India's Foreign Trade with Brics: Sectoral Patterns and Directional Analysis

Vandita Batra[1], Dr. Sapna Bansal[2]

[1]Research Scholar, Department of Management and Commerce, Baba Mastnath University, Rohtak
[2]Associate Professor, Department of Management and Commerce, Baba Mastnath University, Rohtak

ABSTRACT

This study examines the direction and composition of India's foreign trade with BRICS nations (Brazil, Russia, India, China, and South Africa) over the period 2014–2023. Using export and import data, the analysis focuses on five major categories of trade—pharmaceuticals, engineering goods, chemicals, petroleum products, and textiles for exports, and crude oil & petroleum, minerals, fertilizers, gold & precious metals, and coal for imports. Trend analysis reveals that India's trade with BRICS is characterized by persistent deficits with China and Russia, modest surpluses with Brazil, and relatively balanced exchanges with South Africa. Sectoral patterns highlight India's strength in pharmaceuticals and engineering goods, while imports remain commodity-heavy, dominated by energy, minerals, and precious metals. The findings underscore the complementary nature of India–BRICS trade, while also pointing to structural imbalances that require strategic policy interventions.

Keywords: India-BRICS Trade, Trade Policies, Global Trade Dynamics, Trade Barriers and Opportunities, Sector Composition, Balance of Trade etc.

1. INTRODUCTION

India's engagement with the BRICS nations—Brazil, Russia, India, China, and South Africa—has emerged as a cornerstone of its foreign trade policy over the past decade. These countries collectively represent some of the fastest-growing economies in the world and account for a significant share of global trade flows. For India, BRICS offers both opportunities and challenges: opportunities in terms of expanding markets for its pharmaceuticals, engineering goods, and textiles, and challenges in the form of persistent trade deficits with resource-rich and manufacturing-heavy partners like Russia and China. Examining the direction of trade with BRICS is therefore critical to understanding India's evolving position in the global economy [1].

From 2014 to 2023, India's trade with BRICS nations has grown steadily, though unevenly across partners. China has consistently been India's largest trading partner within BRICS, but the relationship is marked by a substantial and widening trade deficit due to India's reliance on Chinese electronics, machinery, and industrial inputs. Russia, similarly, has been a source of energy, defense equipment, and fertilizers, resulting in a structural imbalance in trade. In contrast, Brazil and South Africa present relatively balanced trade relationships, with India's exports of pharmaceuticals, engineering goods, and textiles finding strong demand, while imports are dominated by commodities such as crude oil, gold, coal, and agricultural products.

Sectoral analysis of India's exports and imports highlights the complementary nature of trade with BRICS. India's export basket is driven by five major categories—pharmaceuticals, engineering goods, chemicals, petroleum products, and textiles—reflecting its industrial and consumer strengths. Imports, however, are concentrated in crude oil and petroleum, minerals, fertilizers, coal, and precious metals, underscoring India's dependence on resource-based commodities. This divergence in sectoral composition explains the directional imbalance in trade flows, where India's exports are diversified but relatively modest in value compared to its commodity-heavy imports.

Understanding these patterns through trend analysis provides insights into India's long-term trade trajectory with BRICS. The data from 2014–2023 reveals both structural challenges and emerging opportunities. While deficits with China and Russia remain a concern, India's growing surpluses with Brazil and South Africa suggest potential avenues for strengthening its export competitiveness. The directional analysis of trade flows thus not only highlights India's current position but also underscores the need for strategic interventions to diversify exports, reduce import dependence, and achieve a more sustainable balance in its trade relations with BRICS [2].

2. REVIEW OF LITERAURE

Arab et al. (2025) [1] investigated how investment, technological innovation, and oil rent influenced renewable energy development across BRICS economies. Using data from 2000 to 2021 and the Method of Moments Quantile Regression (MMQR) technique, they found that investment in energy, R&D, economic growth, and inflation positively impacted renewable energy usage. Conversely, oil rent, financial development, and institutional quality were found to hinder progress. The authors emphasized the need for robust policies that channel financial resources into renewable energy initiatives to help BRICS nations achieve carbon neutrality and environmental sustainability.

