Political Stability, Trade Openness, and Institutional Factors Affecting Foreign Direct Investment in India

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Abstract:

This study investigates the impact of political stability, trade openness, corruption, business freedom, market size, inflation, and industrialization on foreign direct investment (FDI) inflows to India from 1999–2000 to 2019–2020. Annual time-series data sourced from the World Bank, UNCTAD, and the Heritage Foundation are analysed using ordinary least squares (OLS) estimation and Granger causality tests. The results show that corruption has a significant negative effect on FDI, whereas market size exerts a significant positive influence. Industrialization, business freedom, and trade openness exhibit positive but statistically insignificant effects. Political stability and inflation also show no significant impact. Granger causality analysis reveals unidirectional causality from business freedom, trade openness, and political stability to FDI, and bidirectional causality between market size and FDI. These findings suggest that strengthening governance, expanding market opportunities, and enhancing institutional quality are crucial for attracting sustainable FDI inflows into India.

Keywords: Foreign Direct Investment, inflation, openness, corruption, business freedom, India.

JEL Classification: E02, F21.

Introduction

The growing interaction of foreign direct investment (FDI) across worldwide economy during preceding few decades has initiated a number of deliberations as well as exhaustive research in different dimensions. Conventionally, FDI is one of the crucial drivers for development of any economy by means of relocation of technology from technically sophisticated countries to comparatively less developed countries. The arrival of massive foreign direct investment is recurrently a crucial ingredient that results economic development by bringing information, technical know-how, capital and occupations, which probably have an effect definitely on host nation (Cambazoglu & Karaalp, 2014).

While selecting investment location or operational approach abroad, multinational corporations considers different motives, according to Dunning (1980), (1) Natural-resource seeking foreign direct investment, which aims to gain access to a natural resource not available in the company's home market; (2) Market-seeking foreign direct investment, which aims to gain access to new customers, clients, and export markets; (3) Efficiency-seeking foreign direct investment, which aims to reduce production costs by gaining access to new

technologies or competitively priced inputs and labour; (4) Strategic-asset seeking foreign direct investment, which aims to go after strategic assets in a local economy, such as brands, new technologies, or distribution channels (Hornberger et al., 2011).

However, developing countries confront with numerous challenges, like insufficient infrastructural facilities, restricted capital accumulation, deficiency in research and development, as well as inadequate technological advancement, which thwart the growth of those economies (Abubakar, 2020). Furthermore, unwarranted exports to imports are found to have a depressing effect on numerous industrial sectors, predominantly on manufacturing sectors. Influx of Foreign direct investment to emerging and developing economies has turned out to act as a mechanism, which support the improvement of sophisticated technology, skilful labour, and research and development (Saidi & Ochi, 2023). On the other hand, the assortment of an explicit location of investment lies not only on the accessibility of resources, but also on social, political, economic and legal, cultural factors, national policies and legislation and institutional environment. Moreover, the market prospects of the host country inviting foreign direct investment should put forward a specified package of locational advantages that will compose it a gainful pretty investment location as compared to other approaches of servicing foreign markets.

Researchers admit that good functioning institutions by providing congenial business freedom protects the interests of market entities which significantly attract foreign investments (Masharu & Nasir, 2018) which is a catalyst to the economic development process (Acemoglu et al., 2002; Williamson & Kerekes, 2011).Although Indian economy opened up in 1991 with the initiation of liberalization policy accompanied by a set of relaxations, yet, India seems to be distressed from a lot of restrictions and these challenges the domain of FDI by means of political instability, infrastructure facility led by rapid industrialization, tax policies, corruption, governmental regulations and many more of such challenges.

During last couple of decades, researchers have exposed fanatical attention in identifying important country-specific factors which occupy major roles in magnetizing inward FDI. Conventionally, a lot of researches accentuated macroeconomic determinants such as inflation, market size, international trade, exchange rates and GDP as the key factors liable for country-specific variation in inflow of FDI (Caves, 1971; Chakrabarti, 2001; Dunning, 1980; Liu et al., 2001).

1. Review of Existing Literature

Numerous empirical investigations into the determinants of FDI rely on cross-country comparisons to identify the characteristics that promote or inhibit investment inflows

Cheng & Kwan (2000),using Chinese data collected from 29 Chinese regions during 1985 to 1995, observed that outsized regional market, superior infrastructure and privileged policy had a considerable impact on FDI inflow in China but wage cost had a pessimistic impact on FDI. However, the consequence of education has been observed to be insignificant statistically.

Chakrabarti (2001), using Extreme Bound Analysis (EBA)with 135 countries, found the sturdiness of the correlation between FDI and market-size, measured in terms of per-capita GDP, nevertheless it showed that relationship between FDI and various divisive variables (i.e., tax, tariff, exchange rate wage, growth openness and trade balance) are extremely perceptive to little alterations in the conditioning information set.

Asiedu (2002), considering 71 developing countries for the period,1988- 1997, revealed that excellent infrastructure as well as improved government policies has no considerable impact on FDI in SSA countries but has a positive effect on non-SSA countries but openness to trade upholds FDI to SSA and non-SSA countries.

Lall et al. (2003), in order to make a comparative study among the Caribbean and Latin America's FDI determinants to resolve whether any differences existed between the said two regions for the period,1983-94. The result substantiated that the exchange rate, market size and infrastructure are statistically noteworthy and significant for both the Caribbean and Latin American countries to magnetize FDI during this time period.

Jordaan (2004) examined the factors influencing high foreign investment and found that qualitative and dominant infrastructure exalted the earnings of dormant of investments in the country's financial system and accordingly inspired the foreign direct investment inflows into the selected country.

Ali & Guo (2005) while investigating China's inward FDI, demonstrated that market size was the most important factor which influences US firms to invest in China as a major emerging market whilst inexpensive labour costs were the significant contemplation for Asian firms when coming to a decision to invest in China .

