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Trends and Patterns of India's Outward FDI: Pathways to Innovation and Global Competitiveness

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ABSTRACT
This study investigates the patterns and structural dynamics of India's Outward Foreign Direct Investment (OFDI) from 2015 to 2025, focusing on its temporal trends, sectoral composition, financing modes, and geographic reach. Employing an integrated methodology that combines descriptive statistics, the Mann–Kendall test, Sen's Slope Estimator, and two-way ANOVA, the research traces the evolution of Indian OFDI across equity, loan, and guarantee components, and evaluates whether investments are becoming more concentrated in high-value, innovation-driven sectors. The findings reveal a clear shift from risk-mitigated guarantee financing to equity- and loan-led internationalization, with technology-intensive services and manufacturing emerging as the primary destinations. Regional analysis highlights a concentration of OFDI in Asia, Europe, and North America, with Singapore and the US as top host countries. Statistical tests confirm that both sectoral and temporal differences in OFDI are significant and structural rather than random. The results underscore India's strategic use of OFDI as a tool for global integration, capability building, and reverse knowledge transfer, arguing that outward investment increasingly underpins the country's drive for technological advancement and international competitiveness..

Keywords: *Outward FDI, Sectoral Composition, Temporal Trends, Innovation and Technology, Global Competitiveness, Knowledge Spillovers, Regional Distribution.*
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1. INTRODUCTION:

Foreign Direct Investment (FDI) has traditionally been viewed as a channel for capital inflows, technological transfer, and market integration from advanced to developing economies. Over the past two decades, however, this pattern has undergone a notable reversal. Emerging economies such as India have increasingly transformed into important sources of outward foreign direct investment (OFDI), reflecting their deeper engagement with global markets and innovation-driven growth. India's OFDI has evolved from being a mere financial outflow into a strategic instrument for acquiring technology, managerial expertise, and international competitiveness.

The economic liberalization reforms of the 1990s laid the foundation for this transformation, enabling Indian firms to pursue cross-border opportunities more assertively. Since then, Indian multinationals have expanded their global footprint through mergers, acquisitions, and strategic alliances aimed not only at securing resources and new markets but also at strengthening innovation capabilities. Empirical evidence demonstrates that OFDI contributes substantially to domestic technological advancement by increasing research and development (R&D) intensity, enhancing managerial efficiency, and facilitating reverse knowledge spillovers from host countries (Reddy, Sasidharan, & Doytch, 2022). As a result, OFDI now serves as a vital conduit linking Indian enterprises to global innovation networks.

Furthermore, the sectoral and regional distribution of India's OFDI underscores a deliberate emphasis on knowledge-intensive industries and technologically advanced economies. Salunkhe and Kashyap (2024) identify financial and business services as leading destinations for outward investment, while Jain and Thukral (2024) emphasize the persistence of resource-seeking motives in developing regions. Institutional quality and governance standards in host countries have also emerged as key determinants in firms' location decisions (Kaushal, 2022; Journal of Institutional Economics, 2023).

Against this background, the present study examines the patterns and evolution of India's outward FDI between 2015 and 2025, analysing its sectoral composition, financial modes, and geographic dispersion. Positioned within the broader discourse on innovation, competitiveness, and emerging-market multinationals, this research contributes to a deeper understanding of how OFDI operates as both a mechanism of international expansion and a driver of technological capability creation. It highlights how Indian enterprises utilize outward investment to access advanced knowledge, participate in global value chains, and strengthen the domestic innovation ecosystem, thereby reinforcing India's standing in the evolving global economy.

2. LITERATURE REVIEW

Outward Foreign Direct Investment (OFDI) from emerging economies has become a defining feature of contemporary global capital flows, representing both the growing internationalization of financial systems and the deeper integration of developing countries into global innovation and production networks. Among these economies, India stands out as a compelling example, with OFDI serving as a strategic channel for expanding market access, acquiring advanced technologies, and enhancing the innovation capacity of domestic enterprises. Over the past two decades, India has transitioned from a peripheral source of outbound capital to a significant global investor, underscoring its evolution as an influential participant in global value chains and technological ecosystems (Pradhan, 2005; Kumar, 2008; Khanna, 2021).

The evolution of India's OFDI can be effectively understood through Dunning's (1993) Eclectic Paradigm (OLI framework), which identifies Ownership, Location, and Internalization advantages as critical determinants of internationalization strategies. In India's case, ownership advantages stem increasingly from technological expertise, skilled human capital, and sustained R&D investment. Location decisions are influenced by the presence of advanced knowledge ecosystems, market sophistication, and institutional quality in host countries. Internalization advantages enable Indian firms to control technology, managerial processes, and organizational learning across borders, allowing them to build global competitiveness (Reddy, Sasidharan, & Doytch, 2022). Thus, OFDI by Indian enterprises is no longer driven merely by trade expansion or capital mobility but by a strategic intent to strengthen innovation capabilities through cross-border integration.

