



***FOREIGN DIRECT INVESTMENT: A COMPARATIVE ANALYSIS OF  
INDIA AND CHINA***

*A Synopsis of Ph.D. Thesis in Business Economics*

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*By*

***Sharma Nandini Umesh***

*Under the guidance of Dr. Sumana Chatterjee*

*Department of Business Economics*

*Faculty of Commerce*

***THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA***

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## **List of Abbreviations**

1. DPIIT: Department for Promotion of Industry and Internal Trade
2. FDI: Foreign Direct Investment
3. FTA: Free trade agreement
4. GDP: Gross Domestic Product.
5. GFCF: Gross Fixed Capital Formation.
6. IMF: International Monetary Fund
7. MOFCOM: Ministry of commerce, China.
8. OECD: Organization for Economic Co-operation and Development.
9. RBI: Reserve Bank of India
10. SDG: Sustainable Development Goals
11. UNCTAD: United Nations Conference on Trade and Development
12. VAR: Vector Autoregressive Model
13. VECM: Vector Error Correction Model
14. WBI: World Bank Indicators
15. WIR: World Investment Report
16. WTO: World Trade Organization

# **1. INTRODUCTION**

## **1.1 Context and Background of the Study**

The present study titled "Foreign Direct Investment: A Comparative Analysis of India and China" is situated within the broader context of global economic trends and the significance of India and China as key players in the world economy. Both countries have experienced remarkable economic growth and have attracted substantial Foreign Direct Investment over the past few decades. This research seeks to delve deeply into the specific trends, patterns, factors, policies, and outcomes that have shaped FDI in India and China, providing a nuanced understanding of how these two diverse nations have navigated the complexities of FDI inflows and outflows. Also, the United Nations' adoption of the 2030 Agenda for Sustainable Development in 2015 recognised that FDI, when channelled effectively, can act as a powerful driver of sustainable development. Both nations are substantial recipients of FDI, making them vital players in shaping the impact of international capital on sustainable development. This study also attempts to draw critical insights from analysing how FDI contributes or challenges SDG in these diverse and dynamic contexts. In order to shed light on the distinct strategies and challenges associated with FDI in these dynamic Asian economies and to provide recommendations for future investment decisions in the region, this study intends to conduct a comparative analysis and provide insightful information to academia, policymakers, and investors alike.

### **India**

A developing nation like India depends on FDI for a number of reasons, including the development of technology, fiscal stability, increased global competitiveness, diversification, and the building up of foreign exchange reserves, all of which improve macroeconomic indices. India had a serious Balance of Payments crisis in 1991, but it was unable to stop inflation by printing new currency notes or avoid a debt crisis by taking on large amounts of foreign borrowing. In order to address this issue, the Indian government decided to integrate the country's economy more deeply with the world economy and started major economic policy reforms in 1991. Even though foreign investments in India started in the 1970s, there were obstacles in a number of areas. India first welcomed FDI in 1991, and since 1995, FDI inflows have increased. However, there has been a significant change in the structure of FDI inflows in India since 2005 as Singapore, and Mauritius emerged as highest contributors surpassing economies like The United States of America and the

United Kingdom. India witnessed an increase in FDI from 2000 to 2016. However, for the next two years FDI flows decreased and again jumped back in the following years. This could be attributed to factors, including the intensity of the pandemic, in countries like China and Brazil and higher investments, in the pharmaceutical industry to fight against COVID 19.

India's primary focus until 2005, revolved around attracting investment into its domestic economy. However Indian companies began to expand their investments after 2005. They made large investments in a variety of industries, including information technology, pharmaceuticals, wholesale and retail trade, transportation, and manufacturing, in nations like the United States, the United Kingdom, Singapore, and Malaysia.

Prior to the year 2000, most Indian investments focused on finding attractive goods abroad. Nevertheless, the post-2000 economic landscape has changed dramatically. With the manufacturing sector receiving the largest share of these investments, Indian companies focused more and more on making market-seeking investments. The overall pattern demonstrated a notable shift in investment flows in the direction of opportunities found in the market.

## **China**

China's centrally managed economy was in economic stagnation prior to 1979. Several challenges, including resource scarcity, poverty, inequality, and a severe foreign exchange crisis, compelled China to seek FDI as a means to earn foreign exchange. Consequently, China adopted an export-led growth strategy, considering FDI a pivotal catalyst. In 1979, under the leadership of Deng Xiaoping, China introduced economic reforms and opened its doors to foreign investment. Their policy focused on reducing state control over enterprises and encouraged them to collaborate with multinational corporations that were global leaders in their respective sectors. It is noteworthy that China's approval of FDI was often based on the incentives it offered to the industrial sector, especially before its accession to the World Trade Organization. In the 1980s, equity joint ventures with foreign entities gained prominence in China, requiring them to demonstrate economic benefits. In 2006, there was a notable increase in cross-border mergers and acquisitions. China witnessed substantial growth in inbound FDI from 2005 to 2011, as documented by studies such as (Sweeney, 2010). The structure of FDI inflows in China post 2000 became more diversified since European economies, and Australia started investing in China. Post 2000, there was a shift

in Chinese investment from purely manufacturing sector investments to green field investments, investments in R&D, telecommunications, and biotechnology.

China's FDI outflows began to surge in the mid-2000s. Prior to this, FDI outflows were limited and primarily focused on neighbouring countries like Hong Kong, Taiwan, and other Asian nations. These early investments were predominantly resource-seeking and often guided by the Chinese government. However, in the mid-2000s, China's investment landscape underwent a significant transformation. Chinese FDI expanded to encompass a broader range of economies, both developed and developing. The private sector played an increasingly prominent role in driving these investments. Chinese investments shifted away from being solely resource-seeking and diversified into market-seeking and efficiency-seeking investments. This shift marked a pivotal moment in the evolution of China's outward FDI, as it became more diverse, dynamic, and reflective of China's growing role in the global economy.

## **1.2 Relevance of the Study**

The core motivation driving this research is the striking observation that India and China both boast comparable market sizes, yet China consistently manages to attract a substantially larger volume of FDI inflows in comparison to India. To illustrate, in years such as in the year 2005, 2010, and 2015, China nearly attracted nine, five, and three times higher FDI inflows than India. In 2018 and 2019, which can be considered as typical pre-COVID-19 years, China drew in FDI that was nearly five times greater than that of India (World Bank Indicators, 2023). Additionally, China is significantly outperforming India in terms of FDI outflows, investing nearly ten times more. However, recent reports from various sources as (Bloomberg, 2022), ( Elisabeth Braw, 2022) and the Rhodium Group, have indicated that companies are contemplating the relocation of their investments away from China. Hence, in the current economic landscape, it becomes crucial to investigate the type of business environment that India should cultivate in order to fetch better investors. An important driving motivation of this research is that India which is currently behind China in terms of FDI performance can also learn from China's FDI journey and China having identical market sizes and location parameters can be a good learning model.

Furthermore, China excels in terms of FDI outflows. Notably, the literature review includes influential studies like (Desai et al., 2015) and (UNESCAP, 2019), which emphasize the strategic importance of FDI outflows, alongside FDI inflows. Therefore, a comparative study of FDI inflows and outflows in India and China can provide valuable insights. This analysis could enable India to learn from China's successes and mistakes, allowing India to aim for a business environment similar to China's, thereby enhancing its attractiveness to investors.

To grasp the significance of comparing FDI flows in India and China, it is essential to gain insight into their macroeconomic parameters. The following table (1) emphasizes the macroeconomic conditions in both the economies, which have potential impact on investors choice regarding FDI flows.

**Table 1: Macroeconomic Scenario,2019**  
(In terms of percentage (%))

Macroeconomic Parameters	India	China
Annual average Inflation	4.8	2.9
Real GDP Growth Rate	3.9	6
External Debt Shocks (% of GNI)	20	14.85
Official Exchange Rate (LCU per US\$, period average)	70.42	6.91
Adjusted National Income (annual growth rate)	4.23	4.70
Exports of Goods and Services (% of GDP)	18.66	18.41
Employment (Agriculture)	41.39	25.31
Employment (Industry)	25.37	27.42
Employment (Services)	33.24	47.27

Researchers Per Million <sup>1</sup> (2022)	1113	218
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Source: (World Development Indicators,2019)

Table 1 above provides information about macroeconomic parameter comparison between China and India. Asia is home to both economies, and China performs better than India in several areas. Although gaining independence nearly two years later than India, China has been able to greatly enhance its macroeconomic metrics. As we continue to explore the relevance of this study, the following points clarify the importance of a comparative study between China and India.

1. **Macroeconomic Relevance:** Among the world's largest and fastest-growing economies are those of China and India. Due to their significant FDI inflows, they have become important participants in the global investment scene. A comparative analysis can shed light on the variables influencing foreign direct investment in these massive economies.
2. **Diverse Approaches:** China and India have distinct economic models and approaches to FDI. China has historically prioritized manufacturing and growth driven by exports. For instance, research by (Khan et al.,2021) shows that China's exports are positively and significantly impacted by FDI inflows. This shows that China has been able to grow and improve its export capacity with the help of FDI inflows. However, studies like (Tianyi, 2019) concludes that India has relied on domestic consumption. The comparative study is expected to highlight the strategies of China and India in attracting FDI inflows and achieving developmental goals.
3. **Developmental Impact:** Foreign investments have considerable socio-economic impact on the economies. For instance, FDI inflows are expected to escalate employment opportunities in economies, and researchers like (Rong, 2020) concluded that one percent increase in FDI inflows in China is associated with 0.216 increase in Chinese employment. A comparative examination is expected to evaluate who among India and China makes a calculated use of their FDI inflows.
4. **Global Investment Trends:** As these two economies compete more for FDI inflows, China and India's investment policies have an impact on patterns of global investment. Gaining insight from their approaches and results can help identify greater preferred styles in overseas funding.

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<sup>1</sup> Source: NITI AYOOG

5. **Environmental and Social Concerns:** FDI inflows may deliver upward thrust to environmental and social issues, such as depletion of sources, pollutants, hard work rights, and inequality. Analysing how those troubles are dealt with in a different way in every state can help pinpoint areas that need exchange
6. **Lessons for Other Countries:** India and China have been upright in terms of FDI flows when compared with couple of developing economies and hence these economies aiming at escalating their FDI flows can accrue useful insights from this comparative study.
7. **Geographical Ramifications:** China and India's rivalry for overseas direct investment has nearby and countrywide ramifications. Gaining insight into the FDI dynamics in these two nations can help reveal more general geopolitical patterns.

In summary, a comparative study of FDI in China and India is important for understanding the complexities of foreign investment in diverse economic, social, and regulatory contexts. It can inform policy decisions, drive economic development, and offer valuable lessons for other nations, making it a relevant and insightful area of research

## 2. Review of Literature

### 2.1 Objectives of the Review of Literature

The basic objective of literature review here is to understand the relevance of the topic, understand the theoretical framework, identify the research gaps, research questions, determine the relevant variables in the area of study and find various reliable data bases.

### 2.2 Methodology of Review of Literature

1. **Search Strategy-** The search strategy of the literature review was generic in nature. To understand different facets of FDI, the database was searched with keywords such as FDI, trends and patterns of FDI which are changes in the volume of FDI over time and the structure of FDI and determinants of FDI which are the pull and push factors that motivate host and domestic economies respectively to undertake FDI.
2. **Inclusion and Exclusion Criteria-** The literature review based on the research topic has majorly included the studies based on FDI in India and China and any other economy which throw gainful insights into the research objective. Literature on FDI which was not related to the research objective and research prefix were excluded.
3. **Sources of Review of Literature:** Includes academic research articles, peer-reviewed journals, conference proceedings, books, book chapters, and reputable reports from international organizations and government agencies.
4. **Database:** The literature has included studies from reliable journals such as Scopus, Academia, Web of science, Sage and UGC care, and websites such UNCTAD, WBI, MOFCOM, RBI, DPIIT etc.
5. **Publication Date:** The Review of Literature has considered publications from 1990s to present time in order to study the past trends and appropriate methodology.
6. **Geographical Coverage:** The Review of Literature includes primarily studies published in both India and China. Additionally, it includes literature studies conducted by economies like the United States of America, United Kingdom, Malayasia, Nepal on FDI inflows and FDI outflows in India and China.