Ramirez (2006) examined the important determinants of FDI inflows in Chile during 1960–2001 using several econometric tools. The results indicated that the real exchange rate, market size, the debt service ratio and also institutional variables were statistically noteworthy and significant in elucidating the disparity of FDI inflows into Chile during the study period.

Naudé & Krugell (2007) using cross-country analysis with panel data investigated empirically the determinants of FDI in Africa for about two decades. Citing superiority of dynamic one-step GMM approach over OLS technique, their results recognized quite a few strong determinants of FDI, like inflation rate, political stability, the rule of law, accountability, initial literacy, government consumption and regulatory burden.

Ang (2008) using FDI data for the time period, 1960–2005 in Malaysia, found that the size of the domestic market, financial development, infrastructure development, trade openness have statistically significant effect on inward FDI in Malaysia. Conversely, elevated statutory corporate tax rate as well as increase in the real exchange rate seem to dampen FDI inflows. Finally, result indicates that elevated macroeconomic uncertainty stimulates additional FDI inflows.

Zheng (2009) explored several determinants of FDI inflows in India and China by taking into account characteristics of both host and home countries. Presenting some exciting relationship and differentiation between the two countries, the result disclosed that country political risk, labour costs, imports, market growth and policy liberalization had been the most important factors for both countries. Conversely, geographical distance and cultural factors had been appeared to be important to India's FDI inflow, whereas exports, market size had been appeared to be crucial for China's FDI flow.

Mah & Yoon (2010) investigated the likely determinants of FDI inflows into two south east Asian countries - Indonesia and Singapore. Based on co integration test, the result indicated that for both Singapore and Indonesia, market size seems to affect FDI inflows optimistically and extensively, whilst factor costs of production are found to be non-influencing. The result also designated that wage levels are not statistically noteworthy, whilst the interest rate has an optimistic consequence on FDI inflows into Indonesia.

Singhania & Gupta (2011) examined some macroeconomic variables like rate of inflation, GDP, patents, money growth, interest rate and foreign trade. Using ARIMA (p, d, q)) to explicate variation in FDI inflows into India, they reached a conclusion that GDP, inflation rates, scientific research and FDI policy reform showed a very crucial role for the inflow of FDI in India during 1991 - 2008. Out of all macroeconomic variables taken into account, merely inflation rate, GDP, and scientific research are noteworthy and that FDI policy changes during 1995-1997 had a lasting effect upon inflows of FDI in India.

Panigrahi & Panda (2012) studied the important factors affecting FDI inflows in the perspective of India, China and Malaysia for the period, 1991 - 2010. Their results showed that capital infrastructure, GDP, the volume of import and export, external debt and domestic investment had extensively affected inflow of FDI into India and China, whereas in the case of Malaysia, merely domestic investment had considerably connected with inward FDI.

Gaikward (2013) using ARDL technique for India for the period, 1990 - 2008 found that high growth enhanced foreign direct investment in India.

Szkorupová (2014), after studying several factors influencing FDI for the period, 2001-2010 for Slovakia, observed the subsistence of long-term causal connections among variables considered for Slovakia.

Ravinthirakumaran et al. (2015) studied determinants of FDI for Sri Lanka for the period 1978–2013 and observed that the infrastructure, market size, trade openness, labour cost and political stability have significantly positive impact on inflows of FDI in Sri Lanka.

Demirhan & Masca (2016) after studying emerging economies for the period, 2000-2004 reached a conclusion that telephone lines, per capita growth and trade openness have improved inflows of FDI. On the contrary, inflation rate and tax rate have diminished inflows of FDI in underprivileged economies

Adhikary (2017) investigated impact of several macroeconomic factors on FDI disjointedly for selected SAARC countries like India, Pakistan, Bangladesh, Sri Lanka and Nepal, but estimated each country. The results displayed that the determinants of FDI inflows for SAARC countries were not alike across economies in terms of either significance level or sign, even though many determinants are universal.

Khamphengvong et al. (2018) using panel data for the period, 1995 - 2015 on Lao People's Democratic Republic, found that the trade openness, labour cost, market size, inflation rate and exchange rate had been found to be worth mentioning for FDI inflows in Lao PDR.

Boga (2019), using panel data for 23 countries for the period, 1975 - 2017 found that domestic credit, natural resources, economic growth, openness and telecommunication infrastructure decided the inflows of foreign direct investment in the long run. But, in the short run, growth and openness have positive impact on such FDI inflows.

Hashmi, Hongzhong &Ullah (2020) examined the impact of change of political regime, exchange rate, gross fixed capital formulation, economic growth, trade openness and financial development on FDI in Pakistan for the period, 1972-2016. Results showed short-run shocks on those independent variables undertaken in the study and found long-run equilibrium relationship among themselves. Also, it suggests that change in political regime has unenthusiastic consequence on FDI; foreign investors are fascinated much by military/authoritarian regime. Influx of FDI is further optimistically influenced by trade openness, exchange rate and gross fixed capital formation.

Brada, et.al. (2021) analysed the consequences of agreements of international investment in protecting the foreign investors. The investigation suggests that consequence of agreements of international investment is negligible and is believed to be zero. FDI from advanced countries emerged to be more reactive to the subsistence of investment protection.

Hayakawa, et. al. (2022) empirically examined the impact of COVID-19 on foreign direct investment using the quarterly data for the period, 2019 -2021. The result finds varied effects of COVID-19 impacts on FDI on the basis of sectors and mode of entry. The ruthlessness of COVID-19 in host countries unfavourably affected FDI in the industrialized sector irrespective of the mode of entry, but the consequence of COVID-19 of home countries upon FDI has been found to be irrelevant.