Following the liberalization of India's economy in the early 1990s, the structure and determinants of OFDI underwent a fundamental transformation. Research by Pradhan (2005, 2006, 2009) and Kumar (2008) highlights that during the 1970s and 1980s, India's OFDI was primarily concentrated in low-value sectors such as hotels, trading, and basic services, largely targeting developing economies. Post-liberalization, however, these flows shifted sharply toward knowledge-intensive industries, especially software, IT, pharmaceuticals, and business services reflecting a broader shift aligned with India's global competitiveness in innovative sectors. Empirical analysis suggests that these outward investments increasingly functioned as tools for knowledge acquisition, as firms pursued joint ventures and wholly owned subsidiaries in developed markets to strengthen technological capital, brand equity, and managerial skills. Later studies reinforce this structural evolution. Iqbal et al. (2018) documented that during 2010–2011, finance and business services dominated India's OFDI geography, with Mauritius and Singapore emerging as key destinations. Similarly, Khanna (2021) found that between 2007 and 2019, the majority of India's outward investments were channeled into services and manufacturing, targeting innovation hubs such as Singapore, the UAE, and Russia. Importantly, institutional quality and governance effectiveness in host nations play a decisive role in determining location preferences and performance outcomes (Kaushal, 2022; Journal of Institutional Economics, 2023). These studies collectively reveal that India's OFDI trajectory is not merely a quantitative rise in capital outflows, but a qualitative shift rooted in policy reform, corporate learning, and institutional linkages.

From a regulatory standpoint, the policy landscape has played an instrumental role in facilitating outward investment. Reforms such as the replacement of the restrictive Foreign Exchange Regulation Act (FERA) with the Foreign Exchange Management Act (FEMA) in 2000, the introduction of the automatic route, and the implementation of the Liberalized Remittance Scheme (LRS) significantly eased cross-border capital movements (Saikia, 2009; Arockia Baskaran & Chaarlas, 2012). These reforms empowered Indian firms to align investment decisions with profitability and balance sheet strength rather than administrative approvals. Consequently, firms began leveraging mergers, acquisitions, and joint ventures as strategic pathways to access technology and global market leadership (Joseph, 2019; Sauvant & Nayyar, 2010).

Empirical records further substantiate this transformation. The Exim Bank (2014) and Bank of Baroda (2025) report show India's OFDI expanding at a compound annual growth rate of 12.6%, markedly surpassing the global average. Total OFDI reached approximately US$ 23.8 billion in 2024 (UNCTAD, 2025). RBI (2025) data indicate that financial, insurance, and business services account for nearly 60% of total investment outflows, followed by manufacturing, with the United States, Singapore, and the UAE consistently ranking as leading destinations. Sectorally, India's OFDI reflects a deliberate shift toward high-technology manufacturing, particularly in electronics, pharmaceuticals, and automotive components paralleling the growing internationalization of India's innovation ecosystem (Joseph, 2019). Investment modes also emphasize strategic consolidation: according to Kudachimath (2019), wholly-owned subsidiaries (WOS) represented 76% of OFDI during 2007–2017, while joint ventures accounted for just 24%.

The COVID-19 pandemic marked a turning point in India's outward investment landscape, reshaping the scale and scope of capital deployment. Despite geopolitical uncertainty, Indian firms demonstrated resilience by diversifying OFDI into digital ecosystems, pharmaceuticals, and knowledge-intensive segments (Khanna, 2021). This pivot underscored OFDI's evolving function as a mechanism for adaptive innovation, global integration, and organizational learning during crisis periods.

However, scholarly debates remain on the domestic effects of increasing OFDI. Athukorala (2009) cautioned that such investments might divert domestic resources, potentially undermining local industrial growth. In contrast, Khan (2012) and PwC (2010) argue that outward expansion strengthens home-country competitiveness by fostering reverse knowledge transfers, managerial efficiency, and technology spillovers. Together, these perspectives highlight the dualistic nature of OFDI, both as a source of global opportunity and a test of domestic resilience

Research Gap and Justification

While prior literature offers valuable insights into the evolution of India's OFDI up to the mid-2010s, significant gaps persist regarding its development between 2015 and 2025, a period characterized by extensive digitalization, intensified geopolitical realignments, and major policy reforms. Contemporary scholarship lacks a systematic analysis of recent sectoral shifts from conventional industries to knowledge-based and technology-intensive activities, as well as the regional diversification of India's OFDI toward emerging regions such as Southeast Asia, Africa, and Eastern Europe. Furthermore, the mode-wise distribution of OFDI spanning equity participation, loans, and financial guarantees remains unexplored in the context of evolving firm strategies, capital regulations, and risk management preferences.

This study addresses these research gaps by conducting a comprehensive examination of India's OFDI during 2015–2025, focusing on three critical dimensions: sectoral composition, geographic distribution, and modes of financing. By integrating policy evolution, institutional change, and corporate strategic behaviour, this research builds on foundational works (Pradhan, 2010; Kumar, 2008) while extending discussion to a contemporary context defined by innovation-led globalization. The study aims to contribute to scholarly and policy discourse by elucidating how Indian enterprises leverage outward investment as a means to build technological capacity, enhance strategic resilience, and reinforce the nation's positioning within global economic frameworks.