Roucham et al. (2025) [2] conducted a bibliometric analysis to map the evolution of green hydrogen and renewable energy research across extended BRICS nations. Drawing from 292 publications between 2005 and 2024, the authors identified a sharp rise in research output and citation impact in recent years. China led in publication volume and influence, followed by India and Russia, reflecting strong national initiatives. About 25% of the studies involved international co-authorship, highlighting active collaboration. The study emphasized hydrogen production technologies as a core strength and pinpointed gaps in capacity-building and policy alignment. These insights offer a roadmap for future research and strategic planning in sustainable energy transitions.

Tsaurai et al. (2025) [3] explored how infrastructure development influences foreign direct investment (FDI) inflows in BRICS countries—Brazil, Russia, India, China, and South Africa—using panel data from 1991 to 2021 and a fixed-effects model. It found that internet penetration and fixed telephone subscriptions significantly enhanced FDI inflows, while renewable energy infrastructure had a minimal impact. The interaction between infrastructure and financial development showed a strong positive effect on FDI, suggesting that financial systems play a key enabling role. The study recommended targeted policies to improve digital and physical infrastructure to attract more FDI.

Rasheed et al. (2025) [4] analysed the long-term effects of information technology (IT), trade globalisation, and economic complexity on carbon emissions in BRICS economies using panel data from 1996 to 2018. Applying advanced econometric techniques like CUP-FM and Dumitrescu–Hurlin causality tests, the authors found that IT significantly reduced CO_2 emissions, primarily through enhanced energy efficiency and digital transformation. Trade globalisation showed mixed effects—

reducing emissions via technology diffusion but also increasing them due to industrial scale effects. Economic complexity exhibited a U-shaped relationship with emissions: initially contributing to higher emissions during industrial expansion, but later reducing them as cleaner technologies and innovation took hold. The study concluded that strengthening digital infrastructure, promoting green technologies, and aligning trade policies are essential for sustainable development in BRICS nations.

Yadav et al. (2025) [5] examined India's evolving role within the BRICS framework amid shifting global economic and geopolitical dynamics. It highlighted India's strategic engagement with BRICS initiatives such as the New Development Bank (NDB) and the Contingent Reserve Arrangement (CRA), emphasizing India's efforts to leverage its growing influence in global affairs. The study identified key opportunities for India, including enhanced trade, investment flows, and South-South cooperation. However, it also addressed challenges such as intra-BRICS divergences, economic competition, and strained bilateral relations—particularly with China. The paper concluded that India must adapt its policies to maintain its leadership role within BRICS while advancing its strategic interests in a multipolar world.

Hlongwane et al. (2025) [6] examined how the transition to renewable energy affects employment dynamics across BRICS nations. Using disaggregated data on solar, hydro, wind, nuclear, and other renewables, the authors found that hydropower and solar energy significantly contributed to job creation, while wind and nuclear energy showed mixed or negative effects at the aggregate level. Economic growth also played a strong positive role in employment generation. The study emphasized that country-specific policies and resource endowments influence the employment outcomes of renewable energy investments. It concluded that BRICS nations should prioritize hydropower and solar development, support emerging renewables like bioenergy, and implement reskilling programs to ensure a just energy transition.

Ruzgar et al. (2025) [7] conducted a comparative analysis to identify which economic indices most significantly influenced stock price volatility (SPV) in BRICS countries—Brazil, Russia, India, China, and South Africa—during the global financial crisis and the COVID-19 pandemic. Using monthly data from 2000 to 2023 sourced from the World Bank, IMF, OECD, and GEM databases, the research applied Multiple Linear Regression (MLR) and Data Mining (DM) classification techniques, particularly the Random Tree method, to uncover common indicators. The findings revealed that Consumer Price Index (CPI) price percent, national currency exchange rates, and CPI (all items) were the most influential indices during the global financial crisis, while CPI price percent alone was common during the COVID-19 crisis. Interestingly, MLR failed to identify consistent common indices, highlighting the superior classification accuracy of the Random Tree technique. The study emphasized that no single index consistently influenced SPV across both crises, due to the unique economic structures and crisis responses of each BRICS nation. These insights are valuable for investors and policymakers aiming to tailor financial strategies to crisis-specific conditions.

