas.

II. REVIEW OF LITERATURE

Mafru`za Sultana (2019): The impact of foreign direct investment (FDI) on the Indian economy has been the subject of numerous studies. Our study aims to examine the impact of foreign direct investment (FDI) not only on economic metrics in India but also on other factors as the human population and development index. The amount to which FDI accounts for variations in their individual variance piqued the interest of the researcher. The population, Sensex index, and HDI are all significantly impacted by FDI, the researcher discovers. Imports and exports are somewhat impacted, but not significantly. The study identified a number of factors collectively referred to as FDI and the Indian economy as the main driver of FDI inflows to India.

Utsav Masharu (2018): The study examined the effects of deregulation and foreign direct investment (FDI) on the Indian retail sector in the 1990s. It also looks at how it affects FDI flows in the single-brand and multi-brand retail industries, as well as un-organized retail. Together with a descriptive statistical analysis of the data from 1991 to 2013, a thorough and critical examination of the evidence in this field was conducted. The strategy of liberalizing foreign direct investment (FDI) has demonstrated that the Indian economy, particularly the retail sector, has sustainable development and diversity, which are two of the most significant findings. In order to maintain economic growth, it is also essential to encourage additional investments in other sectors by removing barriers to trade.



Teli (2014): The current analysis covers the years 1991 to 2012 and is based on secondary data. From US \$ 133 million in 1991–1992 to US \$ 27841 million in 2008–2009, overall foreign direct investment (FDI) inflows rose. Of this amount, 65.79 percent came from direct foreign investment, while 34.21% came from portfolio investments. Projected total FDI inflows are anticipated to be \$ 46098 million in 2015–16. In terms of FDI inflows, Singapore and Mauritius came in first and second, respectively, with the largest FDI inflows into the service industry. They have a positive impact on the associated economic indices of the Indian economy. The Indian government ought to promote more foreign direct investment by implementing advantageous policies and mitigating ambiguity.

Mehta, Riken (2012): This talk will try to summarize the changes that India's economic liberalization has seen since 1991. Furthermore, by contrasting India's track record with that of other developing countries, it will demonstrate how the country has advanced socially and economically as a result of FDI backing. Lastly, it will show how infrastructure development programs in India have benefited from foreign direct investment and highlight the challenges the country still has in reaching developed world standards of living.

Keshava (2008): Power shortages, inadequate infrastructure, security concerns, lack of an exit strategy, and other apparent issues are only a few of the reasons why India continues to lag behind China as a desirable destination for foreign direct investment. Policymakers in India must acknowledge that strong, aggressive third-generation changes are necessary if the country is to achieve its goal of attracting more foreign direct investment (FDI) for growth. Effortless intentions and plan layouts are not enough. Only then will India be able to draw FDI and grow to be as well-liked as China as a destination for investors.

Pravakar Sahoo (2006): The results of the study on the impact of foreign direct investment (FDI) on growth indicate that FDI significantly and favorably affects growth in four South Asian countries. Infrastructure, exports, and the production of gross domestic capital all play significant roles in growth. South Asian countries need to draw in more foreign investment in addition to increasing their exports, internal investment, and infrastructure development. Furthermore, because of the positive spillover effects for the countries of South Asia, FDI has a positive impact on export growth. Due to dynamic effects, foreign direct investment (FDI) has a positive and significant influence on domestic investment over time, despite its minimal immediate impact.

Objectives of the Study

- To determine the relationship of FDI investments on Indian Economy variables
- To study impact of FDI on Indian Economy

Hypotheses of the Study

- **H0:** FDI does not have statically significant impact on Indian Economy
- **H1:** FDI have statically significant impact on Indian Economy

III. METHODOLOGY OF THE STUDY

The study is based on secondary data which is collected from various websites like BSE, money control, SEBI, RBI. To meet the objective of the study time series data is used 2005 to 2023. Variables used in the study are Foreign Direct Investment as dependent variable and Gross Domestic Capital Formation (GDCF), export, import, Gross Domestic Product (GDP), Foreign Exchange Reserve (FER) and Wholesale Price Index (WPI) as independent variables. Techniques used in this study are descriptive test, correlation and regression analysis.

Scope of the Study

The study focused on the relationship of FDI investments with Indian Economy. This study has adopted the secondary data. The study has considered the secondary data for the period 2005-2023 i.e. nineteen years. The present study made an attempt to study the relation and impact FDI investments with Indian Economy.

Limitations of the Study

- The data included in the study came from a range of sources. Applying and evaluating some of the study's concerns in relation to GDP, FDI influx, and other
- The macroeconomic and microeconomic aspects of the Indian economy as a whole were not included in this study.
- Other foreign investment vehicles such as Foreign Currency Convertible Bonds (FCCB), ADRs, GDRs, and FIIs were not considered in the study. These days, these investments are crucial to the industrial growth of India.