3. RESEARCH DESIGN

3.1 Objectives

This article analyzes the structural patterns and evolution of India's Outward Foreign Direct Investment (OFDI) between 2015 and 2025 using an integrated empirical approach. The core aim is to track changes in OFDI across temporal, sectoral, and regional dimensions, assessing trends in the equity, loan, and guarantee components, and determining whether investments are increasingly directed toward high-value, innovative, and technology-driven industries. The study also explores the geographic allocation of OFDI among major countries and continents to identify top destination markets and evaluate their significance for India's international presence. Alongside descriptive analysis, inferential methods are used to test if OFDI variations by industry and year are statistically significant, thereby confirming structural shifts. Ultimately, the findings provide insights into how India's OFDI strategy advances technological upgrading, expands global linkages, and strengthens its standing in international innovation and production networks.

3.2 Hypotheses

To test the patterns of OFDI distribution and trends, the following hypotheses were formulated:

H_{01}: There is no significant monotonic trend in the components of India's OFDI (equity, loan, and guarantee) over time.

H_{a1}: There exists a significant monotonic trend in one or more components of India's OFDI over time.

H_{02}: India's OFDI does not vary significantly across sectors or years.

H_{a2}: India's OFDI varies significantly across sectors and years.

3.3 The Data

The study is based on secondary data collected from the Reserve Bank of India (RBI) Outward Direct Investment (ODI) database for the period 2015–2025. Supplementary information was drawn from Exim Bank Reports, UNCTAD's World Investment Report, and Department for Promotion of Industry and Internal Trade (DPIIT) publications. Additional global contextual references were sourced from international financial databases and policy reports.

3.4 Methodology

This study uses an integrated empirical approach to assess India's Outward Foreign Direct Investment (OFDI) from 2015 to 2025. The methodology combines descriptive statistics, trend analysis, and inferential tests. Descriptive methods, including tables and charts, are utilized to map OFDI flows by sector, region, and investment mode (equity, loan, guarantee). For time-series trend detection, the Mann–Kendall (MK) test and Sen's Slope Estimator are applied, which do not assume data normality and are robust to outliers, making them well suited for economic financial data. The MK test establishes the presence and direction of trends in each OFDI component, while Sen's slope quantifies annual rate of change. Complementing this, Two-Way ANOVA (without replication) is used to test if sectoral and temporal differences in OFDI are statistically significant, with results assessed at the 5% level. Analyses are run in R and Excel. This combined approach provides a clear, statistically sound assessment of how India's OFDI patterns have evolved across time, industry, and region, highlighting a shift to more innovation-driven, sector-focused internationalization.

4. DESCRIPTIVE STATISTICS

4.1 Trends in India's Outward FDI

From 2015–16 to 2024–25, India's Outward Foreign Direct Investment (OFDI) saw both notable fluctuations and an overall upward trajectory. In the initial phase (2015–16 to 2017–18), OFDI ranged between USD 18 and 25 billion, with guarantees making up the largest share of investments (Table 1). This heavier reliance on guarantees reflects a cautious risk management strategy, as Indian enterprises engaged in overseas ventures with an emphasis on financial safety and support.

Table 1: Trends in India's Outward FDI Components (2015-2025)

Year	Equity ($Mn)	Loan ($Mn)	Guarantee Issued ($Mn)	Total OFDI
2015-16	4753.8	3354.5	13908.4	22016.7
20	9301	4106.8	11454.3	24863.

16-17	.9			0
2017-18	5650.2	4732.9	8272.0	18655.1
2018-19	6234.7	5566.4	8473.2	20274.3
2019-20	5849.9	5930.9	9181.7	20962.5
2020-21	4780.7	6011.0	7827.5	18619.2
2021-22	7542.0	7093.0	10320.2	24955.2
2022-23	8786.8	4652.7	9441.1	22880.6
2023-24	8897.4	4837.0	11152.6	24887.0
2024-25	16901.7	10291.6	14428.3	41621.6

Source: RBI Database

The period from 2018–19 to 2020–21 was marked by moderate volatility, influenced by alternating global economic conditions and the disruptive impact of the COVID-19 pandemic. This downturn reached its lowest point in 2020–21, when total OFDI dropped to USD 18.6 billion. However, a robust and broad-based recovery began in 2021–22. This recovery was led mainly by significant increases in both equity and loan components. Equity investment rose sharply from USD 4.7 billion in 2015–16 up to USD 16.9 billion in 2024–25, showing greater willingness among Indian firms to assume ownership and control abroad. Loan investments also increased notably, from USD 3.3 billion to USD 10.3 billion during the same period, while guarantees rose from USD 13.9 billion to USD 14.4 billion, suggesting sustained support for overseas subsidiaries.

Overall, the data reveal a move away from purely risk-averse strategies toward more active, strategic, and innovation-oriented outward investments. The increase in equity and loans, particularly in the last year of the series, points to Indian firms' renewed confidence in global expansion tied to technology acquisition, capability-building, and integration with international innovation networks. On average, guarantees continued to represent the largest share of OFDI at 44.3% for the decade, followed by equity at 31.9% and loans at 23.8%. The surge recorded in the year 2024–25 across all three investment modes drove total OFDI to its highest ever level for the decade, marking a strong close and a clear shift in India's outward investment profile.