Several studies have explored the determinants of foreign direct investment (FDI) across different contexts. For instance, Sihombing et al. (2023) examined FDI inflows into Indonesia over the period 2018–2022, finding that GDP, the Human Development Index (HDI), and regional income were significant factors driving investment. These findings align with broader empirical evidence suggesting that macroeconomic performance, human development, and regional economic conditions with an important role in shaping FDI patterns.

Research Gap

A review of the literature indicates that prior empirical studies have largely examined financial, institutional, and political factors as key determinants of foreign direct investment (FDI) globally. Theoretical frameworks, such as the eclectic paradigm and institutional theory, suggest that factors including trade openness, market size, growth prospects, domestic investment, political stability, human capital, natural resource endowment, labour market conditions, governance quality, infrastructure, and macroeconomic indicators (e.g., inflation, interest rates, corporate taxation) play a critical role in shaping FDI inflows.

Most empirical studies on foreign direct investment (FDI) have emphasized demand-side factors, while supply-side determinants remain underexplored. Existing research predominantly relies on country-level data, with few studies examining sectoral-level evidence, and none employing qualitative approaches.

A review of the literature highlights political stability, trade openness, corruption, economic freedom, institutional efficiency, and industrialization as key factors influencing FDI inflows. Although extensive research exists globally, analyses focused on the Indian context are limited, and studies on India often address only conventional determinants. The present study contributes by adopting a systematic, stepwise approach to selecting FDI determinants, thereby addressing this gap and offering policy-relevant insights for emerging economies.

Accordingly, this research aims to investigate the determinants of FDI inflows into India, with a focus on the interplay of political stability, trade openness, corruption, economic freedom, institutional efficiency, and industrialization.

2. Research Methodology

Before applying the appropriate regression technique for studying an association between a dependent variable and quite a lot of independent variables, we first assume that the model is linear in parameters, the dependent variable is judged in a linear function by a specific set of independent variables with residual. Other postulation such as absence of serial correlation (by Durbin Watson test and Breusch-Godfrey LM test), homoscedasticity or absence of heteroscadasticity (by Breusch-Pagan-Godfrey test), normality of error terms (by Jarque-Bera test) and model specification (by Ramsey RESET Test) must be experimented before applying suitable regression to achieve Best Linear Unbiased Estimator (BLUE) properties. Furthermore, granger causality test has been applied to show short run causality among interplayed variables under consideration.

In this section, we consider foreign direct investment inflow in India as a function of several exogenous factors–social, economic, political, governance-related such as corruption perception indices (indicating level of corruption), economic freedom index, institutional efficiency index, industrialization, political stability index, business freedom index and also inflation as macroeconomic variable.

We have collected data for all parameters from World Bank database and especially from World Development Indicator. Foreign Direct Investment to India in Rs crores is taken from Handbook of Statistics on Indian Economy, 2024. Political Stability Index has been collected from the Economist Intelligence Unit, World Economic Forum, as well as from the Political Risk Services. All variables are log transformed. Due to limited availability of data, we have considered regression model for a period of 21 years from 1999-2000 to 2019-2020.

2.1. Model Specification

The regression model is represented as follows:

FDI = f(CPI, BFI, EFI , MARSIZ, OPEN, POLSTA, INDS, INFLA)

The regression equation is depicted below:

$$LnFDI_t = \beta_0 + \beta_1 CPI_t + \beta_2 LnBFI_t + \beta_3 EFI_t + \beta_4 LnMARSIZ_t + \beta_5 LnOPEN_t + \beta_6 POLSTA_t + \beta_7 INDS_t + \beta_8 INFLA_t + \mu_t$$

Unit root test

When dealing with time series data, a number of econometric issues can influence the estimation of parameters using OLS. Regressing a time series variable on another time series variable using the Ordinary Least Squares (OLS) estimation can obtain a very high R^2, although there is no meaningful relationship between the variables. This situation reflects the problem of spurious regression between totally unrelated variables generated by a non-stationary process.

Therefore, prior to testing and implementing the Granger Causality test, econometric methodology needs to examine the stationarity; for each individual time series, most macro-economic data are non-stationary, i.e., they tend to exhibit a deterministic and/or stochastic trend. Therefore, it is recommended that a stationarity (unit root) test be carried out to test for the order of integration. A series is said to be stationary if the mean and variance are time-invariant.

A non-stationary time series will have a time dependent mean or make sure that the variables are stationary, because if they are not, the standard assumptions for asymptotic analysis in the Granger test will not be valid. Therefore, a stochastic process that is said to be stationary simply implies that the mean $[(E(Y_t)]$ and the variance $[Var (Y_t)]$ of Y remain constant over time for all t, and the covariance $[covar (Y_t, Ys)]$ and hence the correlation between any two values of Y taken from different time periods depends on the difference apart in time between the two values for all t≠s.

Since standard regression analysis requires that data series be stationary, it is obviously important that we first test for this requirement to determine whether the series used in the regression process is a difference stationary or a trend stationary.

ADF Test

To test the stationary of variables, we use the Augmented Dickey Fuller (ADF) test which is mostly used to test for unit root. Following equation checks the stationarity of time series data used in the study:

$$\Delta y_{t=} \beta_1 + \beta_1 t + \alpha y_{t} + Y_1 \Sigma \Delta y_{t-1} + \varepsilon_t$$

where: ε_t is white nose error term in the model of unit root test, with a null hypothesis that variable has unit root.

The ADF regression test for the existence of unit root of y_t that represents all variables (in the natural logarithmic form) at time *t*. The test for a unit root is conducted on the coefficient of y_{t-1} in the regression. If the coefficient is significantly different from zero (less than zero) then the hypothesis that y contains a unit root is rejected. The null and alternative hypothesis for the existence of unit root in variable y_t is:

H_0: α = 0 versus H_1: α < 0.

Rejection of the null hypothesis denotes stationary in the series.