### 2.3 Category and Structure of Review of Literature

The literature review has been structured in the following manner:

1. **Conceptual Review:** It explores studies based on theoretical concepts, frameworks, and models in the area of research. The review develops theoretical understanding i.e., understanding of the prevailing theories related to the research topic and their evolution.
2. **Descriptive Review:** It includes basic understanding of the topic, present scenario in the area of research which includes trends and patterns. Trends based on the present study indicates or refers to a general direction in which something is changing or developing over time. Pattern refers to the behavior and characteristic associated with area of study. Descriptive literature in the present study throws light on various other research questions pertaining to the research topic.
3. **Methodological Review:** The purpose of methodological review in the present study is to identify various variables and the research methodology used by the past literature to solve the research problem. In a nutshell, methodological review in the present study highlights the research designs of the past literature which includes hypothesis formulation, research approach, data collection, variables selection, and data analysis.
4. **Contradictory Review:** This includes studies which concludes contradictory or opposing findings in the related research topic. It includes different studies in the area of research which have arrived on opposing conclusions. Such studies highlight further scope of research in the area of research.
5. **Comparative Review:** Comparative literature review encompasses comparing various studies based on specific parameters. Since the present study is the comparative analysis between India and China a comparative review highlights the reasons for disparities in various macro-economic parameters and reasons behind the same. It also, highlights the research gap in the existing study and what additions should the present study incorporate as per the relevance in the present times. Comparative review in the present study includes studies comparing foreign direct investment situations in India and China in terms of trends, patterns and determinants.

Based on Review of Literature four broad areas of research under FDI are identified as follows:

1. **Theoretical Literature on FDI:** Renowned scholars have established a number of theories relevant to FDI that are included in the theoretical literature on FDI. Research articles that authors have compiled and synthesized from a variety of theories are likewise included in the body of existing literature.
2. **Literature on Inward FDI:** Inward FDI is the sum of FDI that a domestic company draws or receives from a foreign company for a variety of ventures, assets, and projects. Numerous scholars from over the globe have been drawn to examine the trends, patterns, impact, and determinants of FDI. This is due to the established importance of FDI inward for achieving economic growth, job creation, greater export potential, infrastructure development, etc.
3. **Literature on Outward FDI:** Outward FDI occurs when a domestic enterprise invests in host economy's enterprise or in foreign economy by establishing subsidiaries, acquiring ownership stakes in foreign companies or incorporating new projects. The existing literature on outward FDI has largely focused on the trends, patterns and determinants.
4. **Literature on Sustainable FDI:** Sustainable FDI refers to the investments made by the host economy's enterprise in domestic enterprise with an aim to contribute positively to long term economic, social, and environmental sustainability. The present review of literature includes studies which focuses on the growing significance of sustainable FDI. It includes the studies which explains the meaning, determinants and impact of FDI on sustainability parameters like economic growth, CO<sub>2</sub> emission etc., unanimously adopted by all the economies in the United Nations under the 2030 Agenda for Sustainable Development.

**The Review of Literature encompasses of the following studies:**

## **1. Conceptual Review**

### **Review of Literature on Theories of FDI**

(Denisia, 2010) gives an outline of the central FDI theories. The take a look at highlights of the subsequent theories: The Theory of Exchange Rate on Imperfect Capital Markets by Cushman (1985) which designates that change rate appreciation in the US has decreased the volume of FDI in America. Further, The Internalization Theory with the aid of Hymer (1976) identified functions of FDI by means of traders, normally to conquer the opposition faced inside the domestic marketplace and furthermore to exploit the organization comparative benefit within the host nations. Lastly, The Eclectic Paradigm of Dunning (OLI) is an aggregate of three theories of FDI. First, ownership unique advantage theories beneath which the corporation whilst undertaking overseas investment essentially possess sure benefits which includes getting admission to large markets, monopoly benefits and technological abilities. Then, the locational benefits that are the components through which a foreign investment region is determined. Lastly, the supplementary benefits a firm can procure by means of internalization the more it will be precipitated to make investments (Dunning 1973,1980,1988).

(Nayyar, 2014) explains the motives of FDI as Traditional and Modern theories of FDI. The paper sub-divided traditional theories into Industrial Organization Approach (Hymer 1960, 1968 and 1970) and (Kindelberger 1969) under which the multinationals to overcome the domestic market insufficiency commence foreign investments and the numerous rewards of production in host economies reimburse for foreign investment disadvantages. Another theory of Transaction Cost Approach (Williamson 1979) under which when exports miss the mark to provide competent yield to multinationals exploiting its technology it then drives the firms to commence FDI and build an internal market in the host economies. The Modern theories are divided into Stage Theory Approach discussed by (Johanson and Vahlne 1977, 1990) under which foreign investments can only take place after attaining adequate knowledge and capabilities. Followed by Linkage, Leverage and Learning Framework (John A Mathews

2002,2006), Strategic Alliance Network Approach (Johanson and Mattson 1988) and Leapfrogging Theory.

Explaining FDI theories (Zeqiri & Bajrami, 2016), through theories of Perfect Market and Theories of Imperfect Market. The paper further explains the motives of foreign direct investment and sub-divides theories of Perfect Market as Differential Rate of Return Theory and Hypothesis (Lizondo, 1950) under which the multinationals with higher yield objective transfer from low interest countries to high interest countries. Followed by Portfolio Diversification Theory and Hypothesis also discussed by (Agarwal, 1980, Denisia ,2010) under which to overcome the market risks the multinationals diversify their investments and hence commence foreign investments. The Market Size Theory and Hypothesis under which larger the market size of the host economy, higher is the attraction for investments. Further, the paper sub-divided theories of Imperfect Market into the Location Theory and Hypothesis under which destinations with low cost of labor are preferred over economies with higher costs. Followed by the Internationalization Theory and Hypothesis (Hymer,1976) and The Electric Paradigm of Dunning (Dunning, 1973, 1980,1988). Next, the International Product Life Cycle Theory and Hypothesis (Vernon, 1966) under which foreign investment passes through four stages: innovation, growth, maturity and decline.

### **Review of Literature on Inward FDI**

This narrative delves into the dynamic landscape of FDI inflows in India and China, revealing the intricate developments and policy initiatives that have shaped its trajectory.

A critical analysis by (Singh, 2005), attempts to explore the evolution of FDI in India. He mentions that as early as in the introductory stage in 1991, “compared to domestic investment the contribution of foreign direct investment is bound to remain minor” (Singh, 2005) and the study further added that the long-term vision of economy suffering from balance of payment crisis was to induce inward FDI into the country. With the new administration in the economy, proposals were initiated for FDI denied under automatic route by foreign investment board for the first time as they conceded that FDI provides savings without adding to external debt. By

1998 the government acknowledged that FDI is inevitable for an economy because apart from capital, it initiates technology, new market exercise and brings in employment, its chief advantage. The author further added that by 2004, there was a widespread acceptance of the topic and the question was no longer whether to allow FDI or not but how with efficacy FDI policies should be formulated to attract more FDI.

Further in another conceptual study by (Rao et al., 2011) scrutinized the effectiveness of a number of policy initiatives carried out by the government of the India in triggering inward FDI in the economy. Throwing some light on the initiatives, this study remarks that in 2005, the government announced a modified FDI policy under which FDI inflows up to 100 percent foreign equity was allowed under automatic route. The areas involved were townships, housing, infrastructure and construction development projects. Further, the year also attested the enactment of SEZ act, which opened supplementary avenues for foreign firms in the Indian economy.

Conceptual literature for FDI inflows includes a study by (Azhar et al., 2012), explaining the importance of FDI. The study mentioned that, developing countries have insufficiency of capital, which is inevitably required for development. Hence, it is necessary to sustain a high level of investment to come out of the vicious circle of poverty and enhance income and savings. This possibly can be done by attracting FDI inflows in the economy. India is a country with abundant resources but for optimum utilization of resources it needs foreign collaboration. Further, advantages of inward FDI are infrastructure development, improvement in balance of payment position of the country and foreign firms make domestic firms more efficient.

Expanding upon the existing body of knowledge concerning the significance of FDI inflows in India (Malhotra, 2014) mentions that “FDI bridges the gap between savings and investments”. In explaining the need of FDI in India, the paper mentions that, despite abundant natural resources, India lacks growth and the reason primarily is the lack of technology that could exploit the resources hence FDI can fulfill the need and bridge the gap by bringing capital and exploiting India’s resources. Moreover, the paper underscores that several notable impediments to achieving equitable growth in India include regional disparities in FDI

investments, sluggish policy implementation, and the political imbalances within the country, which often result in divergent viewpoints among foreign investors and political factions. In light of these challenges, the article advocates for FDI policies to prioritize attracting investments in the banking and insurance sector, while also advocating for the liberalization of trade.

As we delve into the multifaceted significance of FDI inflows, (Saini, 2015) illuminates its pivotal role in stimulating economic development, promoting international trade, providing employment opportunities, and enhancing human capital resources. Saini's insight underscores FDI's distinctive character as a long-term financial strategy, where investors harbor long-range profit expectations and direct control over management—a sharp departure from other short-term, profit-driven external financial sources.

In this context, (Dinh et al., 2019) raises a crucial concern in their study, emphasizing the intricate landscape faced by developing countries. They draw attention to the indispensable need for astute policy formulation that balances the immediate impacts of private capital investment, which may have short-term economic repercussions but promises long-term benefits. Furthermore, the infusion of technology through FDI requires a skilled labor force for optimal utilization, which calls for the strengthening of variables such as domestic investment and private sector access to credit. This transition leads us to explore the delicate balance and efficient policy measures necessary in the realm of FDI for developing nations."

### **Review of Literature on Outward FDI**

This narrative delves into the dynamic landscape of FDI outflows from India and China, revealing the difficult developments and policy initiatives which have fashioned its trajectory.

An essay by (Poncet, 2007) studies the patterns, factors and impacts of inward and outward FDI in China. It reviews the advancement of China's economic policy concerning FDI and resultant changes in inward and outward FDI in China. The author addressed China as a magnet observing its massive inward FDI and China is also becoming a source of outward FDI. After the mid-1980s, as far as inward FDI is concerned, China instigated the practice of equity joint

ventures, which resulted as the central approach of investment. China's inward FDI augmented in 1992 and touched the ultimate level in 1998. Due to Asian economic crisis FDI was stagnant for some years but it surged again and surpassed the United States in 2003. Commenting on the outward FDI, the paper mentions that the first generation of Chinese multinationals were primarily government owned enterprises functioning in monopolized sectors such as financial services, ship transport, global trading and China's natural resources and the second generation of chief Chinese multinationals appeared after the 1990s in production industries.

(Sakia, 2012) explaining the importance of outward FDI cited that, host country advantages such as availability of technology, skills and expertise usually are the benefits of investing abroad which may not be visible in short run but there are considerable benefits of outward FDI in long run. The study mentioned micro level importance such as market for exports, achieving economies of scale through vertical and horizontal collaborations. Macro level importance such as access to larger domestic markets of host countries.

(Athukorala, 2016) examines emerging patterns of Indian FDI and mentions that, according to the data, Indian multinationals started outward FDI back in 1950s, but total flows of outward FDI persisted insignificant for the next four decades. The paper added that, following the liberalization reforms, outward FDI started to improve swiftly in the mid-1990s. Commenting on the trends of outward FDI, the researcher mentions that, following the momentous dismantlement of foreign investments limitations by the government on capital transfers, Indian firms efforts to procure foreign endeavors during the period of 2000-04 resulted in outpouring of outward FDI since 2005. The paper concluded that, Indian multinationals are still at the developing stage of their international operations and their competitive edge is still chiefly grounded on country-specific advantages, rather than firm specific advantages even though there are few isolated cases of companies developing their own firm specific advantages.

(Joseph, 2019) provides insights into the evolution of Indian outward FDI policies. Historically, joint ventures with limited Indian participation were permitted to invest abroad with government approval until 1992. Over the years, restrictions were gradually relaxed,

culminating in automatic approval for investments up to 400% of net worth. During the period of 2008-2018, the service sector emerged as the primary recipient of outward FDI, followed by the secondary sector, with the agriculture sector witnessing the least activity. This evolution of policies and sectors mirrors India's dynamic journey in the world of outward FDI.

### **Review of Literature on Sustainable FDI**

As one navigates the multifaceted world of FDI flows, two seminal studies offer insightful perspectives on the pivotal role of FDI in advancing sustainable development goals.