4.2 Composition of India's Outward FDI

The sectoral analysis of OFDI revealed a pronounced pivot toward high-value and innovation-driven destinations (Table 2). Financial, insurance, real estate, and business services consistently attracted the largest capital inflows, while manufacturing also posted robust growth evidence of India's focus on embedding itself in global value chains, acquiring advanced technology, and expanding services and fintech capabilities. Rapid growth in wholesale, retail trade, restaurants, and hotels in the later years, and periodic spikes in agriculture, mining, and construction, underscored the dynamic and opportunity-driven nature of outward investments.

Table 2: Sectoral Composition of India's Outward FDI (US$ billion)

Sectors	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Agriculture & Mining	1790.7	5451.0	2056.8	1641.7	1424.9
Community, Social & Personal Services	745.5	927.7	692.8	359.9	250.0
Construction	1239.7	574.4	813.9	1653.3	2701.1
Electricity, Gas & Water	186.8	616.6	595.7	608.6	841.7
Financial, Insurance, Real Estate & Business Services	4872.2	5948.1	5652.2	6268.1	4524.7
Manufacturing	8518.4	5012.2	4307.5	5539.6	5165.2
Miscellaneous	91.2	145.5	95.9	56.1	48.3
Transport, Storage & Communication Services	1585.5	1709.3	2137.6	1782.5	2426.0

Wholesale, Retail Trade, Restaurants & Hotels	2986.7	4478.4	2302.8	2364.5	3573.5
Total	22016.6	24863.0	18655.2	20274.3	20955.4
Sectors	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Agriculture & Mining	2361.4	3725.5	1645.1	1160.6	2874.4
Community, Social & Personal Services	219.8	1017.7	280.3	622.7	918.6
Construction	649.4	1024.8	1061.0	3869.0	764.1
Electricity, Gas & Water	348.9	193.1	129.5	191.2	245.3
Financial, Insurance, Real Estate & Business Services	5770.4	8497.3	7339.6	8778.5	16464.3
Manufacturing	5633.3	5708.9	6855.8	5245.7	10057.5
Miscellaneous	45.1	27.2	79.1	39.6	86.7
Transport, Storage & Communication Services	1065.4	920.1	1278.3	1429.6	2263.5
Wholesale, Retail Trade, Restaurants & Hotels	2525.5	3840.7	4212.0	3550.1	7947.4
Total	18619.2	24955.2	22880.7	24887.0	41621.7

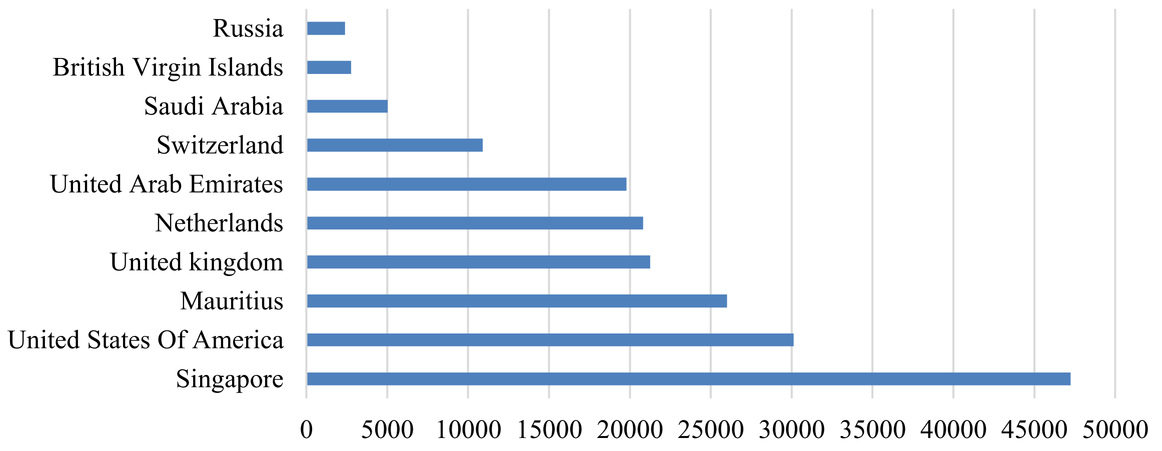
Source: RBI Database

Together, these findings show that while Indian multinationals retained some preference for guarantees as a form of risk management, they increasingly channeled capital through equity and loans. The post-pandemic recovery especially highlighted this shift, as Indian firms aggressively used OFDI to enter or expand in technology sectors and innovation hubs abroad. The overall picture is one of qualitative transformation, a transition from cautious, risk-mitigated engagement to active and strategic participation in global innovation and production networks through equity- and loan-driven international ventures.