If the ADF test-statistic (t-statistic) is less (in the absolute value) than the Mackinnon critical t-values, the null hypothesis of a unit root cannot be rejected for the time series and hence, one can conclude that the series is non-stationary at their levels. The unit root test tests for the existence of a unit root in two cases: with intercept only and with intercept and trend to take into the account the impact of the trend on the series.

PP Test

The PP tests are non-parametric unit root tests that are modified so that serial correlation does not affect their asymptotic distribution. PP tests reveal that all variables are integrated of order one with and without linear trends, and with or without intercept terms.

Phillips–Perron test (named after Peter C. B. Phillips and Pierre Perron) is a unit root test. That is, it is used in time series analysis to test the null hypothesis that a time series is integrated of order 1. It builds on the Dickey–Fuller test of the null hypothesis δ = 0 in Δ $y_t = \delta y_{t-1} + u_t$, here Δ is the first difference operator.

Like the augmented Dickey–Fuller test, the Phillips–Perron test addresses the issue that the process generating data for y_t might have a higher order of autocorrelation than is admitted in the test equation - making y_{t-1} endogenous and thus invalidating the Dickey–Fuller t-test. Whilst the augmented Dickey–Fuller test addresses this issue by introducing lags of Δ y_t as

regressors in the test equation, the Phillips–Perron test makes a non-parametric correction to the t-test statistic. The test is robust with respect to unspecified autocorrelation and heteroscedasticity in the disturbance process of the test equation.

Granger Causality Test

Causality is a kind of statistical feedback concept which is widely used in the building of forecasting models. Historically, Granger (1969) and Sim (1972) were the ones who formalized the application of causality in economics. Granger causality test is a technique for determining whether one time series is significant in forecasting another (Granger. 1969). The standard Granger causality test (Granger, 1986) seeks to determine whether past values of a variable help to predict changes in another variable.

The definition states that in the conditional distribution, lagged values of Y_t add no information to explanation of movements of X_t beyond that provided by lagged values of X_t itself (Greene, 2003). We should take note of the fact that the Granger causality technique measures the information given by one variable in explaining the latest value of another variable. In addition, it also says that variable Y is Granger caused by variable X if variable X assists in predicting the value of variable Y. If this is the case, it means that the lagged values of variable X are statistically significant in explaining variable Y. The null hypothesis (H_0) that we test in this case is that the X variable does not Granger cause variable Y and variable Y does not Granger cause variable X. In summary, one variable (X_t) is said to granger cause another variable (Y_t) if the lagged values of X_t can predict Y_t and vice-versa.

2.2. Robustness Test

Multicolliearity

Before running the regression, investigation into the multicollinearity problem has to be carried out using the pairwise correlation matrix. First of all, bivariate (pair-wise) correlations among the independent variables were examined to find out the multicollinearity problem. The existence of correlation of about 0.90 or larger indicates that there is problem of multicollinearity. When independent variables are highly correlated in a multiple regression analysis, it is difficult to identify the unique contribution of each variable in predicting the dependent variable because the highly correlated variables are predicting the same variance in the dependent variable. Some statisticians say correlations above 0.70 indicate multicollinearity and others say that correlations above 0.90 indicate multicollinearity.

Multicollinearity is assessed by examining tolerance and the Variance Inflation Factor (VIF) which are two collinearity diagnostic factors that can help to identify multicollinearity. If a low tolerance value is accompanied by large standard errors and no significance, multicollinearity may be an issue. The variable's tolerance is indicated by $1-R^2$. A small tolerance value indicates that the variable under consideration is almost a perfect linear combination of the independent variables already in the equation and that it should not be added to the regression equation. The Variance Inflation Factor (VIF) measures the impact of collinearity among the variables in a regression model. The Variance Inflation Factor (VIF) is 1/Tolerance, it is always greater than or equal to 1. There is no formal VIF value for determining presence of multicollinearity. A commonly given rule of thumb is that multicollinearity exists when Tolerance is below 0.1 and values of VIF that exceed 10 are often regarded as indicating

multicollinearity. When those R^2 and VIF values are high for any of the variables in regression model, multicollinearity is probably an issue.

Serial correlation (Breusch-Godfrey test)

In Ordinary Least Squares (OLS) regression, time series residuals are often found to be serially correlated with their own lagged values. Serial correlation means (a) OLS is no longer an efficient linear estimator, (b) standard errors are incorrect and generally overstated, and (c) OLS estimates are biased and inconsistent. This test is an alternative to the Q-Statistic for testing for serial correlation. It is available for residuals from OLS, and the original regression may include autoregressive (AR) terms. Unlike the Durbin-Watson Test, the Breusch-Godfrey test may be used to test for serial correlation beyond the first order, and is valid in the presence of lagged dependent variables. The null hypothesis of the Breusch-Godfrey test is that there is no serial correlation up to the specified number of lags. The Breusch-Godfrey test regresses the residuals on the original regressors and lagged residuals up to the specified lag order. The number of observations multiplied by R^2 is the Breusch-Godfrey test statistic. The statistic labeller's*R-squared' is the LM test statistic for the null hypothesis of no serial correlation. The high probability values indicate the absence of serial correlation in the residuals.

Normality of Error Terms (Jarque-Bera Test)

The Jarque-Bera test, a type of Lagrange multiplier test, was developed to test normality of regression residuals. The Jarque-Bera statistic is computed from skewness and kurtosis and asymptotically follows the chi-squared distribution with two degrees of freedom. While testing for normality, it was found that Jarque-Bera statistics where p values for all variables are lower than 0.05 implies that variables under our consideration are normally distributed.