(Narula, 2012) presents an intriguing proposition, emphasizing that while FDI-led economic growth has yielded significant benefits, it has also raised concerns about environmental degradation. In response to this, the study puts forth a compelling solution—connecting 'Sustainable Investing' with incoming FDI. By integrating Environmental, Social, and Governance parameters with FDI, the study posits that the path to sustainable growth can be forged, mitigating the environmental impacts and achieving broader sustainable development objectives.

Building on this foundation, (Taylor-Strauss, 2019) underscores the indispensable role of FDI in the pursuit of Sustainable Development Goals. The report underscores that achieving optimal advantages from FDI necessitates a dual focus on both the quantity and quality of FDI. To attain this equilibrium, economies should strategically identify and attract FDI projects in key sustainable development sectors, including education, health, renewable energy sources, and water and sanitization. In this manner, FDI becomes a force not only for economic growth but also for the advancement of society and the environment.

## **2. Descriptive Review**

### **Review of Literature on Inward FDI**

In the ever-evolving landscape of FDI flows, a multitude of studies have shown a spotlight on the trajectories of China and India separately, offering insights into what drives FDI inflows and what challenges and opportunities each nation faces.

(Graham, 2001) takes us on a historic journey through China's financial transformation. From being absolutely closed to FDI inflows until 1979, China's economic system embraced FDI step by step embraced FDI, albeit under tight kingdom policies. The majority of FDI within the early years after its financial commencement became focused on sectors just like the in and tourism industries that were untapped via the house marketplace. China deliberately endorsed FDI in sectors where domestic industries have been lagging as reforms advanced, and FDI set up itself in strongly export-oriented devices. China's comparative advantage in export processing industries changed into stated through Europe, Japan, and North America, which endorsed the arena's growth. At the beginning of the brand-new millennium, China saw an exquisite boom in FDI flows in tandem with its admission to the WTO. This ancient occasion introduced interest to China's environmental issues even as additionally ushering in a brand-new generation for foreign direct funding. Nevertheless, the attraction of China drew buyers.

(Tseng & Zebregs, 2002) further deepens our understanding of FDI inflows in China, emphasizing the critical factors influencing FDI inflows. China is attractive due to its large domestic market, inexpensive labor, good infrastructure, low levels of corruption, and favorable investor policies. Scale effects become a strong motivator, allowing resource sharing and fostering efficiency, where established FDI draws more investment.

Shifting our focus to India, (Banik, 2003) ascribes India's success in drawing foreign direct investment to its carefully planned Special Economic Zones (SEZs). Between 1979 and 2000, Hong Kong and Macao dominated FDI flows; however, India encountered difficulties as a result of inadequate investments in power, electricity, and railroads, the majority of which came from the US. Solely-owned corporations have been issue to boundaries underneath China's preceding FDI environment unless they either introduced in modern-day era or exported the bulk in their items. However, with China's WTO club, these regulations were loosened. China's attraction continued in spite of these barriers due to the fact to its cheaper exertions, export incentives, favorable regulations, significant domestic market, and reachable land.

Intriguingly, a different study by (Ali & Guo, 2005) delves into the ancient traits of FDI in China and highlights the connection among FDI inflows and the authorities' dedication to

change openness. While FDI inflows did not diminish inside the early years because of bad infrastructure, the duration from 1983 to 1991 witnessed a complete growth of FDI inflows in China. The research shows that FDI's vital importance for China lies now not simply within the FDI itself but within the degree of trade openness that the authorities' pledges

In contrast, studies by (Gosh et al., 2011) examine outward FDI by the United States and Canada in India and China from 1986 to 2001. These countries predominantly followed global trends in FDI, heavily investing in China, particularly the United States. Factors such as domestic market size and economic growth drove the increasing attraction to both China and India.

(Nandi, 2012) explores the trends of FDI in BRICS nations. China's inward FDI grew until 2008 but dropped in 2009 due to the financial crisis, while India faced policy changes only after the crisis. The study underscores India's need to enhance its image, infrastructure, and privatization to recover and compete effectively.

(Samal & Raju, 2016) dive into FDI in India's manufacturing sector, predicting a significant potential for growth. The manufacturing sector could receive USD one trillion in FDI by 2025, contributing substantially to GDP. FDI in export-intensive industries and FDI that enhances domestic production are encouraged. The study also highlights regional disparities in investment and suggests policy changes to address these issues.

Another exploration by (Shrivastava, 2017) delves into the determinants of FDI inflows in India, finding that domestic market size, trade openness, taxation, external debt, institutional variables, and fiscal expenditure are crucial factors. The study underscores the need for India to focus on monetary and fiscal policies, reduce international financial dependence, and enhance institutional variables to attract FDI.

In a separate analysis, (Roy et al., 2021) identifies variables influencing inward FDI in India, emphasizing the significance of market size, economic volatility, infrastructure, trade openness, and political stability. These factors have a greater impact on the service sector,

which garners the highest FDI in India. The study underscores the need for policies to attract FDI in primary and secondary sectors.

### **Review of Literature on Outward FDI**

Amid the complex landscape of FDI outflows, various studies have probed the outward FDI patterns and the factors driving this global economic phenomenon, offering unique insights into the strategies and motivations of both Indian and Chinese multinationals.

(Kumar, 2007) provides us with a glimpse into the evolving nature of Indian outward FDI. Prior to 1991, the majority of Indian outward FDI went to other developing nations. But there was a big change after 1991, with developed nations receiving about 60% of all FDI coming in and going out. This change was motivated by a number of factors, including the need to gain access to new trade blocs, secure critical assets, and improve global competitiveness. The ownership advantages of outbound FDI that India realized as part of its economic reforms were economies of scale, technical know-how, product diversity, management experience, and an emphasis on export orientation. The study's empirical estimations show that, in addition to their technological efforts, Indian multinational corporations also benefit from economies of scale, imported technologies, and accumulated production expertise when it comes to proprietary advantages.

While India's outward FDI story unfolds, (Wang, 2011) delves into China's outward FDI trajectory. China, despite its rapid inward FDI growth, didn't witness a corresponding surge in outward FDI. The study identifies the 2000s as the turning point for China's outward FDI, with a temporary dip during the 2007 financial crisis, followed by a resurgence in 2008, with \$50 billion in outward investments. Further delving into the patterns, the study found that, there prevail regional differences in Chinese outward FDI as most of the investments are focused in few areas which leads to competition among the investors as an outcome. Also, Chinese investments are chiefly in small scale industries and lack the expertise in technology as they are still importing technology from other countries. The papers suggest more investments into

developing countries from China in manufacturing industries so that advantages of low costs can be procured.

A study by (Pradhan,2014) observes the roots behind Indian manufacturing enterprises participating abroad. The variables used were firm specific characteristics such as technology know-how, variety of products produced, managerial expertise, domestic market size, productivity in the economy. Moreover, sector specific factors such as legal environment, oligopolistic behavior of enterprise and the home country government policies and regulations. Market size of the host economy turned out to be the most imperative feature in inspiring the multinational to invest abroad. The variable variety of products produced by manufacturing firms turned out to be positive but insignificant indicating that promotional activities of Indian firms are limited to domestic markets. The paper added that, even after decades of industrial development of Indian multinationals, key Indian brands have not been positioned in international markets.

(Amal, 2015) takes a broader institutional perspective, examining how home-country institutions influence the level of outward FDI from emerging countries. The study suggests that variations in outward FDI performance can be attributed to divergent institutional conditions, shaping the location assets of countries differently. Control of consumption and regulatory quality are identified as two significant institutional determinants positively correlated with outward FDI.

Seeking to validate the Investment Development Path (IDP) hypothesis, (Amann et al., 2015) analyzes India's outward FDI development for the period of 1980-2010. The IDP hypothesis posits that countries progress through stages in their outward FDI development, starting as net recipients of inward FDI and eventually evolving into net outward investors. The study, while finding positive but insignificant results for inward FDI, emphasizes the significant roles of exports and GDP per capita in India's outward FDI development, suggesting that other factors beyond the IDP framework influence India's outward FDI growth.

(Deol, 2017) delves into the pull factors of outward FDI from India, identifying the influence of location proximity, inward FDI stock in the host country, real GDP growth rate, and law and

order in the host economy on the decisions of Indian multinationals to invest abroad. These factors form a compelling framework guiding India's outward FDI decisions.

(Khatik, 2017) examines the role of depreciation of the Indian currency, low interest rates in the host country, low labor costs in the host country, reforms in FDI policies, and a desire to expand domestic markets in motivating Indian multinationals to engage in outward FDI. The study emphasizes how these factors collectively encourage Indian firms to seek investment opportunities abroad.

(Ronny et al., 2017) reinforces the importance of technology and exports as key determinants of outward FDI by Indian manufacturing firms. The study underscores that firm productivity, export capabilities, firm size, technological proficiency, and imports all contribute to the motivation behind outward FDI.

In a more recent exploration, (Saikia et al., 2020) sheds light on the growth of FDI from India since 2006. The study unravels two critical factors: the crowding-out effect caused by increased competition within India and the knowledge gained through investments abroad. These factors play a pivotal role in motivating Indian multinationals to embark on outward FDI endeavors.

(Khanna, 2021) carries out a trend analysis of India's outward FDI for the period 2007-2019, highlighting the service sector's significant share in outward FDI. The primary sector also gains importance. New destinations such as Singapore, the UAE, Russia, and Mozambique emerge for Indian multinationals as they seek opportunities abroad.

## **Review of Literature on Sustainable FDI**

A collection of studies and reports paint a comprehensive picture, revealing the intricate web of factors influencing where its trajectory and the quest for sustainable development.

(Das, 2015) scrutinized the impact of outward FDI on Indian manufacturing firms, presenting a nuanced perspective. While the study suggests that outward FDI hasn't made substantial inroads in terms of domestic sales, employment generation, or capital goods imports, it

emphasizes the potential for complementary effects. These effects include the creation of an export base for India and the development of research and expenditure channels. In essence, Indian manufacturing firms investing abroad have the capacity to contribute to India's growth in more indirect yet vital ways.

While (Mahima Achthan, 2017) shifts the focus to the critical realm of legal reforms. To attract sustainable FDI, India is urged to enact reforms that prioritize corporate social responsibility, transparency, and a robust intellectual property rights regime. Such legal measures not only facilitate FDI inflows but also promote India as an attractive destination for 'sustainable FDI,' aligning economic growth with environmental and social responsibility.

Adding a contemporary dimension to the discussion, (Kearney's FDI Confidence Index, 2022) underscores the evolving landscape of FDI. Foreign investors today are not solely driven by traditional determinants; they are equally concerned with a company's Environmental, Social, and Governance (ESG) commitments. In this context, the report highlights the growing importance of sustainability parameters in attracting higher volumes of FDI. To remain competitive in attracting foreign investments in the years to come, economies must strengthen their sustainability credentials.

A recent study by (Alam & Ansari, 2022) takes us deeper into the intricacies of FDI's impact on India's real GDP, exchange rates, and inflation. The study reveals that FDI is a positive force, enhancing real GDP, while exchange rates and inflation have adverse effects. To maximize the benefits of FDI, the study recommends streamlining the licensing and documentation procedures for foreign investors. Furthermore, India is advised to expand its international alliances, fostering agreements that eliminate double taxation and promote trade with South Asian economies. These initiatives can create a more conducive environment for FDI and foster economic growth in India.

### **3. Methodological Review**

#### **Review of Literature on Inward FDI**

The literature on FDI inflows offers a rich panorama of research that investigates the intricate determinants of FDI inflows. A remarkable facet of this body of knowledge is the array of methodologies employed to explore these determinants. Within this tapestry, several noteworthy studies stand out, each employing distinct methodologies to uncover the complex factors influencing FDI inflows in India and China separately.

(Amilan, 2005) conducted an in-depth analysis of the factors influencing inward FDI in India. To identify these determinants, the study employed a combination of simple and multiple regression analysis, investigating variables such as exchange rates, market size, gross fixed capital formation, wages, interest rates, and trade openness. The outcomes of this study provided valuable insights into the significance of these factors and their impact on FDI.

In a comprehensive study spanning from 1971 to 2005, (Azam et al., 2010) investigated the determinants of FDI in India, Indonesia, and Pakistan. Their research involved log-linear regression models designed for each country to examine the economic factors affecting FDI. This method addressed non-linearity and tackled multicollinearity issues, ensuring a robust analysis. The study's findings illuminated the importance of the domestic market and international debt as significant determinants of FDI.