4.3 Direction of India's Outward FDI

Figure 1 displays the pattern of India's Outward Foreign Direct Investment (OFDI) by country between 2015 and 2025, revealing a highly concentrated geographical focus. Singapore stands out as the foremost destination, capturing an exceptional $47.25 billion, far ahead of any other nation. The United States ranks second at $30.13 billion, followed by Mauritius, the United Kingdom, and the Netherlands, each receiving more than $20 billion in Indian OFDI. Beyond these leaders, other key recipients include the United Arab Emirates, Switzerland, and Saudi Arabia, which together with major global financial hubs like the British Virgin Islands form the core of India's outward investment destinations. While these countries attract the bulk of OFDI, a long tail of other destinations, including Germany, Japan, and Sri Lanka receive considerably lower inflows.

Figure 1: Indian OFDI in Top Ten Countries by (2015-2025)



Source: RBI Database

This distribution highlights India’s calculated strategy of prioritizing established financial centres and economically stable, strategic markets. The preference for Singapore stems from its pro-business environment, advanced regulatory frameworks, and connectivity to the Asia-Pacific region. Investments in the US, the UK, and the Netherlands are tied to their robust financial sectors and technology-driven industries, while Mauritius and other offshore centres offer fiscal advantages and treaty benefits.

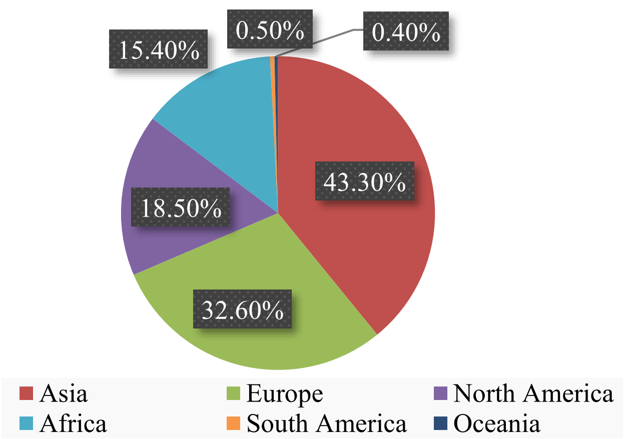
Rather than dispersing capital thinly, Indian firms focus resources on countries that offer superior market access, fiscal efficiency, and potential for growth in high-value sectors. This outward investment pattern underscores India’s broader internationalization objectives to secure meaningful stakes in global value chains, foster technology transfer, and reinforce commercial presence in pivotal global markets. The data presented in Table 3 and Figure 2 highlight the continent-wise distribution of India’s Outward Foreign Direct Investment (OFDI) during 2015–2025, showing a clear regional concentration in Asia and Europe. Asia remains the dominant recipient, accounting for 43.3 percent of total OFDI amounting to US$ 86,761 million reflecting India’s preference for markets that offer geographic proximity, deep trade linkages, and well-established regional value chains.

Europe follows with 32.6 percent (USD 65,411 million), underscoring India’s sustained engagement with advanced economies through technology collaborations, mergers, and market expansion efforts in strategic European hubs. North America attracts 18.5 percent of India’s total outward investment, primarily into the United States and Canada, where Indian firms pursue innovation-intensive ventures, partnerships with global technology leaders, and access to high-value markets. Africa’s 15.4 percent share points to growing South–South economic ties, resource-linked investments, and expanding Indian participation in infrastructure and consumer markets across the continent. In contrast, South America (0.5 percent) and Oceania (0.4 percent) register minimal investment inflows, indicating limited Indian exposure to these regions. This highly focused distribution pattern suggests that India’s OFDI strategy prioritizes markets with strong commercial complementarity, innovation potential, and policy alignment over geographically dispersed expansion.

Table 3: Indian OFDI by Continent (2015-2025)

Continent	Total OFDI (US$ Mn)	Share (%)
Asia	86,761	43.30%
Europe	65,411	32.60%
North America	37,141	18.50%
Africa	30,954	15.40%
South America	1,059	0.50%
Oceania	731	0.40%

Figure 2: Indian OFDI by Continent



Source: RBI Database

Collectively, Asia and Europe together account for more than three-quarters of India's total outward investment, highlighting an investment strategy that combines regional integration in the Asia-Pacific with innovation-driven expansion in Western economies. Investments in Asia-led by Singapore and the United Arab Emirates are largely aimed at strengthening financial connectivity and trade partnerships, while investments in Europe and North America are driven by technology acquisition and research collaborations. This pattern supports the concept of reverse technology spillovers, where overseas innovation and expertise gained by Indian enterprises contribute to upgrading domestic production and innovation systems. The accompanying pie chart visually reinforces these percentages, emphasizing Asia's structural dominance and India's targeted approach to global investment diversification.

5. STATISTICAL ANALYSIS

The purpose of applying the Mann–Kendall (MK) test is to determine whether the various components of India's Outward Foreign Direct Investment (OFDI): equity, loans, and guarantees, exhibited a consistent monotonic trend (either upward or downward) during the period from 2015 to 2025. The test offers a statistically sound, non-parametric approach for detecting long-term trends in time-series data that may not satisfy the assumptions of normality or homoscedasticity. Unlike traditional regression methods, the MK test depends solely on the rank order of observations rather than their absolute values, making it particularly effective for economic and financial datasets often influenced by extreme values or irregular distributions. The method works by evaluating the difference in ranking between successive data points in a time series and computing the test statistic (Z). A positive Z value indicates an upward monotonic trend, a negative Z value signifies a downward trend, and a Z value close to zero shows no directional trend. The significance of this trend is then tested statistically via the p-value, which indicates whether the observed pattern is due to chance. To complement the MK test, Sen's slope estimator was used to measure the rate of change, providing a quantitative estimate of how rapidly each OFDI component evolved per year.