Ramsey Reset Test

The Ramsey Reset Test, popularly known as Regression Equation Specification Error Test, isa statistically analytical device applied in econometrics to confirm for functional form misspecification in a linear regression model, such as the existence of omitted variables or incorrect relationships. It works by adding powers of the predicted values from the original regression as new explanatory variables in a second regression; if these added terms are statistically significant, it suggests the original model's functional form is incorrect. The null hypothesis is that the model is correctly specified, and a rejection indicates misspecification.

2.3. Definition of variables

The research endeavour applies the natural log of FDI inflows as the dependent variable to make certain uniformity in determining the dependent variable.

Inflation

High inflation rate in an economy adversely impacts Foreign Direct Investment (FDI) inflows by diminishing value of foreign companies' earnings, enhances exchange Rate Volatility by devaluating currency. It enhances uncertainty in the market as well as the perceived risk of investing, thus discouraging foreign investment in that economy. On the other hand, lower rate of inflation diminishes lending rates which make lower cost of capital for foreign investors (Sayek, 2009). However, judicious levels of inflation may not have a noteworthy pessimistic effect on FDI.

Corruption

It is characterized by corruption perception index annually available from Berlin-based Transparency International since 1995 where ranking of countries is done by their perceived levels of public sector corruption. The CPI usually delineates corruption as a misuse of delegated power for private gain. Corruption is conservatively comprehended as the personal wealth-seeking behaviour of some people who characterizes the public authority. It is the abuse of public resources by public officials for personal gain. Corruption may change the assessments of private investors of the comparative merits of different investments. It may lead to misallocation of resource when decisions regarding investment of public funds are taken by a corrupt government agency. This misallocation pursues from the likelihood that a fraudulent decision-maker will judge likely "corruption payments" as the decision criteria. A common view prevails that corruption may affect efficiency by allocating resources.

Economic freedom

Economic freedom is the individual's right to work and to get his effort and belongings at their disposal and have right to be in charge of them. This indicates negligible interference by the state reflecting largely in the shield of fundamental property rights, and also the execution and efficiency of the law in enforcing contracts. All other segments of economic flows require be relieving of state interference and leaving to actions on the market. The Economic Freedom Index (EFI) is composed of ten elements which are grouped into four fundamental pillars of economic freedom like rule of law, limited government, regulatory efficiency (i.e., labour freedom, business freedom, monetary freedom), market openness pillar (i.e., trade freedom, investment freedom, financial freedom). The EFI offers a brief measure of free market activities and incarcerates the degree to which a country depends on free markets to distribute resources. This has five key components, like: legal system, government size, property rights and access to sound money, regulation of business and freedom to trade, and labour and credit markets.

Political stability

Political stability designates the degree of the upholding of the status-quo in the transitional processes in the country. Such transitional processes consist of policy-making, election etc. Political stability is significant for business environments in India, as it influences investors and consumers' confidence which are having a long-drawn effect on the economy. Changes in political stability, therefore, have implications for investment, consumption, manufacturing competence and also economic growth in India. The uncertainty connected with unbalanced political surroundings may diminish investment and the swiftness of industrial efficiency vis-à-vis economic growth of a country. Moreover, steadfast political surroundings with trustworthy government policies with market-based institutions, are precisely known to be "good governance" which affect firms' operational costs and degree of profitability in a host nation (Root & Ahmed, 1978; Sethi et al., 2003; Fan et al., 2009).

Business freedom

Business freedom is largely a gauge of the efficiency of government regulation of business. The quantitative score is obtained from a collection of measurements of the complexity of starting, operating, and finishing a business. Business freedom includes trade freedom, labour freedom, monetary freedom, financial freedom, investment freedom, economic freedom. The Business freedom index is based on 10 indicators, collecting information from 'Doing Business study' of the World Bank.

Industrialization

Industrialization is the phase of economic and social transformation that alters a community of human beings from an agrarian economy to well-built industrial economy. It engrosses an extensive re-organization of an economy suitable for manufacturing having extremely constructive effects on productivity, social mobility, wages, wealth generation, and standard of living and affords an incentive to industrial investments and thus carries with it modernization and sociological process of rationalization.

Market size:

A considerable part of FDI is "market-seeking," which means that companies aggressively target countries with large consumer markets to maximize sales potential. A larger market size in a country generally leads to an affirmative impact on Foreign Direct Investment (FDI) inflows, meaning that countries with bigger economies, often measured by GDP, tend to attract more foreign investment due to the potential for a larger customer base and higher potential returns for foreign companies; essentially, a larger market offers more opportunities for foreign firms to sell their products and services.

Numerous empirical studies substantiate that market size is one of the key determinants of foreign direct investment inflows, predominantly market-oriented projects of foreign direct investment (Balassa, 1966; Bieri, 1972; Scaperlanda & Mauer, 1969; Chakrabarti, 2001; Culem, 1998). On the whole, the overriding observation is that a bigger market of the host country draws a greater amount of foreign direct investment.

Table1: List and definition of variables

Variables in the regression	Abbrev.	Definition
Foreign Direct Investment	FDI	▪ Natural log value of Foreign Direct Investment inflows
Corruption	CPI	▪ Corruption Perception Index collected from Berlin based Transparency International indicating mistreatment of delegated power for personal gain "on a scale from 100 (very clean) to 0 (highly corrupt)" based on the situation"
Economic Freedom Index	EFI	▪ Economic Freedom Index indicating fundamental right of every human being to be in charge of his or her own labour and belongings which is collected from Heritage Foundation Index of Economic Freedom "on a scale from 100 (fully free) to 0 (fully repressed)". ▪ Economic Freedom Index entails rule of law, government size, open markets, regulatory efficiency and it is calculated on the foundation of the unweighted average of 10 sub-indices of economic freedom.
Industrialization	INDS	▪ Industry value added (% of GDP)