(Hooda et al., 2011) offered a comprehensive view of FDI trends and determinants in India from 1991 to 2008. To do so, they employed multiple regression analysis. Their analysis incorporated a wide range of variables, including GDP, trade openness, foreign exchange reserves, exchange rates, foreign investment growth rate, economic growth rate, and research and development expenditure. The results revealed how these factors impacted inward FDI and underscored the significance of trade openness, financial stability, and research and development expenditure.

(Sharmiladevi JC, 2013) explored the macroeconomic determinants of FDI inflows into India. The methodology involved multiple regression analysis, along with checks for stationarity to avoid spurious results due to time series data correlation. Variables such as growth rate, inflation, the index of industrial production, and exports were analyzed to determine their influence on FDI. The study provided insights into how these essential variables directly affect India's appeal for FDI.

(Narayan, 2014) examined the factors influencing FDI in India over the period from 1991-92 to 2012-13. The research relied on a correlation matrix and multiple regression analysis to establish determinants. The findings pointed to a significant relationship between FDI, Gross Domestic Product (GDP), and long-term debt to GDP.

In another investigation, (Shankar, 2016) delved into the variables affecting FDI inflows in India, with a focus on GDP, trade openness, and exchange rates as independent factors. The methodology included econometric analysis to assess the integration level of variables and their co-integration. This study emphasized the pivotal role of market size in attracting FDI to India.

(Baby & Sharma, 2017) concentrated on the determinants of FDI in India from 1994 to 2015. Multiple regression analysis was employed to explore the factors affecting FDI, including domestic market size, foreign exchange reserves, inflation rates, interest rates, real effective exchange rates, and a dummy variable reflecting the financial crisis of 2008. The research underscored market size as a critical determinant of FDI in India.

(Chaudhry et al., 2018) investigated the surge in FDI in India's e-commerce sector, emphasizing the role of increased mobile phone usage and internet access in attracting FDI. Their methodology employed simple OLS regression analysis to examine these determinants, revealing a pronounced focus on leading e-commerce giants like Flipkart, Jabong, and Snapdeal in terms of investments. These studies collectively showcase a diversity of methodologies, from regression analyses to log-linear models and dummy variables, each

offering valuable insights into the determinants of FDI in India. This methodological diversity is crucial in capturing the multifaceted dynamics of FDI inflows.

## **Review of Literature on Outward FDI**

The literature on FDI outflows investigates the intricate determinants of FDI outflows. A remarkable facet of this body of knowledge is the array of methodologies employed to explore these determinants. Within this tapestry, several noteworthy studies stand out, each employing distinct methodologies to uncover the complex factors influencing FDI outflows in India and China separately.

(Banga, 2007) underscores that for developing economies, incentives to invest in external markets are intricately linked to trade. Trade-related aspects, as identified by the author, can stimulate outward FDI in two significant ways. First, increased exports open up global markets and give investors a wealth of information about the economies of their host countries, which in turn promotes investment. Secondly, more imports into the nation of origin could lead to a "crowding-out" effect, which would drive investors to look for higher returns and realize economies of scale in larger outside markets. Additional factors that contribute to FDI outflow in Asia are the lack of sizable domestic markets and the danger of losing market share, as the author discusses. The author notably notes that 40% of Asian outbound FDI goes toward the services sector and 60% goes toward the manufacturing sector.

In examining the factors motivating Indian multinationals to invest abroad, (Anwar, 2008) explores "pull factors" between 1970 and 1990. Using an ordinary least squares regression model, the study analyzes a number of variables, such as the GDP growth rate, GDP deflator, distance between home and host nations, political climate, and the availability of natural resources. The host nation's GDP deflator sticks out among these variables as one of the key elements affecting investment choices.

(Tolentino, 2009) investigates the relationship between China's outward FDI and specific national macroeconomic variables of the home-based country. The study employs an extensive dataset covering the period from 1982 to 2006 and utilizes vector autoregressive (VAR) models. VAR models, an extension of autoregressive models, allow for a detailed examination of the interplay among multiple variables. In this study, eight variables are considered, each represented by its equation within an open VAR model. The outcomes challenge the notion that home-based country-specific macroeconomic variables dictate China's outward FDI, indicating a more complex relationship.

(Filip, 2010) explores the pull factors of Indian and Chinese multinationals. The study emphasizes that both India and China are drawn to larger markets, with GDP identified as a significant and positive factor. Conversely, richer markets, as indicated by GDP per capita, are deemed insignificant. India tends to opt for acquisitions more than China as an investment route, and both countries are attracted to nations with abundant natural resources. Interestingly, the study concludes that corruption does not significantly affect the investment decisions of multinationals in India and China. Furthermore, the distance between the host and home country plays a role in the FDI decisions of both Indian and Chinese multinationals.

(Masron et al., 2010) analyze the push factors behind FDI from Malaysia and Thailand, focusing on the period from 1980 to 2006. To address potential issues related to non-stationary series, the study employs the Augmented Dickey-Fuller (DF) test. The use of non-stationary series in regression methods can lead to spurious results. As a result, series cointegration tests are performed. The authors highlight the importance of testing for stationarity and cointegration in this context. This approach allows for the examination of the number of long-run relationships.

Delving into the historical backdrop of China's outward FDI, (Mumtaz et al.,2018) underlines the country's evolving policies. China permitted private enterprises to invest abroad in the late 1980s, resulting in relatively low outward FDI at the time. However, China restructured its outward FDI policies in 1999, aiming to enhance outward investment, build an export base, and develop a "Go Global" strategy in 2001. The study, centered on analyzing the pull factors

of outward FDI, concludes that location, GDP, country risk, and lower wages are key factors attracting China's outward investments.

## **Review of Literature on Sustainable FDI**

One of the aims Sustainable Development aims is to shape the development trajectories of individual nations, and FDI influx is a major driver of economic growth. In this regard, a comparative study of the effects of FDI inflows on GDP was carried out by (Agarwal, 2011) between China and India. The study's intriguing conclusions showed that, when compared to India, China's GDP appeared to be more significantly impacted by FDI. The research sought to uncover the primary determinants of GDP by using GDP as the dependent variable and taking into account inbound FDI, gross fixed capital formation, the Human Development Index (HDI), and the labor force as independent variables. The study found via multiple regression analysis that the FDI coefficients in China and India

(Liu & Lee, 2020) conducted an econometric analysis to measure the impact of FDI inflows on economic growth, focusing on time-series data spanning from 1981 to 2018. To verify the appropriateness of the Vector Autoregressive (VAR) model, the investigators employed the augmented Dickey-Fuller test to conduct a unit root test. Using criteria like the Hannan-Quinn information criterion, the Schwarz information criterion, and the Akaike information criterion, the lag of three was finally chosen for the VAR model. Numerous diagnostic tests were performed, such as the White heteroskedasticity test to determine whether mistakes are equal and the Jarque-Bera test for normalcy. The findings of the study showed a long-term relationship between economic growth and FDI, both in the long run and the short run, highlighting the important part that FDI plays in promoting economic development.

In another econometric analysis, (Antwi, 2003) started a cointegration study with the goal of determining how FDI inflows affect Ghana's economic growth. Proxies for economic growth, such as GDP and GNI, were used in the study, which covered the years 1980–2010. Using the enhanced Dickey-Fuller test, the stationarity of the time series data was ascertained. The cointegration of the variables—a measure of their propensity to move together—was assessed using Johnson cointegration analysis. The Vector Error Correction Model (VECM) was applied

in an attempt to estimate the long-term causation among these variables. To assess short-term causation links, the Granger causality test was also used.

#### **4. Comparative review**

##### **Review of Literature on Inward FDI**

The following literature delves into the comparative scenario of FDI inflows in the economies. It majorly includes India and China as a subject.

As (Bajpai, 2004) analyzes the patterns of FDI in China and India between 1992 and 2001, it is clear that these two Asian superpowers adopted different strategies. China used its Special Economic Zones to promote export-oriented manufacturing, and local governments may authorize FDI up to a predetermined amount, which encouraged investment. On the other hand, India struggled to manage the expansion of export-oriented businesses and faced opposition from the federal government about FDI approval, which would have reduced India's appeal to foreign investors.

Exploring the determinants of inward FDI in India and China and understanding the reasons for their significant divergence, (Wei, 2005) studied the factors influencing FDI from OECD countries into China and India using a random effect model. The report emphasizes that China is a top option for international corporations looking to set up export-focused divisions because of its enormous domestic market, strong manufacturing capabilities, and affordable production prices. On the other hand, India's technically skilled labor, which is available at a competitive rate, also presents a desirable environment for foreign investment. India must, however, overcome the difficulty of improving its production capacity and creating a productive manufacturing base. To evaluate the factors influencing foreign direct investment in China and India independently, the study used random effect models. It also measured the importance of each determinant to the difference in foreign direct investment between the two nations using econometric decomposition techniques.

(Sahoo et al., 2006) delves into the policy, trends, impact, and components of FDI in the economies of South Asia, with a primary focus on India. The study reveals that from 1991 to 2006, India experienced substantial FDI inflows in electrical equipment and observed dramatic

growth in sectors like cement and gypsy products. A state-wise analysis indicates that regions such as Delhi, Maharashtra, and Tamil Nadu received the highest FDI during this period. Interestingly, Mauritius emerged as the top investor in India, largely attributed to the double taxation agreement between India and Mauritius. The study's panel cointegration test results highlight that the principal factors driving FDI in South Asia include domestic market size, labor force growth rate, infrastructure quality, and trade openness.

Considering the interplay of investment mechanisms, legal frameworks, and economic disparities between India and China, (Sweeney, 2010) scrutinizes the historical journey of both countries. The study emphasizes that China's investment mechanism offers transparency, investor-friendliness, and a commitment to attract foreign investment, exemplified by the "Go Global" policy. In contrast, India faces the challenge of incorporating features of China's FDI mechanism to improve foreign investment policies.

(Kalirajan et al., 2011) further delves into trade and investment patterns in India and China, noting the significant contributions that both countries have made to the global economy. The study highlights the shift in trade openness between India and China and emphasizes the need for India to concentrate on its manufacturing sector, which plays a critical role in attracting FDI. Poor policy execution by the Indian government is identified as a primary factor behind its economic performance.

(Panigrahi & Panda, 2012) offers a comparative analysis of FDI inflows in India, China, and Malaysia from 1991 to 2020. The research tracks the trends, attributing India's lower FDI inflows in 1991 to its late adoption of economic reforms. However, in the late 1990s, India received substantial FDI due to strong consumer demand. The study identifies key determinants of FDI, such as gross domestic production, domestic investment, external debt, energy infrastructure, and imports and exports, for both India and China.

(Prime et al., 2012) conducted a thought-provoking study on competition amid India and China addressing their "FDI differential as a puzzle". The paper remarks that, there prevails much pondering about the FDI abilities of both economies in context of the data measurements, but in spite of incorporating certain adjustments, China's FDI is astonishingly advanced than India's. Probing into the trend's paper states that, India in the 1970<sub>s</sub> and with a substantial rise China in 1980<sub>s</sub>, started attaining FDI into the economies and subsequently there was a steady

rise in FDI of both the countries from Asia. But post 1980, the volume of inward FDI for India deteriorated and that fall was sustained for the next twenty years until 2006. The paper justified its address to India and China as a “FDI differential as a Puzzle” by highlighting that, both the nations passed through similar stages of evolution and growth, both have large domestic markets and are geographically similar. Still there prevails enormous variance in their FDI. They have addressed this subject by recognizing determinants that entice FDI. They finally concluded that the variance is chiefly because of China’s ‘location and timing’ that positioned building manufacturing bases in the country with the help of East Asian investment in the 1980s. Moreover, the government policies and the approaches adopted for advancement of foreign direct investment contributed to strengthen China’s growth earlier than India.

(Bedi & Kharbanda, 2014) pursue to scrutinize the position of FDI inflows to India and recognize the problems and issues that have made India less attractive as compared to other nations. The study mentions that, both India and China are contesting to attract a larger share in the world as far as world trade and investment is concerned. Apart from facing competition chiefly from China, many new economies like Indonesia, Vietnam and Philippines have arisen as a strong competitor to India. The author remarks that India’s main competitive advantage lies in its economic human resources and lucrative domestic markets. The paper highlights weak infrastructure, complicated tax structure, restrictive labor laws and corruption as India’s drawback in attracting FDI. But still India receives minor FDI as related to emerging countries like Brazil and China and hence India stands a chance of losing its comparative advantage in its economic human resource and lucrative domestic markets to the developing low-cost economies and the authors advocated that, if some policy reforms measures are not executed rapidly, the probabilities may take the shape of reality.