The results, summarized in Table 4, reveal a clear divergence between the different components of OFDI. The equity component shows a statistically significant positive trend ($Z = 1.9677$; $p = 0.0491$), with a Sen's slope of USD 541.2 million per year. This suggests a steady increase in equity-based investments, meaning Indian firms are acquiring more ownership and control in foreign enterprises, aligning with their long-term global expansion and innovation objectives. Likewise, the loan component exhibits a stronger upward trend ($Z = 2.3255$; $p = 0.0200$), with a Sen's slope of USD 581.05 million per year, pointing to increased financing of overseas subsidiaries and affiliates, particularly in high-value and innovation-intensive industries. In contrast, the guarantee component ($Z = 0.5366$; $p = 0.5915$) and total OFDI with $Z = 1.4311$, and $p = 0.1524$, show no statistically significant trends. This suggests that while guarantees continue to represent a major share of India's OFDI structure, their growth over the decade has been relatively stable, reflecting a risk-mitigation approach rather than expansion-oriented investment behaviour.

Table 4: Mann-Kendall and Sen's Slope Test for OFDI Components

Component	MK (Z)	Sen's slope	P-Value	Interpretation
Equity	1.9677	541.20	0.0491	Reject Ho1
Loans	2.3255	581.05	0.0200	Reject Ho2
Guarantee Issued	0.5366	233.82	0.5915	Accept Ho3
Total	1.4311	845.10	0.1524	Accept Ho4

Source: Own calculations

Overall, the MK test results indicate that the observed upward momentum in India's OFDI is driven primarily by equity and loan components. This reflects an important structural transformation in India's outward investment strategy, an evolution from conservative, guarantee-backed financing toward more active, ownership-based and capital-intensive internationalization. Such a shift underscores the growing confidence and global competitiveness of Indian multinationals, as they leverage OFDI to expand technological frontiers, strengthen innovation linkages, and enhance their long-term global presence.

The two-way Analysis of Variance (ANOVA) was employed to determine whether India's Outward Foreign Direct Investment (OFDI) varied significantly across sectors and over time during the period 2015–16 to 2024–25 (See table 5 in appendix). This statistical method was applied because it can simultaneously measure the effects of two independent variables (sector and year in this case) on the volume of OFDI (dependent variable). The approach helps to identify whether differences in OFDI across sectors and years are statistically meaningful or occur by chance.

As shown in Table 6, the results indicate significant variation in OFDI across both sectors and years. The sectoral effect is particularly strong, with an F-statistic of 33.67 and a p-value well below 0.05, indicating that India's OFDI is unevenly distributed across industries. High investment volumes are concentrated in financial, insurance, real estate, and business services, followed by manufacturing and wholesale/retail trade, whereas sectors such as electricity, community services, and miscellaneous industries receive comparatively limited investment. This uneven distribution suggests that Indian firms prioritize sectors offering higher returns, global market demand, and innovation potential. The capital-intensive and technology-driven nature of the leading sectors demonstrates a strategic intent to acquire advanced capabilities, managerial expertise, and brand recognition through foreign ventures.

Table 6: Two-Factor ANOVA

Source of Variation	SS	df	MS	F	P-value	F Crit.
Rows	550,000,000	8	68,760,774	33.67	0.000	2.069832
Columns	44,313,127	9	4,923,681	2.41	0.019	2.012705
Error	147,000,000	72	2,041,667			
Total	742,000,000	89				

Source: Own calculations

The temporal effect is also statistically significant, with an F-value of 2.41 and p = 0.019, confirming that OFDI flows varied significantly over the decade. These year-to-year fluctuations correspond to macroeconomic cycles, policy reforms, and external shocks; most notably, the COVID-19 pandemic. The sharp post-2020 rebound reflects India's adaptive response to global disruptions, as firms redirected investments toward sectors such as digital technology, pharmaceuticals, and knowledge-based services that proved resilient and growth-oriented under new market conditions.

Both the sectoral and temporal p-values (below 0.05) confirm that variations in India's outward investments are statistically reliable and not random. However, the much higher F-statistic for sectoral variation highlights that sectoral specialization exerts a stronger influence on OFDI distribution than annual fluctuations. In essence, India's OFDI is both *strategic* and *adaptive*: strategic in targeting sectors aligned with long-term innovation and value creation, and adaptive in its responsiveness to evolving global economic realities. Overall, the ANOVA results reinforce that India's outward investment patterns have matured beyond random expansion, representing a deliberate mechanism for risk diversification, technological upgrading, and integration into global innovation and production networks.