Variables in the regression	Abbrev.	Definition
Political Stability	POL STA	▪ Political Stability Index from the Economist Intelligence Unit, the World Economic Forum, and the Political Risk Services etc. (-2.5 weak; 2.5 strong)
Business freedom	BFI	▪ Business freedom index collected from Heritage Foundation/ The Wall Street Journal evaluates the rights and ability of individuals to undertake entrepreneurial activities.
Inflation	INFLA	▪ consumer price, annual%
Market size	MARSIZ	▪ GDP per capita as proxy of market size

3. Analysis of Results

With the initiation of economic reforms, FDI inflows in India had been estimated to be nearly 0.097 billion dollars in financial year, 1990–1991. It reached the maximum peak level of 43 billion dollar in 2008; on the other hand, due to worldwide financial meltdown, it came down to 38.48 billion dollars up to the year, 2010 and once more increased to 39.79 billion dollars till the financial year, 2012–2013. A review of UNCTAD in 2012 furthermore affirmed that India had been the second major FDI destination nation after China. Another review by Ernst and Young also disclosed that India was the fourth most striking FDI destination in the financial year, 2010.

Ramsey's RESET test has been applied in the above model to have correct model specification in Table 2. Furthermore, we reject null hypothesis when the p-value for the model is less than the significance level of 0.05, otherwise do not reject the null hypothesis. The result presents that p-value is constantly greater than 0.05. Consequently, we fail to reject null hypothesis of no functional misspecification in the series and model is specified and there is enough substantiation to bring to a conclusion that the regression model is specified appropriately at significance level of 0.05. In our research, Ramsey's test statistic designates no functional misspecification in the series and hence, model is well specified as shown by F-statistics provided by Ramsey Reset test.

Table 2: Ramsey's RESET Test

Parameters	Value	df	Probability
t-statistic	0.556829	12	0.5879
F-statistic	0.310059	(1, 12)	0.5879
Likelihood ratio	0.535712	1	0.4642

Source: Authors' own estimate from collected data

H_0: There is no functional misspecification in the series and model is specified;

H_1: There is functional misspecification in the series and model is non-specified.

A significant supposition of the classical linear regression model is that the disturbance (residual) term u_i is homoscedastic; that is, they all have the same variance. For the legitimacy of this assumption, Breusch-Pagan-Godfrey Test are used in the regression equation as depicted in Table 3. We can delineate heteroscedasticity as the condition in which the variance of error term or the residual term in a regression model varies.

The Breusch-Pagan-Godfrey Test do not reject the null hypothesis of no heteroscedasticity because the p-value is larger than 0.05. [p>0.05]. So, we fail to reject null hypothesis of no heteroscedasticity and the *F*-statistic and the LM test statistic both signify that the residuals are not heteroscedastic and hence, variances for the errors are equal.

Table 3: Heteroscedasticity Test

Breusch-Pagan-Godfrey Test			
F-statistic	0.785946	Prob. F(8,12)	0.6244
Obs*R-squared	7.220149	Prob. Chi-Square (8)	0.5131
Scaled explained SS	1.551847	Prob. Chi-Square (8)	0.9918

Source: Authors' own estimate from collected data

$H_{0:}$ There is no heteroscedasticity i.e., variance for the errors is equal. In math terms, that's: $H_0 = \sigma^2_1 = \sigma^2$;

$H_{1:}$ There is heteroscedasticity i.e., variance for the errors is not equal. In math terms, that's: $H_{1=} \sigma^2_1 \not\approx \sigma^2$.

In Table4, the test does not reject the null hypothesis of no serial correlation up to order 2 [p>0.05]. The *Q*-statistic and the LM test both indicate that the residuals are not serially correlated. Also, Durbin Watson test result in Table 8 confirms that there is no autocorrelation in regression model as the D-W value is 1.96 (nearly 2).

Table 4: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.809107	Prob. F(2,12)	0.4701
Obs*R-squared	2.693129	Prob. Chi-Square(2)	0.2601

Source: Authors' own estimate from collected data

H_0: There is no serial correlation in the residuals up to the specified order;

H_1: There is serial correlation in the residuals up to the specified order.

In Jarque-Bera test of normality, if the p-value is smaller than significance level which is 0.05, the null hypothesis will be rejected. It represents that the error terms in the model are not normally distributed. Here, in Table 5, in all the sample years, p-values of Jarque-Bera Test statistic of all variables under consideration are greater. As a result, all the variables satisfy normality condition.

Table 5: Jarque-Bera Test-Normality of Error Terms

	LN_FDI	CPI	LNBFI	LNEFI	LNMARSIZ	LNOPEN	POL_STA	INDS	INFLA
Jarque-Bera	2.404185	1.780027	3.622868	1.752196	1.367234	1.944383	196.3275	1.931530	1.934824
Prob.	0.300565	0.410650	0.163420	0.416405	0.504788	0.378253	0.000000	0.380692	0.380065
Obs	21	21	21	21	21	21	21		

Source: Authors' own estimate from collected data

Ho: series are normal;

H$_1$: series are not normal.

Table 6 present the results of the unit root test. The results show that all variables in our study attain stationarity at level, I(0), using both ADF and PP test. The results indicate that the null hypothesis of a unit root can be rejected for the all given variables as all the ADF statistic value and PP statistic value are smaller than the critical t-value at 1% ,5% and 10% level of significance for all variables and, hence, one can conclude that the variables under consideration attained stationary at their levels in both ADF and PP test.