In an attempt to explain the success story of China, (Ali et al. ,2015) explores the trends of FDI in India and China, referring China as frontrunner among the developing countries in terms of inward FDI and hence achieving economic development. On the other hand, India, as the second most fascinating destination after China, receives a relatively smaller volume of FDI. China is not only encountering high inflows but also attracting FDI in efficient sectors like manufacturing and industries. The study suggests India should try to acquire a poised approach

to reduce corruption and create an atmosphere convenient for investors by increasing the rate of literacy, a regulated labor market, and a steady exchange rate with proper infrastructure and further added that the growth of a country depends upon the foundation of basic amenities in the economy.

Providing an ancient perspective on inward FDI tendencies, (Parashar, 2015) suggests that China's solid FDI inflows elevated rapidly after 1991 because of coverage reforms and the status quo of unique monetary zones. India lagged in attracting FDI but started to get more flows after economic reforms in 1991. (Parashar, 2015) highlights that USA is the largest investor in India, and investments are frequently routed through Mauritius due to a double taxation treaty. China's attractive factors include its vast domestic market and low-cost human resources, while India's economic reforms are a driving force behind its FDI growth. Moreover, (Parashar, 2015) identifies a large domestic market size as a vital determinant of inward FDI for India.

(Masron & Naseem, 2017) conducted a study comparing major economic factors between India and China, including gross national product per capita, gross domestic product, tax income, and health status. The research concludes that China's achievements can be attributed to its investments in healthcare, education systems, equal income distribution, and gender equality. In contrast, India's relatively low investment in healthcare and education accounts for disparities in development between the two nations.

A comparative study based on the objective, whether India and China have fully attracted FDI as per their potentials, was conducted by (Kalirajan et al., 2012). The study also tries to find out the reasons behind humongous FDI in China and areas where India needs to improve. According to the findings, market size, growth rate in the industrial sector and trade plays a relatively higher role in attracting FDI for China than for India. Also, the comparative advantage of China lies in the lower wages prevailing in the economy. The article further suggests immediate reforms in Indian policies to develop its infrastructure so as to attract higher FDI.

Another study on BRICS (Brazil, Russia, India, China and South Africa) nations by (Catherine HO, 2013) on FDI concluded gross domestic product, infrastructure, low-cost labor, economic freedom as factors influencing multinationals decision to invest abroad. Surprisingly only the exchange rate and infrastructure of India were marked as a significant determinant in attracting foreign investments.

An exploratory study conducted by (Iqbal, 2013) studies the FDI positions of two Asian economic giants, India and China. Infrastructure and friendly business environment are where China's comparative advantage lies whereas India has a better law and order situation in the country. In addition, large market size is a common determinant attracting investment in these economies.

Another comparative analysis of FDI in India and China was conducted by (Dar et al. ,2014). Using multiple regression, the paper expected six major variables such as research and development expenditure as a percentage of GDP, trade openness in the economy, financial position, inflation and foreign exchange reserves as a percentage of GDP to have an impact on inward FDI. Surprisingly, research and development expenditure as a percentage of Gross Domestic Product indicated a negative impact and exchange rate indicated positive impact explaining that depreciation in currency attracts inward FDI.

(Akpan et al., 2014) conducted a comparative study of factors responsible for attracting inward FDI in BRICS (Brazil, Russia, India, China and South Africa) and MINT (Mexico, Indonesia, Nigeria and Turkey). The GDP, infrastructure, trade openness in the economy were common noticeable determinants whereas natural resources and institutional qualities in these economies did not play a vital role in attracting inward FDI as were found insignificant in the study.

In a comparative analysis, (Teli, 2014) reveals India's struggles in attracting inward FDI compared to countries like China and Mexico. Complex FDI laws, investment delays, and non-friendly investment policies deter investors. However, regression analysis predicts a positive

future trend for inward FDI, suggesting the need to attract more equity investments, increase international reserves, and engage in international trade for economic growth.

An interesting comparative study by (Tri et al., 2019) examines the impact of various determinants of inward FDI in two parts of ASEAN countries, ASEAN3 (Columbia, Laos and Vietnam) and ASEAN5 (Singapore, Thailand, Philippines, Indonesia and Malaysia). The empirical analysis was directed towards examining an additional determinant, financial integration. In the paper, the unobservable effects are divided as time variant and time invariant, these effects can be government policies, organizational law and management skills and licensing. These unobservable effects are incorporated in the model of factors attracting inward FDI. Under the model time variant embodied as while time invariant are embodied as dummy variables. They further removed time invariant unobserved effects from the equation by using the first differencing method. The POLS estimation method of first differencing was conducted to test each hypothesis. The analysis shows that the coefficient of financial integration is positively associated with FDI. The findings also support the hypothesis that FDI in ASEAN is positively associated with domestic market size, infrastructure facilities in the economy and negatively associated with cost of human resources.

In a recent study by (Shabd, 2020), the main aim of the study is to compare the different policies and instruments of green finance in India and China. The author mentions the reason for choosing these two countries as primarily to understand the scope of improvement for India. Moreover, both the countries are economically similar in nature and are Asian countries also sharing borders, thus having similar natural resources. The author suggested that there is a need for India to establish a separate legal body to ensure all green financing activities takes place in full swing and at a very serious level.

### **Review of Literature on Outward FDI**

The following literature delves into the comparative scenario of FDI outflows in the various economies. It majorly includes India and China as a subject.

(Duanmu et al., 2008) conducted a panel data analysis of outward FDI from India and China and discovered that extensive domestic markets in host countries, along with countries importing from India and China, serve as significant pull factors for outward FDI. The study encompassed various factors, such as corporate taxes, Gross Domestic Product, trade openness, host country inflation, corruption, geographical distance, and exchange rates, as potential determinants of outward FDI.

(Pradhan, 2011) revealed that Chinese companies' decisions to invest in host countries are influenced by factors like the distance between the countries, economies abundant in natural resources, and small economies. In contrast, Indian firms tend to invest in larger economies, and their decisions are influenced by bilateral investment treaties signed with these economies. Inward FDI, exports of ores and steel, fuel exports, secondary school enrollment, bilateral investment treaties, and imports by host countries were identified as factors that influence the outward FDI decisions of Indian and Chinese firms.

(Yuce et al., 2014) made an interesting finding that while factors like the size of the population and the growth of Gross Domestic Product influence multinational corporations' decisions to invest in India and China, a high price level does not significantly affect their decision-making process. Furthermore, an increase in the cost of human resources discourages investors from investing in these two emerging economies.

(Paul, 2014) assessed the roadmap of Indian FDI in Africa and aimed to identify the factors that have motivated Indian multinational corporations (MNCs) to invest in the continent. The study highlighted the competition India faces from China in Africa, as both countries seek to persuade African nations through trade, FDI, and financial aid. It was observed that China primarily makes resource-based investments through government-to-government channels, while India's FDI is predominantly in the private sector, domestically integrated, and driven by the desire to expand globally, particularly in IT-related services and pharmaceuticals.

(Andreff, 2016) conducted a study on BRIC economies' outward FDI. Indian outward FDI multiplied is doubled, while Chinese outward FDI grew by 33% during the period from 1997

to 2000. However, the growth rate of outward FDI in India during the crisis period remained higher than that of China and was relatively unaffected but started declining later due to rupee depreciation. Both Indian and Chinese outward investments have been primarily resource-seeking FDI. Compared to Russia and China, India's investments are lesser, but both India and Brazil have made strides in this area.

(Tianyi, 2019) explored China's outward FDI and noted that China experienced a phase of OFDI development from 1991 to 2003 when economic reforms were initiated by Deng Xiaoping. During this period, industrial and commercial enterprises started investing abroad. Since 2004, China's OFDI surged, thanks to increased foreign exchange reserves and capital stock. In contrast, India initiated outward FDI in the 1950s, but significant growth began after economic reforms in 1991. Indian outward FDI is primarily dedicated to the manufacturing sector.

(Ergano et al., 2020) studied Ethiopia's investment from India and China, considering this as a determinant of India's outward FDI. The paper proposes that aspects defining outflows of FDI are different in both economies. GDP per capita, official exchange rate, and real interest rates were found to be positive and significant for India, while population size had a negative correlation with outward FDI. In the case of China, growth of the host country's GDP was found to be a positive and significant factor affecting outward FDI, while domestic secondary education enrollment had a negative correlation, indicating that an increase in domestic literacy rates reduces China's outward FDI.

(Ahmed and Ibrahim, 2019) conducted a study on the impact of FDI inflows and outflows on economic growth. The research found that FDI outflows have a positive and significant impact on developing economies, such as Turkey, Malaysia, and Iran. The study also noted that the share of developing economies in the total share of FDI outflows has been increasing over time.

## **5. Contradictory Review**

The Review of Literature finds that there are contradictory views on outward FDI and sustainable FDI.

### **Review of Literature on Outward FDI**

A comparison between China and India by (Paz & Tolentino, 2008) looking into what factors influenced outward FDI from 1982 to 2008 produced a variety of findings. Using a vector autoregressive model, the study looked at a number of factors that are thought to affect outbound FDI, such as interest rates, trade openness, national income, technological resources, and currency rates. The study's conclusions indicated that outbound FDI was not significantly impacted by China's push forces. On the other hand, India's data showed that no other push factor had a substantial effect on outbound FDI, other from technology resources.

### **Review of Literature on Sustainable FDI**

(Parmar, 2019) carried out a study utilizing secondary data to look into how FDI affected India's GDP. According to the report, FDI does not significantly contribute to GDP development in India. This could be due, in part, to inefficient use of the FDI capital inflow or improper sector allocation.

Interestingly, a contrasting study found that in OECD countries, outward FDI has led to a reduction in domestic investment, suggesting that outward FDI and domestic investment act as substitutes for each other. However, in the case of the USA, outward FDI and domestic investment are complementary, as an increase in outward FDI leads to an elevation in domestic investment, driven by Indian multinationals using domestic products as inputs in their production abroad (Desai et al., 2005).

## 2.4 Research Gap

While there has been substantial research on the various aspects of FDI in India and China, there are several areas within this domain that have not been extensively studied in the academic literature or may benefit from further investigation. They are explained in the points below:

- 1. International Context of FDI flows:** The literature lacks in identifying the distribution of international FDI flows from perspective of developed and developing economies in a holistic manner. There are various issues related to the trends and patterns of FDI flows at the world level need to be analysed in detail. This study tries to examine the various issues from an international perspective in a holistic manner.
- 2. Sub-National Analysis (Regional Disparities):** Much of the existing research focuses on FDI trends at the national level. There is potential for more in-depth analysis at the sub-national level to understand regional disparities, the impact of state-level policies, and variations in FDI attraction and retention.
- 3. Policy Analysis:** An in-depth study on the policy analysis needs to be done to assess the impact of host country policies on FDI trends and also to evaluate the effectiveness of policies such as tax incentives, investment promotion agencies, and trade agreements.
- 4. Evolving Regulatory Environment:** The regulatory environment in India can be complex and subject to changes. Additionally studying FDI in the changing regulatory environment of China can give meaningful insights and hence more research on how it is evolving and how it can affect FDI decisions and strategies, and how investors navigate these challenges, is needed.
- 5. Agglomeration Effects:** The literature lacks in considering existing FDI flows available in India and China as a crucial variable affecting new flows due to the agglomeration effects and its key aspects such as economies of scale, and to attain supply chain efficiency might influence foreign investors to increase their volume of investments in the host economy.
- 6. Sustainability Determinants:** As sustainability gains increasing prominence, investors are increasingly inclined towards allocating their investments to countries that exhibit heightened sustainability indicators (World Economic Forum, 2021). As such, the goal of this study project is to investigate the variables that impact sustainability, including carbon emissions, electricity availability, and the use of natural resources.

7. **A Focus on FDI Outflows:** A review of the literature includes studies on FDI outflows from China and India. However, there is always room for more thorough research, namely in the area of industries where Chinese and Indian businesses invest abroad. This investigation also includes the fundamental factors driving these investment decisions.
  
8. **Impact on SDG:** Research on how FDI aligns with India's Sustainable Development Goals and contributes to sustainability parameters is an increasingly relevant area of study. The SDG encompass vital indicators like exports, carbon emissions, and employment growth, all of which play a pivotal role in the advancement of any economy. Therefore, an investigation into the influence of FDI on these key indicators will shed light on whether the attracted FDI has been channeled in a manner that fosters a positive impact on sustainability parameters.