6. CONCLUSION

In a nutshell, the study demonstrates that India's outward FDI (OFDI) from 2015 to 2025 has shifted significantly towards equity and loan-based investments, moving beyond the earlier dominance of guarantees and risk-aversion. This new phase is marked by targeted allocations to high-value sectors like financial and business services, and an increased focus on technology, capability building, and global integration. The findings show that both sectoral and temporal variations in OFDI are statistically significant, with sectoral priorities exerting greater influence than annual changes.

Regionally, Asia and Europe remain top destinations, reflecting India's priorities in innovation and commercial partnerships, while countries like Singapore and the US lead as key OFDI recipients. The Mann–Kendall trend test, Sen's Slope, and ANOVA confirm this shift toward strategic and innovation-led internationalization. Ultimately, India's evolving OFDI approach is supporting not only global expansion but also domestic technological upgrading and integration with global innovation networks, positioning India as a dynamic and adaptive player in the evolving world economy.

.. REFERENCES

1. Arockia Baskaran, R., & Chaarlas, L. J. (2012). Liberalized Remittance Scheme and its impact on Indian Outward Foreign Direct Investment. International Journal of Multidisciplinary Research, 2(6), 93–101.
2. Arockia Baskaran, S., & Chaarlas, L. J. (2012). Outward foreign direct investment by Indian companies: Determinants and implications. International Journal of Trade, Economics and Finance, 3(1), 64–70. https://doi.org/10.7763/IJTEF.2012.V3.169
3. Athukorala, P. C. (2009). Outward foreign direct investment from India. Asian Development Review, 26(2), 125–153.
4. Badar Alam, I. (2018). Outward FDI from India: Trends, patterns and determinants. International Journal of Research in Social Sciences, 8(2), 456–472.
5. Bank of Baroda. (2025). India's Outward FDI Report 2025. Mumbai: Bank of Baroda Economic Research Department.
6. Baskaran, G., & Chaarlas, L. J. (2012). Outbound FDI by Indian companies: Motivations, trends and challenges. Journal of Business and Economic Policy, 2(1), 1–10.
7. Chaudhry, D. (2018). Outward foreign direct investment from India: Trends and determinants. International Journal of Research in Humanities, Arts and Literature, 6(2), 1–12.
8. Dunning, J. H. (1993). Multinational enterprises and the global economy. Addison-Wesley.
9. Exim Bank of India. (2014). Outward Foreign Direct Investment from India: Trends, Objectives and Policy Perspectives. Export-Import Bank of India Occasional Paper No. 150.
10. Fisher, R. A. (1925). Statistical methods for research workers. Edinburgh: Oliver and Boyd.
11. Hamed, K. H. (2008). Trend detection in hydrologic data: The Mann–Kendall trend test under the scaling hypothesis. Journal of Hydrology, 349(3–4), 350–363.
12. Iqbal, B. A., Sehgal, S., & Bal, A. (2018). Outward FDI and home country performance: Evidence from India. Journal of Emerging Market Finance, 17(3), 284–302.
13. Iqbal, B. A., Sharma, R., & Singh, S. (2018). India's OFDI: Recent trends and patterns. Asia Pacific Journal of Management Research and Innovation, 14(3), 194–208.
14. Jain, A., & Thukral, M. (2024). Motives and determinants of outward FDI from emerging economies: The case of India. Asia-Pacific Journal of Management Perspectives, 13(2), 87–106.
15. Jain, A., & Thukral, S. (2024). What causes outward foreign direct investment (OFDI) from