IV. ANALYSIS AND INTERPRETATION

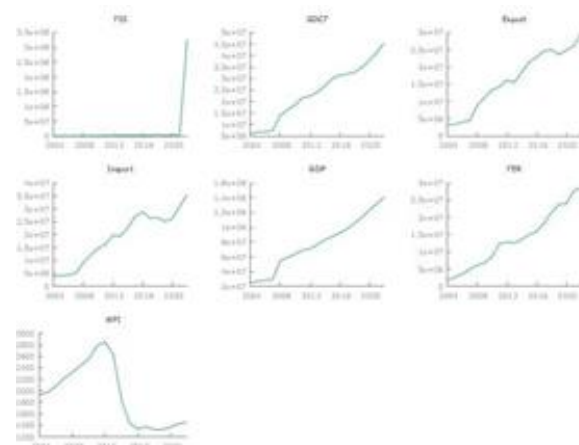


Figure 1: Trends of Variables



The below Graph-1 shows that trends of Foreign Direct Investment as dependent variable and Gross Domestic Capital Formation (GDCF), export, import, Gross Domestic Product (GDP), Foreign Exchange Reserve (FER) and Wholesale Price Index (WPI) as independent variables.

The dependent variable, foreign direct investment, is trending higher, indicating a positive development for a nation's economy, whereas the gross domestic capital formation (GDCF) is not very volatile. Additionally, there are excessive upward and downward movements in import and export.

Additionally, the GDP is rising, which is regarded as positive evidence that the economy is doing well. As a result of businesses hiring more people to staff their factories and as a result of consumers having more money in their pockets, employment is probably going to rise.

The Foreign Exchange Reserve (FER) is likewise trending upward, indicating that the nation has larger reserves and the ability to mitigate balance of payments volatility and guarantee long-term smoothing of demand. The Wholesale Price Index (WPI), which gauges changes in the average price of items prior to their sale at retail, also displays market instability.

Descriptive Test

Table 1 - Descriptive test

| | FDI | GDCF | Exports | Import | GDP | FER | WPI |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Mean | 1866 5 | 2403 8 | 164 0 | 1887 3 | 778 7 | 137 2 | 1930 |
| Standard Error | 1707 5 | 2808 7 | 198 3 | 2308 3 | 820 6 | 193 5 | 126 |
| Median | 1743 9 | 2408 3 | 163 2 | 1985 5 | 765 1 | 128 3 | 1928 |
| Standard Devi | 7443 0 | 1224 3 | 864 6 | 1006 1 | 357 7 | 843 4 | 549 |
| Kurtosis | 18.99 | -1.02 | - 1.27 | -1.19 | - 0.86 | - 1.00 | -1.43 |
| Skewness | 4.36 | -0.05 | - 0.27 | -0.24 | 0.06 | 0.31 | 0.32 |
| Range | 3257 8 | 3958 | 263 4 | 3177 | 115 4 | 265 8 | 1522 |
| Minimum | 2009 8 | 5916 | 323 2 | 3901 | 255 4 | 197 2 | 1323 |
| Maximum | 3259 8 | 4549 | 295 7 | 3567 | 141 0 | 285 5 | 2846 |
| Sum | 3546 4 | 4567 | 311 6 | 3586 | 147 9 | 260 7 | 3666 9 |
| Count | 19 | 19 | 19 | 19 | 19 | 19 | 19 |

Table 1 above provides a comprehensive description of the variables utilized in the study. The mean is a statistical measure used to determine the average value of the dataset, and it is observed to be positive for all the variables included. Skewness is another statistical measure

that indicates the asymmetry of the data distribution relative to the mean.

Skewness can be either negative or positive: negative skewness indicates that the data points are skewed to the left (i.e., the tail on the left side of the distribution is longer or fatter than the right side), whereas positive skewness indicates that the data points are skewed to the right (i.e., the tail on the right side of the distribution is longer or fatter than the left side).

In the provided table, variables such as Gross Domestic Capital Formation (GDCF), Export, Import, Gross Domestic Product (GDP), Foreign Exchange Reserves (FER), and Wholesale Price Index (WPI) are negatively skewed.

This negative skewness implies that future data points for these variables are expected to be less than the mean. On the other hand, the remaining variables in the study exhibit positive skewness, which suggests that their future data points are likely to be greater than the mean. Furthermore, kurtosis values for the variables, including Foreign Direct Investment (FDI), are noted to be positive. Kurtosis is a measure of the "tailedness" of the data distribution.

High kurtosis, referred to as leptokurtic distribution, indicates a sharper peak around the mean compared to a normal distribution, with values more concentrated around the mean and having thicker tails. This characteristic implies that the data has a higher likelihood of producing extreme values compared to a normal distribution.