By delving into these underexplored areas, this study will attempt to contribute to a more nuanced understanding of various aspects of FDI in India and China and provide valuable insights for policymakers, businesses, and investors.

### **3. Research Design**

#### **3.1 Objectives of the Study**

##### **1. To Analyse the Trends and Patterns of FDI Inflows in India and China.**

To systematically examine and compare trends and patterns of FDI inflows in India and China over a specified period, with the aim of understanding the dynamics of FDI in both countries. The objective of investigating the same in India and China is to provide a comprehensive analysis of how FDI has evolved over period of time, distributed, and influenced the economic landscapes of these two major economies.

##### **2. To Scrutinize the Trends and Patterns of FDI Outflows from India and China.**

The objective attempts to identify the distribution of FDI outflows from India and China. It aims at highlighting the concentration of FDI outflows since concentrating outflows within specified region can increase the reliance on individual economies. Moreover, it attempts to probe into the type of investments i.e., resource-seeking or efficiency seeking.

##### **3. To Analyse the Drivers of FDI Inflows to both India and China.**

To identify the pull factors which influence international investors to invest in India and China. The factors are expected to highlight the significant economic factors and suggest adaptable changes for India.

##### **4. To Analyse the Sustainability Determinants Influencing FDI Inflows in India and China.**

This objective is expected to probe whether the sustainability parameters influence FDI inflows in India and China. This is important in the view of increasing prominence of Sustainable Development Goals and increasing reliance on sustainability parameters by international investors.

##### **5. To Probe into the Impact of FDI Inflows on Sustainability Parameters:**

In the view of the increasing prominence of Sustainable Development Goals, the objective attempts to identify whether FDI inflows in India and China are calculated or not. It analyses the impact of FDI inflows on sustainability parameters which includes exports and carbon emissions.

##### **6. To Identify the Push Factors Influencing FDI Outflows from India and China**

The purpose of this objective is to identify the push factors that influence Indian and Chinese investors to invest abroad. China's FDI outflows has been increasing exponentially and hence this objective attempts to identify the factors which are significant for China and which can be replicated by India. Additionally, (Desai et al. ,2015) and (Singh, 2017) finds that FDI outflows play a crucial role in home country as they complement exports and make a contribution to the Gross Domestic Product in the United States of America and hence FDI outflows can be beneficial if undertaken in a calculative manner.

### **7. To Analyse the Impact of FDI Outflows from India and China on Sustainability Parameter**

The goal of analysing the effect of FDI outflows from India and China on sustainability parameters is to comprehensively look at how these investments effect economic sustainability in India and China. The intention is to determine the economic sustainability of FDI outflows from India and China via assessing whether or not or now not they constitute mere capital flight for tax avoidance functions or in reality result in quality financial results, which encompass heightened export degrees

## **3.2 Data Collection**

### **1. Official Government Sources**

The following official government sources have been used for data collection:

- a. Ministry of Commerce, China (MOFCOM): China's Ministry of Commerce offers detailed statistics on FDI inflows, outflows, and investment policies.
- b. Reserve Bank of India (RBI): RBI publishes data on FDI transactions, exchange rates, and foreign exchange reserves.
- c. Department for Promotion of Industry and Internal trade (DPIIT): DPIIT publishes data on FDI inflows, FDI outflows in terms of sectoral and geographical distribution. It publishes data quarterly and on annual basis.

### **2. International Organizations**

Data from the following international organisations have been used:

- a. United Nations Conference on Trade and Development (UNCTAD): UNCTAD offers a wealth of global FDI data, including FDI inflows, outflows, and policy-related information for both India and China.
- b. World Bank: The World Bank provides economic and financial data for countries, including India and China, which can be useful for contextual analysis.
- c. International Monetary Fund (IMF): It provides data on various macro-economic indicators such as inflation, GDP growth rate etc.

#### **4. Academic Resources**

Data from databases have been used like JSTOR, SCOPUS, SAGE UGC, UGC care and Emerald Publishing.

#### **5. Reports**

Data from the following reports have been used UNCTAD's World Investment Report, ESCAP's report, OCED report and ASEAN's report.

### **3.3. Research Methodology and Results**

The research methodology related to the research objective of this study is detailed as follows:

#### **1. To Scrutinize the Trends and Patterns of FDI Inflows in India and China**

Analysing data and information to comprehend how FDI travels between nations and regions is necessary when examining trends and patterns of FDI inflows. The study spans the years 2000–2022. These patterns and trends have been studied using the following techniques and methods:

##### **1. Analysis of Quantitative Data**

**a. Descriptive Statistics:** To comprehend the key tendencies and variances in FDI inflows, analyse FDI flows have been analysed using fundamental statistics like mean, median, and standard deviation.

**b. Cross-Sectional Analysis:** To comprehend the variations, FDI flows haven compared over the study period across various nations and regions. Using the measure of coefficient of variation, the

study attempts to comprehend the consistency in terms of attracting FDI inflows in India and China.

## **2. Data Visualization**

**a. Charts and Graphs:** The following elements have been examined through the use of bar charts, line graph, and scatter plots to create visual representations of the data on FDI inflows.

**i. Trends and Analysis on Multiple Dimensions:** The research examines FDI inflows from multiple angles, including trends in FDI inflows, FDI inflows from developed and developing nations, and the leading Asian economies in terms of FDI inflows.

**ii. Distribution of FDI inflows by Sector and Geography:** To comprehend the distribution of FDI inflows in China and India by sector (primary, secondary, and tertiary sectors). It also examines the many forms of FDI that flow into China and India, including loans, equity, joint ventures, and wholly-owned subsidiaries.

**iii. Trends and Patterns of Sustainable FDI Inflows:** Trends and patterns of sustainable FDI inflows are analysed through investments in green field investments, renewable energy, and equitable distribution are considered as sustainable investments. The following points explain the various dimensions studied under the trends and patterns of FDI flows.

### **a. FDI inflows within India and China:**

There are various approaches to identify concentration of FDI inflows within an economy. The present study has used Lorenz Curve and Gini Coefficient to examine the inequalities of FDI distribution flows.

### **b. Green field investments in India and China:**

Green field investments are investments in which companies or governments establish a new venture in the host economy which is expected to positively influence various sustainability parameters such as GDP, economic growth, and employment etc.

The above-mentioned objectives are studies in Chapter 3.

## **2. To Scrutinize the Trends and Patterns of FDI Outflows from India and China.**

Analysing data and information to comprehend how FDI travels from India and China in various nations. The study spans the years 2000–2022. These patterns and trends have been studied using the following techniques and methods:

### **1. Analysis of Quantitative data**

**a. Multi-dimensional Trends and Analysis:** The study analyses FDI outflows from various perspectives such as trends in FDI outflows, FDI outflows from developed and developing economies, and top Asian economies in terms of FDI outflows.

**b. Descriptive Statistics:** To comprehend key tendencies and variances in FDI outflows, analyze FDI outflows have been analysed using fundamental statistics like mean, median, and standard deviation.

**c. Cross-Sectional Analysis:** To comprehend the variations, FDI outflows have been compared over the study period across various nations or regions. Using its coefficient of variation, the study does this analysis in an effort to comprehend the consistency in FDI outflows from India and China.

### **2. Data Visualisation**

**a. Charts and Graphs:** The following elements have been examined through the use of bar charts, line graph, and scatter plots to create visual representations of the data on FDI outflows.

**i. Sectoral and Geographical Distribution:**

To understand the distribution of sectoral (includes primary, secondary, and tertiary sector) and geographical FDI outflows distribution of FDI outflows from India and China. Additionally, it analyses the composition of FDI outflows from India and China such as through equity, joint ventures, wholly-owned subsidiary, debt etc.

**ii. Multi-Dimensional Trends and Analysis:**

The study analysis FDI outflows from various perspectives such as FDI outflows as a percentage of GDP, FDI inflows from developed and developing economies, and top Asian economies in terms of FDI inflows.

**b. Trends and Patterns of Sustainable FDI outflows:** In this study, trends and patterns in sustainable FDI outflow, pertain to the equitable distribution of FDI outflows from India and China. Sustainability is indicated by a more dispersed FDI distribution, reducing dependence on other countries, while concentrated FDI outflows may indicate "round-tripping," which is unsustainable in the long run. It is measured with the help of Lorenz curve and HHI.

The above-mentioned objectives are studies in Chapter 4.

### 3. Explore the Drivers that entice FDI inflows to both India and China.

To identify the macro-economic variables which have helped China in attracting such humungous FDI inflows and scope of improvement for India.

#### Methodology

To determine the factors influencing FDI inflows in India and China, the study employed Vector Autoregressive models. The variables were carefully chosen based on their comparability. The study spans from 1995 to 2019, and data was collected from reputable sources, including UNCTAD, World Bank Indicators (The World Bank Group), and IMF.

To guarantee reliable and accurate modeling, a number of crucial tests were carried out prior to estimation which includes stationarity test, lag selection criterion, heteroskedasticity test, multicollinearity test, autocorrelation test, normality test, and ramsey reset test.

**Table 2: Selected Variables for FDI inflows Analysis**

Independent variables	Proxy variable	Expected Sign	Source
Trade Openness	Trade (% of GDP)	+	WBI
Economic Growth	GDP Growth Rate (%)	+	WBI
Exchange Rate	Official Exchange Rate (LCU per US\$, period average)	+	WBI
Gross Fixed Capital Formation	Gross Fixed Capital Formation (% of GDP)	+	WBI

Inflation	GDP Deflator (%)	-	WBI
Market Size	Population Size	+	WPP <sup>2</sup> (United Nations)

## INDIA

To study the factors which are expected to influence the inflows of FDI in Indian economy:

Hypothesis 1: The FDI inflows have not been significantly influenced by Trade Openness

Hypothesis 2: The FDI inflows have not been significantly influenced by Economic Growth

Hypothesis 3: The FDI inflows have not been significantly influenced by Exchange Rate

Hypothesis 4: The FDI inflows have not been significantly influenced by GFCF

Hypothesis 5: The FDI inflows have not been significantly influenced by Inflation

Hypothesis 6: The FDI inflows have not been significantly influenced by Market Size

## Results

### Regression Model

$$FDI = C (1) 0.48**FDI (-1) + C (2)75.30*Trade\ openness (-1) + C (3)550.14*Economic\ growth (-1) + C (4)1349.823**Exchange\ Rate (-1) + C (5)2581.372**GFCF (-1) - C (6)974.93*Inflation (-1) + C (7)7.47*Market\ Size (-1) + C(8)$$

\*\* indicates significant at 0.05 `percent level

### Data Interpretation

Gross fixed capital formation, lagged FDI inflows and Exchange rate are the variables that significantly influence the level of FDI inflows in India.

## CHINA

To study the factors that influence inward FDI in China

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<sup>2</sup> WPP- World Population Prospects 2022

Hypothesis 1: The FDI inflows have not been significantly influenced by Trade Openness

Hypothesis 2: The FDI inflows have not been significantly influenced by Economic Growth

Hypothesis 3: The FDI inflows have not been significantly influenced by Exchange Rates

Hypothesis 4: The FDI inflows have not been significantly influenced by GFCF.

Hypothesis 5: The FDI inflows have not been significantly influenced by Inflation.

Hypothesis 6: The FDI inflows have not been significantly influenced by Market Size.

## Results

### Regression Model

$$FDI = C(1) 0.48^{**}FDI(-1) + C(2)44006.61^{**}Trade\ openness(-1) + C(3)162553.1^{**}Economic\ growth(-1) - C(4)11979.38^{*}Exchange\ Rate(-1) + C(5)152735.2^{**}GFCF(-1) - C(6)26327.68^{*}Inflation(-1) + C(7)173.45^{**}Market\ Size(-1) + C(8)$$

\*\* indicates significant at 0.05 percent level

### Data Interpretation

Lagged FDI inflows, trade openness, economic growth, gross fixed capital formation, and market size are the variables that significantly influence FDI inflows in China.

#### 4. To Probe into Sustainability Determinants influencing FDI inflows in India and China.

If India and China can successfully attract high-quality FDI inflows, the concept of qualitative FDI becomes coherent, as achieving the goal of attracting sustainable FDI inflows requires both India and China to prioritize not only economic factors but also sustainability determinants.