Table 6: Unit Root test

Variable Name	ADF TEST		PP Test	
	Level	Conclusion	Level	Conclusion
LNFDI	-4.120808	I(0)	-3.825	I(0)
CPI	-4.159518	I(0)	-4.155	I(0)
LNBFI	-4.455859	I(0)	-4.423	I(0)
LNEFI	-4.473979	I(0)	-4.558	I(0)
LNMARSIZ	-3.351318	I(0)	-3.704	I(0)
LNOPEN	-3.516999	I(0)	-3.579	I(0)
POLSTA	-4.085084	I(0)	-4.070	I(0)
INDS	-6.439031	I(0)	-4.034	I(0)
INFLA	-12.39723	I(0)	-5.423	I(0)
Critical value	1% level	-3.808546	1% level	
	5% level	-3.020686	5% level	
	10% level	-2.650413	10% level	

Note: *MacKinnon critical values for rejection of hypothesis of a unit root.
Source: Authors' own estimate from collected data

H0: series has unit root;

H1: series is trend stationary

All conditions for applying OLS technique have been satisfied and it treated as more efficient technique to judge the impact of several factors influencing FDI inflows in India under consideration.

Table 7: Determinants of Foreign Direct Investment (OLS)

Variable	Coefficient	t-Statistic
Dependent variable: LNFDI Included observations: 21	Method: Least Squares Sample: 1999-2000 to 2019-2020	
C	-57.0074	-1.79716
CPI	-48.51084	-1.668599
LNBFI	2.628436	2.092296
LNEFI	7.497082	1.518416
LNMARSIZ	4.087044	2.034965

Variable	Coefficient	t-Statistic
LNOPEN	2.050887	1.747715
POLSTA	0.317754	1.697649
INDS	4.917057	1.68598
INFLA	0.049737	0.512626
R-squared	0.949470	
Durbin-Watson stat	1.964209	

Note: *** Significant at 1% level; ** Significant at 5% level; *Significant at 10% level

Source: Authors' own estimate from collected data

Table 7 shows factors influencing FDI inflow in India which are obtained from OLS estimation. In our study, corruption perception index (CPI) has significant negative impact on FDI inflow of India. The result indicates that prevalence of corruption trims down foreign investors' expectations to invest in India. This may happen in Indian economic scenario probably owing to unproductive investments, faulty allocation of production factors, and high proportion of uncertainty and escalating transaction cost that arrive at with the surfacing of corruption. Resource allocation in manufacturing sector may be influenced through several avenues. The corrupt corporate managers or government agency (both are bribery ridden) may make faulty decision on investment of private or public fund which may induce resource misallocation. The decision criteria in this misallocation process may arise from possible "corruption payment" that the corrupt decision makers consider in times of allocating scarce resource in manufacturing operation. Conversely, relative merits of several manufacturing investment projects and the private investors' assessment on those projects may be affected by corruptive practices. All these practices associated with corruption may lead to declining effectiveness of Indian manufacturing sectors.

The coefficient of economic freedom (EFI) that may influence FDI inflow in India is positive but slightly statistically insignificant which is within our expectation; reduced government interventions and reduced bureaucracy, and vigilance in the application of rule of law may be the reasons behind positive effect on inflow of FDI. Therefore, this study also finds strong substantiation that higher trade freedom enhances efficiency in Indian industrial sector encouraging rapid FDI inflow. One elucidation for this is the congenial and supportive management, technology and abundant supply of capital in favour of domestic firms. These are considered to be strong weapons to challenge foreign competitors. The performance of both domestic firms and foreign competitors can be approvingly influenced in a strictly competitive market, resulting in higher efficiency via productivity growth.

Market size has an effect on foreign direct investment in an encouraging manner. GDP per capita has been taken into account as an alternative measure of market size in this study. GDP per capita points out a well-built position of economies and it magnetizes foreign investors for making heavy investments in host economies. The study shows that each percentage increase in GDP per capita shows the way to an increase in foreign direct investment by 4.08 percent in India. The rationale may be that soaring GDP per capita suggests a well-built financial position and the progress of economies. All this guarantees for high possibility of earnings for the investors. The result is supported by the findings of Kaur & Sharma (2013).

Industrial development via industrialization has positive effect on efficiency growth, although not so significantly, in Indian industrial sector vis-à-vis broader economic scenario during the period 1999-2000 to 2019-20. Industrialization goes a long way in inspiring FDI inflow through the channel of rapid economic growth via efficiency growth in Indian industrial segment, technological progress and infrastructural development.

The fundamental political stability index reveals the likelihood of an uncontrollable transfer of government power, aggressive exhibition, armed conflict, terrorism, international tensions, social turbulence, as well as religious, ethnic, or provincial conflicts. Strong political stability matters a lot for productivity growth in any economy. The result reflects that political stability is very significant for achieving higher growth of FDI inflow. The coefficient of political stability is positive and significant implying that ensured political stability in India creates a congenial environment for FDI flow in Indian economy.

Theoretically, business freedom index (BFI) indicates that the more freedom given to people on matters of controlling their lives and the less authority of the government on the business regulation will initiate higher enthusiasm in FDI inflows. On the contrary, FDI can facilitate the workforce development by exercising and accelerating training facilities and providing managerial proficiency. The study suggests that higher business freedom permits for the further presence of foreign ownership and competitors leading to enhancement in competition, technology transfer, efficiency, transparency, international standards, and the quality of the labour force. All these are associated with higher inflow of FDI.

Trade openness designates a reinforced position of economies. High exports and imports boost congenial relationships among nations and they are more dependent upon each other in a gracious atmosphere. This augmented trade openness among nations draws a great deal of foreign direct investment from the investor's countries reflected in our approximation. Unfortunately, the study found not so significant effect of inflation on FDI inflows in India.

The authors' econometric representation explicates approximately 95% variation in FDI inflows into India. Implicitly, the balance 5% variation in FDI inflows is still inexplicable and so additional investigation should be undertaken with even wider scope in terms of other macroeconomic variables not considered yet.