Correlation Analysis

Table 2- Correlation Analysis

| Correlation | | | | | | | |
|-------------|-------|-------|---------|--------|-------|-------|------|
| | FDI | GDCF | Exports | Import | GDP | FER | WPI |
| FDI | 1.00 | | | | | | |
| GDCF | 0.44 | 1.00 | | | | | |
| Exports | 0.38 | 0.99 | 1.00 | | | | |
| Import | 0.42 | 0.98 | 0.99 | 1.00 | | | |
| GDP | 0.44 | 0.99 | 0.98 | 0.96 | 1.00 | | |
| FER | 0.44 | 0.98 | 0.96 | 0.94 | 0.99 | 1.00 | |
| WPI | -0.22 | -0.61 | -0.62 | -0.59 | -0.60 | -0.62 | 1.00 |

The association between FDI and all other economic factors is displayed in the following table. FDI exhibits a positive correlation with variables such as GDCF (0.44), Export (0.38), Import (0.42), GDP (0.44), and FER (0.44). This implies that a 1% increase in FDI corresponds to a corresponding degree of change in other variables. The correlation between WPI and FDI is negative, or -0.22, indicating that the two variables go in different directions.

Regression Analysis

In the OLS regression, the intercept term is important. Nonetheless, this model's modified R-squared of 52% and



R-squared of 86% indicate that it fits the data the best. While export is showing a negative impact on FDI at a 5% level of significance at lag 1, import and GDP are showing a significant positive impact on FDI at a 5% level of significance at lag 1.

Gross Domestic Capital Formation (GDCF) has a significant negative effect on FDI at a 10% level of significance at lag 1. Other metrics, such as FER and WPI, do not indicate that FDI has any effect.

Table 3- Regression Analysis, Dependent variable: FDI

| | Coefficient | Std. Error | t-ratio | p-value |
|----------|--------------|-------------|---------|----------|
| Const | -1.13534e+08 | 1.20539e+08 | -0.9419 | 0.3895 |
| GDCF | -50.1281 | 41.1292 | -1.219 | 0.2773 |
| GDCF_1 | -117.649 | 48.4157 | -2.430 | 0.0594* |
| Export | 20.0846 | 24.8871 | 0.8070 | 0.4563 |
| Export_1 | -82.1242 | 23.4530 | -3.502 | 0.0173** |
| Import | 28.8069 | 21.3876 | 1.347 | 0.2358 |
| Import_1 | 79.7445 | 25.3849 | 3.141 | 0.0256** |
| GDP | 0.455274 | 10.4619 | 0.04352 | 0.9670 |
| GDP_1 | 30.2882 | 11.0971 | 2.729 | 0.0413** |
| FER | 30.7615 | 18.4524 | 1.667 | 0.1564 |
| FER_1 | 25.0477 | 17.6903 | 1.416 | 0.2160 |
| WPI | 74512.4 | 69420.3 | 1.073 | 0.3322 |
| WPI_1 | -90628.5 | 70744.4 | -1.281 | 0.2564 |

| | | | |
|--------------------|-----------|--------------------|----------|
| Mean dependent var | 19687712 | S.D. dependent var | 76451518 |
| Sum squared resid | 1.39e+16 | S.E. of regression | 52668880 |
| R-squared | 0.860409 | Adjusted R-squared | 0.525391 |
| F(12, 5) | 2.568247 | P-value(F) | 0.153224 |
| Log-likelihood | -334.0441 | Akaike criterion | 694.0883 |
| Schwarz criterion | 705.6631 | Hannan-Quinn | 695.6843 |
| Rho | -0.470366 | Durbin-Watson | 2.605917 |

All things considered, we can say that FDI significantly affects the Indian economy. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

V. CONCLUSION OF THE STUDY

The impact of foreign direct investment (FDI) on the Indian economy has been studied. According to the study, there is a favorable correlation between foreign direct investment (FDI) and the gross domestic product in the infrastructure sector. FDI exhibits a positive correlation with variables such as GDCF (0.44), Export (0.38), Import (0.42), GDP (0.44), and FER (0.44).

This implies that a 1% increase in FDI corresponds to a corresponding degree of change in other variables. The correlation between WPI and FDI is negative, or -0.22, indicating that the two variables go in different directions. The study discovered that FDI has a favorable impact on GDP. According to the study's conclusion, foreign direct investment will cause the GDP to grow in the future.

Suggestions of the Study

- With its liberalized framework for foreign direct investment, vast capital markets, and strong annual growth rate, the Indian economy is today stronger than ever. India's economy has continuously expanded quickly, making it a desirable place to invest.
- The Indian government should work to strengthen the different sector's requirements as soon as possible, as they are essential for corporate diversification.
- In order to facilitate the privatization process, India should promote foreign direct investment. The FDI liberalization of investment ceilings is possible in many industries, but not in sectors that are sensitive or in the security sector that support the country.

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