### Methodology

The introduction of the SDG goals in 2015 led to the availability of data on potential indicators influencing FDI since 2000. Consequently, this study utilizes secondary data spanning from 2000 to 2019 for India and China. To address the issue of multicollinearity, which can result in spurious regression analysis, and to satisfy the assumptions of ordinary least square method for multiple regression, several tests were conducted:

1. Multicollinearity test
2. Normality test
3. Serial autocorrelation test
4. Heteroskedasticity test
5. Ramsey reset test

The model was approved for analysis after successfully passing all the aforementioned tests, in addition to examining the values of R square, Adjusted R square, and Durbin Watson statistics.

## INDIA

Hypothesis 1: Inward FDI is not significantly influenced by use of Natural Resources

Hypothesis 2: Inward FDI is not significantly influenced by Access to Electricity

Hypothesis 3: Inward FDI is not significantly influenced by Carbon Emission

Hypothesis 4: Inward FDI is not significantly influenced by Female Workforce

Hypothesis 5: Inward FDI is not significantly influenced by Internet Users

**Table 3: Selected Variable for Multiple Regression Analysis**

Goals	Indicators	Proxy variable	Expected Sign	Source
-		FDI (Net inflows in terms of US\$ million)	Dependent variable	UNCTAD
SDG-12	12.2	Natural Resources -Total natural Resources Rents (% of GDP)	+	WBI <sup>3</sup>
SDG-7	7.1.1	Access to Electricity (% of population)	+	WBI

<sup>3</sup> WDI-World Bank Indicators

SDG-9	9.4.1	Carbon Emission Metric Tons Per Capita (Carbon emission growth rate)	+	WBI
SDG-05	5.5.1	Female Workforce (% of total workforce)	+	WBI
SDG-17	17.8.1	Internet Users (Individuals using internet as % of total population)	+	WBI

## Results

### Regression Model

$$FDI = 5440.19 \text{Natural resources}^{**} + 1061.15 \text{Access to electricity}^{**} + 693.98 \text{Carbon emission} + 513.37 \text{Female workforce} + 6.62 \text{Internet users}^*$$

\*\* indicates significant at 0.05 percent level

### Data Interpretation

Natural resources, Access to electricity are the variables that influence FDI inflows in India.

CHINA

Hypothesis 1: Inward FDI is not significantly influenced by Access to electricity

Hypothesis 2: Inward FDI is not significantly influenced by Tax revenue

Hypothesis 3: Inward FDI is not significantly influenced by Carbon emission

Hypothesis 4: Inward FDI is not significantly influenced by Internet users

Hypothesis 5: Inward FDI is not significantly influenced by Natural resources

**Table 4: Selected Variable for Multiple Regression Analysis**

Goals	Indicators	Proxy variable	Expected Sign	Source
-		FDI (Net inflows in terms of US\$ million)	Dependent variable	UNCTAD
SDG-7	7.1.1	Access to Electricity (% of population)	+	WBI
SDG-17	17.1.1	Tax Revenue (% of GDP)	-/+	WBI
SDG-9	9.4.1	Carbon Emission (methane emission (Kt of Co2 equivalent))	+	WBI
SDG-17	17.8.1	Internet Users (Individuals using internet as % of total population)	+	WBI
SDG-12	12.2	Natural Resources Total natural resources rents (% of GDP)	+	WBI <sup>4</sup>

## Results

### Regression Model

$FDI = 397.03^{**} \text{ Access to electricity} + 1.70^{*} \text{ Tax revenue} + 78231.65 \text{ methane emission} + 1627.54^{**} \text{ Internet users} + 3164.81^{**} \text{ Natural resources}$

\*\* indicates significant at 0.05 percent level

### Data Interpretation

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<sup>4</sup> WDI-World Bank Indicators

Access to electricity, internet users, and natural resources are the variables that influence FDI inflows in China

### 5. To Probe into the impact of FDI inflows on Sustainability Parameters:

The objective endeavours to examine the role of FDI inflows in India and China concerning the achievement of SDG.

#### Methodology

The technique used entails the analysis of both long-term and short-term relationships amongst variables making use of the Johnson Cointegration Technique, Vector Error Correction Model, and Granger Causality check. The data is from 1990 to 2019 and relies on secondary facts sourced from the World Bank Indicators, in particular the SDG segment for the respective economies. The goals include assessing the impact of FDI inflows on carbon emissions and manufacturing in India and, one at a time, comparing their effect on carbon emissions and exports in China.

#### Results

##### i. Impact of FDI Inflows on Carbon Emission in India

**Table 5: Results for Johnson Cointegration Test for Carbon Emission and Inward FDI based on Lag (2)<sup>5</sup>**

**1990-2019**

H <sub>0</sub>	H <sub>1</sub>	Trace Statistics	Maximum Eigen Statistics
r = 0	r = 1	25.46 (0.00)	24.23 (0.00)
r ≤ 1	r = 2	3.84 (0.26)	1.23 (0.26)

Source: (Author's Calculation Using E views)

<sup>5</sup> The lag length has been decided based on VAR lag order selection criteria under Akaike information criteria and Schwarz information criteria

\*\*Trace and maximum eigen value indicate 1 cointegrating equation at 0.05 level

The null hypothesis is  $r = 0$  which means that there is no cointegration among the variables. Based on the results of Johnson Cointegration Test in table (5), the value of trace statistics and maximum eigen value are 25.46 and 24.23 respectively. As per the analysis, the null hypothesis of no cointegration has been rejected at 5 percent level of significance as the trace statistics and maximum eigen value are higher than Mac Kinnon-Haug-Michelis (1999) which means that carbon emission and inward FDI are cointegrated which signifies that they have stable long-term relationship or long run co-movement.

**Table 6: Vector Error Correction Model for Carbon Emission (Dependent variable) and Inward FDI**

Independent Variable	Long Run	Short Run	ECT
Inward FDI	-0.29 (-11.14) *	0.00 (0.24)	-0.03 (-2.03) *

\*Value in the parenthesis () indicates t statistics significant at 0.05 level

Based on the above table (6), it can be said that there is no short run association among the variables. However, the results also direct that ECT<sup>6</sup> is significant which implies that carbon emission adjust to the disturbances positively to restore long run equilibrium.

**Table 7: VEC Granger Causality Test**

Dependent Variable	Independent Variable	P-value	Implication
Carbon Emission	Inward FDI	0.80	No Causality
Inward FDI	Carbon emission	0.10	No Causality

Source: (Author's Calculation Using E views)

<sup>6</sup> ECT- Error correction term

Above table (7), suggests that there is no causality among the variables i.e., carbon emission does not granger cause inward FDI in India and inward FDI does not granger cause carbon emission in India.

**ii. Impact of FDI inflows on Manufacturing**

**Table 8: Results for Johnson Cointegration Test for Manufacturing and Inward FDI Based on Lag (2)<sup>7</sup>**

**1990-2019**

H <sub>0</sub>	H <sub>1</sub>	Trace Statistics	Maximum Eigen Statistics
r = 0	r = 1	29.86 (0.00)	28.51 (0.00)
r ≤ 1	r = 2	3.84 (0.24)	3.84 (0.24)

Source: (Author's Calculation Using E views)

\*\*Trace and maximum eigen value indicate 1 cointegrating equation at 0.05 level

The null hypothesis is  $r = 0$  which means that there is no cointegration among the variables. Based on the results of Johnson Cointegration Test in table (8), the value of trace statistics and maximum eigen value are 29.86 and 28.51 respectively. As per the analysis, the null hypothesis of no cointegration has been rejected at 5 percent level of significance as the trace statistics and maximum eigen value are higher than Mac Kinnon-Haug-Michelis (1999) which means that manufacturing and inward FDI are cointegrated which signifies that they have stable long-term relationship or long run co-movement.

**Table 9: Vector Error Correction Model Estimates for Manufacturing (Dependent variable) and Inward FDI**

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<sup>7</sup> The lag length has been decided based on VAR lag order selection criteria under Akaike information criteria and Schwarz information criteria

Independent Variable	Long Run	Short Run	ECT
Inward FDI	-0.00 (-24.32) *	-0.00 (-0.54)	-0.00 (-24.32) *

Source: (Author's Calculation Using E views)

Based on table (9), it can be concluded that manufacturing and inward FDI have long run association. However, there is no short run association among the variables. the results also direct that ECT<sup>8</sup> is significant which implies that manufacturing adjust to the disturbances positively to restore long run equilibrium.

**Table 10: VEC Granger Causality Test**

Dependent Variable	Independent Variable	P-value	Implication
Manufacturing	Inward FDI	0.58	No Causality
Inward FDI	Manufacturing	0.58	No Causality

Source: (Author's Calculation Using E views)

Based on above table (10), it can be concluded that there exists no causality among manufacturing and inward FDI in India.

## CHINA

### i. Impact of FDI inflows on Carbon Emission in China

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<sup>8</sup> ECT- Error correction term

**Table 11: Results for Johnson Cointegration Test for Carbon Emission and Inward FDI  
Based on Lag (2)<sup>9</sup>**

**1990-2019**

H <sub>0</sub>	H <sub>1</sub>	Trace Statistics	Maximum Eigen Statistics
r = 0	r = 1	14.84 (0.06)	10.89 (0.15)
r ≤ 1	r = 2	3.94 (0.04)	3.94 (0.04)

Source: (Author's Calculation Using E views)

\*\*Trace and maximum eigen value indicate 0 cointegrating equation at 0.05 level

The null hypothesis is r = 0 which means that there is no cointegration among the variables. Based on the results of Johnson Cointegration Test in table (11), the value of trace statistics and maximum eigen value are 14.84 and 10.89 respectively. As per the analysis, the null hypothesis of no cointegration is cannot be rejected as the trace statistics and maximum eigen value are lower than Mac Kinnon-Haug-Michelis (1999) which means that there is no cointegration among the variables.

**ii. Impact of FDI Inflows on Exports in China**

**Table 12: Results for Johnson Cointegration Test for Exports and Inward FDI Based on  
Lag (2)<sup>10</sup>**

**1990-2019**

H <sub>0</sub>	H <sub>1</sub>	Trace Statistics	Maximum Eigen Statistics
r = 0	r = 1	17.55	17.39

<sup>9</sup> The lag length has been decided based on VAR lag order selection criteria under Akaike information criteria and Schwarz information criteria

<sup>10</sup> The lag length has been decided based on VAR lag order selection criteria under Akaike information criteria and Schwarz information criteria

		(0.02)	(0.01)
$r \leq 1$	$r = 2$	0.15 (0.69)	0.15 (0.69)

Source: (Author's Calculation Using E views)

\*\*Trace and maximum eigen value indicate 1 cointegrating equation at 0.05 level

The null hypothesis is  $r = 0$  which means that there is no cointegration among the variables. Based on the results of Johnson Cointegration Test in table (12), the value of trace statistics and maximum eigen value are 17.55 and 17.39 respectively. As per the analysis, the null hypothesis of no cointegration has been rejected at 5 percent level of significance as the trace statistics and maximum eigen value are higher than Mac Kinnon-Haug-Michelis (1999) which means that exports and inward FDI are cointegrated which signifies that they have stable long-term relationship or long run co-movement.

**Table 13: Vector Error Correction Model Estimates for Exports (dependent variable) and Inward FDI**

Independent Variable	Long Run	Short Run	ECT
Inward FDI	-0.22 (-22.46) *	0.06 (1.27)	-0.15 (-1.03)

Source: (Author's Calculation Using E views)

Based on the table (13), it can be said that there is long run association among the variables. However, there is no short run association among the variables. Additionally, the ECT fails to significantly restore into long run equilibrium.

**Table 14: VEC Granger Causality Test**

Dependent Variable	Independent Variable	P-value	Implication
Exports	Inward FDI	0.00	Causality
Inward FDI	Exports	0.84	No Causality

Source: (Author's Calculation Using E views)

Based on the table (14), it can be said that there is unidirectional causality among the variables i.e., inward FDI granger cause exports in China but exports do not granger cause inward FDI in China.

The above objectives are studied in Chapter 5.

## 6. To Identify the Push factors Influencing FDI Outflows from India and China

To comprehensively grasp the determinants prompting FDI outflows from both India and China, an investigation is undertaken. This inquiry seeks to ascertain the sustainability of FDI outflows and discern whether they are predominantly motivated by elevated corporate tax rates within the domestic economic environment.

### Methodology

The study spans from 1995 to 2019 and has sourced data from diverse reputable sources, including UNCTAD, World Bank Indicators (The World Bank Group), and the International Monetary Fund (IMF).