Table 8: Pair wise Granger Causality Tests

Null Hypothesis	Obs	F-Statistic	Prob	Decision	Direction of causality
CPI does not Granger Cause LNFDI	19	0.34519	0.7139	Did not reject null at 5%	$CPI \nRightarrow LNFDI$
LNFDI does not Granger Cause CPI		2.41678	0.1254	Did not reject null at 5%	$LNFDI \nRightarrow CPI$
LNEFI does not Granger Cause LNFDI	19	0.77448	0.4797	Did not reject null at 5%	$LNEFI \nRightarrow LNFDI$
LNFDI does not Granger Cause LNEFI		1.17768	0.3367	Did not reject null at 5%	$LNFDI \nRightarrow LNEFI$
LNBFI does not Granger Cause LNFDI	19	3.42173	0.0417	Reject null at 5%	$LNBFI \Rightarrow LNFDI$
LNFDI does not Granger Cause LNBFI		0.61583	0.5542	Did not reject null at 5%	$LNFDI \nRightarrow LNBFI$

Null Hypothesis	Obs	F-Statistic	Prob	Decision	Direction of causality
LNMARSIZ does not Granger Cause LNFDI	19	6.75097	0.0089	Reject null at 5%	LNMARSIZ $\Rightarrow$ LNFDI
LNFDI does not Granger Cause LNMARSIZ		5.06780	0.0221	Reject null at 5%	LNFDI $\Rightarrow$ LNMARSIZ
LNOPEN does not Granger Cause LNFDI	19	3.61998	0.0478	Reject null at 5%	LNOPEN $\Rightarrow$ LNFDI
LNFDI does not Granger Cause LNOPEN		0.53572	0.5968	Did not reject null at 5%	LNFDI $\nRightarrow$ LNOPEN
POLSTA does not Granger Cause LNFDI	19	3.706179	0.0489	Reject null at 5%	POLSTA $\Rightarrow$ LNFDI
LNFDI does not Granger Cause POLSTA		2.43899	0.1234	Did not reject null at 5%	LNFDI $\nRightarrow$ POLSTA
INDS does not Granger Cause LNFDI	19	0.53561	0.5968	Did not reject null at 5%	INDS $\nRightarrow$ LNFDI
LNFDI does not Granger Cause INDS		0.31326	0.7361	Did not reject null at 5%	LNFDI $\nRightarrow$ INDS
LNINFLA does not Granger Cause LNFDI	19	0.70927	0.5089	Did not reject null at 5%	LNINFLA $\nRightarrow$ LNFDI
LNFDI does not Granger Cause LNINFLA		0.85754	0.4453	Did not reject null at 5%	LNFDI $\nRightarrow$ LNINFLA

Note: Sample: 1999 - 2000 to 2019 – 2020; Lags: 2

Source: Author's own estimate

The result of Granger Causality test in the Table 8 below suggests that we cannot reject the H_0 in most of the cases because the F-statistics are moderately smaller and the majority of the probability values are approximated to or even greater than 0.05 at lag length 2. The results assist us to infer that there does not have any kind of causality in any direction in most of the cases except the fact that unidirectional causation runs from BFI to FDI, OPENNESS to FDI, POLSTA to FDI; bidirectional causality exists between MARSIZ and FDI at length 2.

This simply implies that business freedom, trade openness and absence of political turmoil create congenial atmosphere to persuade influx of huge foreign direct inflow in host country like India. Moreover, market size persuades FDI inflows in one hand and on the other, FDI creates new market demand via GDP stimulation thereby expanding size of market.

Conclusions

In our study, corruption perception index (CPI) has significant negative impact on FDI inflow of India. The coefficient of economic freedom (EFI) that may influence FDI inflow in India is positive but slightly statistically insignificant which is within our expectation. Market size affects foreign direct investment in a positive way. Industrial development via industrialization has positive effect on efficiency growth, although not so significantly, in Indian industrial sector vis-à-vis broader economic scenario during the period 1999 - 2000 to 2019 - 2020. The coefficient of political stability is positive and significant entailing that ensured political stability in India creates a congenial environment for FDI inflow in Indian economy.

The study suggests that higher business freedom permits for the further presence of foreign ownership and competitors leading to enhancement in competition, technology transfer, efficiency, transparency, international standards, and the quality of the labour force. All these are associated with higher inflow of FDI. This increased trade openness among nations attracts much foreign direct investment from the investor's countries reflected in our estimate. Unfortunately, the study found not so considerable effect of inflation on FDI inflow in India. The results assist us to infer that there does not have any kind of causality in any direction in most of the cases except the fact that unidirectional causation runs from business freedom, openness and political stability to foreign direct investment; bidirectional causality exists between market and foreign direct investment at lag length 2.

As a policy recommendation, it is suggested to be in command over the rate of inflation in the financial system of the country to enhance the growth of the economy. Political stability should be maintained over years for the expansion and execution of long-term economic strategies which promote investor's buoyancy and attract foreign direct investment. Government should give priority in the design of investment-friendly surroundings by ensuring rigid transparency and shield of property rights. Ensuring the institutional quality should be the crucial target for attracting both domestic and foreign investors. In paving the ensured way, governments must reinforce the rule of law, restrain corruption, and set up an unwrap and predictable regulatory framework. These schemes might pave the way for rapid influx of FDI, uphold economic growth, make easy the transfer of technology, and cause employment.

The prospective researchers in future may investigate determinants of FDI inflows by employing qualitative interview data and may also consider relative study of the supply-side factors. The future researchers may also extend their additional analysis of the determinants of FDI by employing sector specific data by extending their data base till 2024-25 which is conspicuously absent in this study.

Credit Authorship Contribution Statement:

R. S., being the sole author, contributed fully to the paper. R.S. was entirely responsible for the conceptualization of the study, literature review, methodology, data collection, data analysis, and writing the original draft. He also contributed exclusively to the revision and editing of the manuscript. The author worked completely himself throughout the research process and approved the final version of the paper.

Conflict of Interest Statement

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Data Availability Statement

Data available on request: The data presented in this study are available on request from the corresponding author.

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