India into least developed countries (LDCs)? Journal of the Asia Pacific Economy, 29(3), 1-21. https://doi.org/10.1080/13547860.2022.2097619
16. Jain, N., & Thukral, M. (2024). Resource-driven OFDI: Revisiting Indian outward investment motives. Journal of Emerging Market Economies, 16(1), 51–69.
17. Joseph, A. (2019). India's manufacturing push overseas: An analysis of trends and policy. India Quarterly, 75(4), 379–396.
18. Joseph, D. (2019). Indian multinational corporations: Drivers, patterns, and implications for domestic innovation. South Asia Economic Journal, 20(1), 37–62.
19. Joseph, R. K. (2019). Outward foreign direct investment from India: Trends, determinants and policy implications. Institute for Studies in Industrial Development Working Paper No. 235.
20. Kaushal, L. A. (2022). Institutional and economic determinants of Indian outward foreign direct investment. Cogent Economics & Finance, 10(1), 2147648.
21. https://doi.org/10.1080/23322039.2022.2147648
22. Kaushal, P. S. (2022). Institutional quality and location choices of Indian OFDI. Journal of Institutional Economics, 18(1), 1–22.
23. Kaushal, R. (2022). Institutional quality and location choices of Indian multinationals. Journal of Institutional Economics, 18(4), 575–600.
24. Kendall, M. G. (1975). Rank correlation methods (4th ed.). Charles Griffin.
25. Khanna, P. (2021). Trends and determinants of outward FDI from India: An analysis of sectoral patterns. International Journal of Economics and Business Administration, 9(4), 133–148.
26. Khanna, T. (2021). Indian multinationals: Global presence and strategic drivers. International Business Review, 30(5), 101–113.
27. Khanna, V. (2021). COVID-19 and the transformation of India's outward FDI landscape. Global Policy Journal, 12(2), 214–225.
28. Kudachimath, D. R. (2019). Outward foreign direct investment from India: An analysis of mode of entry and financing pattern. International Journal of Management, Technology and Engineering, 9(6), 2166–2176.
29. Kudachimath, M. (2019). The dynamics of equity participation and risk mitigation in Indian OFDI. International Journal of Economics and Business Administration, 7(1), 77–90.
30. Kudachimath, S. M. (2019). Mode of entry and performance of Indian multinational corporations. International Journal of Management Studies, 6(2), 74–82.
31. Kumar, N. (2008). Emerging MNCs: Trends, patterns, and determinants of outward FDI by Indian enterprises. Asian Economic Policy Review, 3(2), 168–191.
32. https://doi.org/10.1111/j.1748-3131.2008.00098.x
33. Kumar, N. (2008). Internationalization of Indian enterprises: Patterns, strategies, and impact. Transnational Corporations, 17(2), 1–26.
34. Kumar, N. (2008). Internationalization of Indian enterprises: Patterns, strategies, ownership advantages, and firm-level evidence. Indian Journal of Economics and Business, 7(Sp. Issue), 1–27.
35. Mann, H. B. (1945). Nonparametric tests against trend. Econometrica, 13(3), 245–259.
36. https://doi.org/10.2307/1907187
37. PricewaterhouseCoopers. (2010). The World in 2050: How big will the emerging market economies get and how can the OECD compete? PwC.
38. Pradhan, J. P. (2005). Outward foreign direct investment from India: Recent trends and patterns. Indian Council for Research on International Economic Relations (ICRIER) Working Paper No. 153.
39. Pradhan, J. P. (2006). Indian direct investment in developing countries: Emerging trends and development impact. ISID Working Paper No. 2006/08. Institute for Studies in Industrial Development.
40. Pradhan, J. P. (2009). Emerging multinationals from India and China: Origins, strategies and performance. Asian Economic Papers, 8(3), 107–142.
41. Pradhan, J. P. (2009). Emerging multinationals from India and China: Origin, impetus and growth. GIDR Working Paper No. 175. Gujarat Institute of Development Research.
42. Pradhan, J. P. (2010). Strategic asset-seeking activities of emerging multinationals: Perspectives from Indian outward FDI. International Journal of Emerging Markets, 5(3/4), 268–289.
43. https://doi.org/10.1108/17468801011058419
44. Pradhan, J. P. (2010). Strategic responses of Indian multinationals to global economic crisis. AIB Insights, 10(4), 7–10.
45. PricewaterhouseCoopers. (2010). Outbound investments by Indian corporates: The journey so far and lessons for the road ahead. PwC.
46. PwC. (2010). Outward FDI and the Indian Pharmaceutical Industry. PricewaterhouseCoopers India.
47. Reddy, K., Sasidharan, S., & Doytch, N. (2022). Outward foreign direct investment and domestic innovation efforts: Evidence from India. Journal of Economics and Business, 122, 106050.
48. https://doi.org/10.1016/j.jeconbus.2022.106050
49. Reddy, P., Sasidharan, S., & Doytch, N. (2022). Indian OFDI and reverse knowledge spillovers. World Economy, 45(7), 1554–1578.
50. Reddy, Y. V., Sasidharan, S., & Doytch, N. (2022). Outward FDI and innovation: Evidence from Indian multinationals. World Development, 146, 105579.
51. Saikia, T. J. (2009). Policy regime shifts and Indian outward FDI: A critical assessment. South Asia Economic Journal, 10(2), 305–320.
52. Salunkhe, S., & Kashyap, A. (2024). Sectoral trends in India's outward FDI. Foreign Trade Review, 59(1), 49–62.

53. Salunkhe, S., & Kashyap, G. (2024). OFDI geography and sectoral choice: Evidence from Indian firms. Economic and Political Weekly, 59(9), 42–50.
54. Salunkhe, V. J., & Kashyap, S. K. (2024). Trends in industry sectors and geographic locations attracting maximum outward FDI from India. Panamerican Mathematical Journal, 34(4), 1–20.
55. Sauvant, K. P., & Nayyar, D. (2010). The next step in India's outward FDI: Overseas investment by Indian companies. Oxford Development Studies, 38(2), 255–272.
56. Sen, P. K. (1968). Estimates of the regression coefficient based on Kendall's tau. Journal of the American Statistical Association, 63(324), 1379–1389.
57. Subramanian, R., Sachdeva, C., & Morris, S. (2010). Determinants of Indian outward foreign direct investment. Indian Institute of Management Ahmedabad Working Paper No. 2010-03-04.
58. UNCTAD. (2025). World Investment Report 2025. United Nations Conference on Trade and Development.
59. Yue, S., & Wang, C. Y. (2004). The Mann–Kendall test modified by effective sample size to detect trend in serially correlated hydrological series. Water Resources Management, 18(3), 201–218.
60. https://doi.org/10.1023/B:WARM.0000043140.61082.60.