INDIA

**Table 15: Selected Variables for FDI Outflows**

Independent Variables	Proxy variable	Expected Sign	Source
Technological Development	Trademark and Patent Application	-/+	WIPO <sup>11</sup>
Tax Revenue	Tax Revenue (% of GDP)	+	WBI
FDI Inflows	US\$ million	+	WBI
Inflation	GDP Deflator (%)	+	WBI
Imports	Imports (% of GDP)	+	WBI
National Income	Adjusted National Income Growth Rate (%)	+	WBI

<sup>11</sup> WIPO- World intellectual property organisation

To study the factors which are expected to influence the OFDI from Indian economy:

Hypothesis 1: The FDI outflows have not been significantly influenced by technological development

Hypothesis 2: The FDI outflows have not been significantly influenced by Tax revenue

Hypothesis 3: The FDI outflows have not been significantly influenced by FDI Inflows

Hypothesis 4: The FDI outflows have not been significantly influenced by Inflation

Hypothesis 5: The FDI outflows have not been significantly influenced by Imports

Hypothesis 6: The FDI outflows have not been significantly influenced by National Income

## Results

### Regression Model

$$FDI\ outflows = C(1)0.54^{**}FDI\ outflows(-1) + C(2)0.02^{*}Technological\ development(-1) + C(3)3615^{**}Tax\ rates(-1) + C(4)2.99^{*}FDI\ inflows(-1) - C(5)604.86^{*}Inflation(-1) + C(6)144.12^{*}Imports(-1) + C(7)120.48^{*}National\ income + C(8)$$

\*\*indicates significant at 0.05 percent level

### Data Interpretation

Lagged FDI outflows, and Tax rates are the variables that affect FDI outflows from India significantly.

CHINA

**Table 16: Selected Variables for FDI Outflows Analysis**

Independent Variables	Proxy variable	Expected Sign	Source
Imports	Imports (% of GDP)	+	WBI
FDI Inflows	US\$ million	+	WBI

Inflation	GDP deflator (%)	+	WBI
Tax Revenue	Corporate Tax (% of GDP)	+	MOFCOM
Economic Growth	GDP Growth Rate	+	WBI

To study the factors which are expected to influence the FDI outflows from Chinese economy:

Hypothesis 1: The FDI outflows have not been significantly influenced by Imports

Hypothesis 2: The FDI outflows have not been significantly influenced by FDI Inflows

Hypothesis 3: The FDI outflows have not been significantly influenced by Inflation

Hypothesis 4: The FDI outflows have not been significantly influenced by Corporate Tax

Hypothesis 5: The FDI outflows have not been significantly influenced by Economic Growth

## Results

### Regression Model

$FDI\ outflows = C(1)0.755^{**}FDI\ outflows(-1) - C(2)371.69\ Imports(-1) + C(3)0.02^{**}FDI\ inflows(-1) - C(4)286.31\ Inflation - C(5)0.04^{*}Corporate\ tax(-1) + C(6)14.4^{*}Economic\ growth(-1) + C(7)$

\*\*indicates significant at 0.05 percent level

### Data Interpretation

Lagged FDI outflows and FDI inflows are the variables that influence FDI outflows from China significantly.

### 7. To Analyse the Impact of FDI Outflows from India and China on Sustainability Parameter

“Outward FDI flows integrate domestic market with global market which intensify competitiveness of industries and create opportunities for inclusive and sustainable growth. FDI outflows can provide opportunities to achieve their sustainable development priorities.” (Taylor-Strauss, 2019)

Exports play a very crucial role in escalating developing economy's growth. It appreciates exchange rate, escalates GDP and employment. FDI outflows with exports should be encouraged as it fetches various benefits to the domestic economy. However, based on OLI framework in the process of internalization, enterprises establish their footprints in foreign economy after evaluating the market via exports. Hence, this objective attempts to analyze the bidirectional relationship between exports and FDI outflows in India and China.

### Research Methodology

The present objective attempts to identify the long run relationship among the variables two or more variables. In other words, it identifies the number of cointegrating relationships among the variables. The present study analyses the cointegration between outward FDI on exports for India and China with the Johansen Cointegration Technique and Vector Error Correction term using secondary data from 1990 to 2019.

#### INDIA

##### i. Impact of FDI Outflows on Exports in India

**Table 17: Results for Johnson Cointegration Test for Exports and Outward FDI Based on Lag (1)<sup>12</sup>**  
**1990-2019**

H <sub>0</sub>	H <sub>1</sub>	Trace Statistics	Maximum Eigen Statistics
r = 0	r = 1	29.32 (0.00)	25.68 (0.00)
r ≤ 1	r = 2	3.64 (0.05)	3.64 (0.05)

Source: (Author's Calculation Using E views)

\*\*Trace and maximum eigen value indicate 1 cointegrating equation at 0.05 level

<sup>12</sup> The lag length has been decided based on VAR lag order selection criteria under Akaike information criteria and Schwarz information criteria

The null hypothesis is  $r = 0$  which means that there is no cointegration among the variables. Based on the results of Johnson Cointegration Test in table (16), the value of trace statistics and maximum eigen value are 29.32 and 25.68 respectively. As per the analysis, the null hypothesis of no cointegration has been rejected at 5 percent level of significance as the trace statistics and maximum eigen value are higher than Mac Kinnon-Haug-Michelis (1999) which means that exports and outward FDI are cointegrated which signifies that they have stable long-term relationship or long run co-movement.

**Table 18: Vector Error Correction Model for Exports (Dependent variable) and Outward FDI**

Independent Variable	Long run	Short Run	ECT
Outward FDI	-13.17*	-0.43	-0.74

\*Value in the parenthesis () indicates t statistics significant at 0.05 level

Based on the above table (17), it can be said that there is no short run association among the variables. However, the results also direct that ECT<sup>13</sup> is not significant which implies that exports do not adjust to the disturbances positively to restore long run equilibrium.

**Table 19: VEC Granger Causality Test**

Dependent variable	Independent Variable	P-value	Implication
Exports	Outward FDI	0.66	No Causality
Outward FDI	Exports	0.03	Causality

Source: (Author's Calculation Using E views)

Above table (18) suggests that there is unidirectional causality among the variables i.e., exports granger cause outward FDI in India. However, outward FDI does not granger cause carbon emission in India.

## CHINA

### i. Impact of FDI Outflows on Exports in China

<sup>13</sup> ECT- Error correction term

**Table 20: Results for Johnson Cointegration Test for Exports and Outward FDI Based on Lag (2)<sup>14</sup>**

**1990-2019**

H <sub>0</sub>	H <sub>1</sub>	Trace Statistics	Maximum Eigen Statistics
r = 0	r = 1	16.81 (0.03)	16.47 (0.02)
r ≤ 1	r = 2	0.34 (0.55)	0.34 (0.55)

Source: (Author's Calculation Using E views)

\*\*Trace and maximum eigen value indicate 1 cointegrating equation at 0.05 level

The null hypothesis is  $r = 0$  which means that there is no cointegration among the variables. Based on the results of Johnson Cointegration Test in table (19), the value of trace statistics and maximum eigen value are 16.81 and 16.47 respectively. As per the analysis, the null hypothesis of no cointegration has been rejected at 5 percent level of significance as the trace statistics and maximum eigen value are higher than Mac Kinnon-Haug-Michelis (1999) which means that exports and outward FDI are cointegrated which signifies that they have stable long-term relationship or long run co-movement.

**Table 21: Vector Error Correction Model for Exports (Dependent variable) and Outward FDI**

Independent Variable	Long Run	Short Run	ECT
Outward FDI	-8.63*	-1.91	-0.74

\*Value in the parenthesis () indicates t statistics significant at 0.05 level

<sup>14</sup> The lag length has been decided based on VAR lag order selection criteria under Akaike information criteria and Schwarz information criteria

Based on the above table (20), it can be said that there is no short run association among the variables. However, the results also direct that ECT<sup>15</sup> is not significant which implies that exports do not adjust to the disturbances positively to restore long run equilibrium.

**Table 22: VEC Granger Causality Test**

Dependent Variable	Independent Variable	P-value	Implication
Exports	Outward FDI	0.00	Causality
Outward FDI	Exports	0.70	No Causality

Source: (Author's Calculation Using E views)

Above table (21) suggests that there is a unidirectional causality among the variables i.e., outward FDI granger cause exports in China. However, exports do not granger cause outward FDI in China.

The objectives and research methodology discussed above were formulated based on an analysis of the research gap, data availability, and current relevance. Nevertheless, there exist areas for potential expansion in this research.

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<sup>15</sup> ECT- Error correction term

#### **4. Limitations of the Study**

1. China do not release company-specific data i.e. companies that attract FDI in China and in which sector do they receive higher FDI figures.
2. Hence a company specific comparative analysis could not be conducted.
3. China releases employment data from 1992 onwards and hence impact of FDI outflows on China's employment could not be conducted.
4. The database of World Investment Enterprise Survey does not include China's state-wise data on its business environment and hence a comparative analysis with business environment in Chinese states could not be conducted.

#### **5.Areas for Future Research**

1. Influence FDI inflows on Micro, Small, and Medium-sized Enterprises (MSMEs) in India.
2. Analyses of the factors that influence FDI inflows in India and China in sectors such as manufacturing, service sector which includes sectors such as health, education, and agriculture.
3. The impact of FDI inflows on environmental sustainability parameters.
4. In-depth research on Bilateral Investment Treaties (BITs) in India and China and their impact of FDI inflows in India and China.

## **6. Chapter Scheme of the Study:**

### **Chapter 1- Introduction**

The chapter has been arranged in the following manner:

Chapter Overview

Section 1.1 Introduction

Section 1.2 Theories of International investment

Section 1.3 Forms of FDI

Section 1.4 Need for FDI

Section 1.5 FDI promotional activities in India and China

Section 1.6 FDI sectoral provisions of India and China

### **Chapter 2- Review of Literature**

The chapter has been arranged in the following manner:

Chapter Overview

Section 2.1 Introduction

Section 2.1.1 Objectives of the Review of Literature

Section 2.1.2 Rationale and significance of Review of Literature

Section 2.2 Methodology of Review of Literature

Section 2.3 Review of Literature

Section 2.4 Research gap

### **Chapter 3- Trends and Patterns of Inward FDI in India and China**

List of Abbreviations

Definitions

## Chapter Overview

### Section 3.1 Introduction

#### Section 3.1.1 Significance of FDI inflows in India and China

#### Section 3.1.2 Literature Overview

#### Section 3.1.3 Research questions of the chapter

### Section 3.2 Global trends in FDI inflows

### Section 3.3 Trends of FDI inflows in India and China

### Section 3.4 Patterns of FDI inflows in India and China

#### Section 3.4.1 Components of FDI inflows in India and China

#### Section 3.4.2 Geographical distribution of FDI inflows in India and China

#### Section 3.4.3 Sectoral distribution of FDI inflows in India and China

#### Section 3.4.3 Sustainable FDI inflows in India and China

#### Section 3.4.4 Comparison of FDI inflows between India and China

### Section 3.5 Conclusion

## **Chapter 4- Trends and Patterns of Outward FDI in India and China**

### List of Abbreviations

### Definitions

## Chapter Overview

### 4.1 Introduction

#### 4.1.1 Significance of FDI outflows from India and China

#### 4.1.2 Literature Overview

##### 4.1.2.1 Research questions of the chapter

### 4.2 Global trends in FDI outflows

### 4.3 Trends of FDI outflows from India and China

- 4.4 Patterns of FDI outflows from India and China
  - 4.4.1 Components of FDI outflows from India and China
  - 4.4.2 Geographical distribution of FDI outflows from India and China
  - 4.4.3 Sectoral distribution of FDI outflows from India and China
  - 4.4.4 Sustainable FDI outflows from India and China
- 4.5 Comparison of FDI outflows between India and China
- 4.6 Conclusion

## **Chapter 5- Determinants of Inward FDI in India and China**

List of Abbreviations

Definitions

Chapter Overview

Section 5.1 Introduction

Section 5.2 Review of Literature

Section 5.3 Research questions and Objectives

Section 5.4 Research methodology and Data analysis

Section 5.5 Conclusion

## **Chapter 6- Determinants of Outward FDI in India and China**

List of Abbreviations

Definitions

Chapter Overview

Section 5.1 Introduction

Section 5.2 Review of Literature

Section 5.3 Research questions and Objectives

Section 5.4 Research methodology and Data analysis

Section 5.5 Conclusion

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