Zheng et al. (2025) [8] examined the spatial and temporal dynamics of embodied carbon emissions in water transport trade among BRICS countries from 1995 to 2018. Using a multi-regional input–output model combined with the LMDI decomposition method, they quantified the bi-directional flow of carbon emissions and identified key driving mechanisms—scale, structure, and intensity effects. The results showed that China was the largest net exporter of embodied carbon, while India and South Africa were net importers. The scale effect drove emission growth, whereas the intensity effect suppressed it. Spatially, emissions were concentrated in Southeast Asia and the Northern Hemisphere. The study recommended optimizing trade structures, promoting green transport technologies, and enhancing regional cooperation to meet emission reduction targets.

Sharma et al. (2025) [9] analysed the role of physical and financial infrastructure in shaping net private capital flows across BRICS economies from 2010 to 2024. Using panel data and a fixed-effects regression model, the research found that high-quality transport, energy, and telecom infrastructure significantly reduced business costs and enhanced foreign direct investment (FDI). Meanwhile, robust financial systems, including banking networks and capital markets, improved investor confidence and facilitated foreign portfolio investment (FPI). The study provided empirical evidence that infrastructure development was a key driver of capital mobility and economic resilience in BRICS nations.

Jeyakumar et al. (2025) [10] explored the evolution of India's merchandise trade with BRICS economies—Brazil, Russia, India, China, and South Africa—highlighting trends, challenges, and opportunities from a comparative perspective. The research analysed trade volumes, sectoral compositions, and bilateral trade dynamics, revealing that China remained India's largest trading partner within BRICS, while trade with Russia and Brazil showed lower intensity. The study identified tariff barriers, geopolitical tensions, and commodity price fluctuations as key constraints, but emphasized the potential of regional cooperation mechanisms like the New Development Bank to enhance trade integration. Policy recommendations included diversifying export portfolios, strengthening trade agreements, and leveraging infrastructure investments to boost India's trade competitiveness.

A. Research Gap

Despite the growing body of literature on India's trade relations with BRICS, a clear research gap exists in the systematic examination of sectoral patterns and directional flows over a sustained period using disaggregated export–import data. Most existing studies emphasize aggregate trade balances or bilateral comparisons, often overlooking the five major sectoral categories that dominate India's trade basket and the year-wise dynamics between 2014–2023. Furthermore, limited attention has been given to trend analysis across all BRICS partners simultaneously, which could reveal structural imbalances, complementarities, and concentration risks in India's trade portfolio. This gap highlights the need for a comprehensive, sector-specific, and longitudinal study that not only maps India's trade direction but also contextualizes it within the broader framework of global supply chains and policy implications.

3. RESEARCH METHODOLOGY

Research methodology refers to the systematic framework and approach adopted to conduct a study, ensuring that the research process is logical, structured, and scientifically valid. It defines the overall strategy used to collect, analyze, and interpret data in order to answer the research questions and achieve the stated objectives [11].

A. Statement of the Problem

India's foreign trade with BRICS nations has expanded significantly over the past decade, yet the direction of trade flows reveals persistent structural imbalances. While India has achieved modest surpluses with Brazil and South Africa, its trade with China and Russia is marked by large and widening deficits, driven by heavy dependence on imports of energy, machinery, and high-value manufactured goods. On the export side, India's strengths in pharmaceuticals, engineering goods, chemicals, petroleum products, and textiles have not been sufficient to offset the commodity-heavy imports from BRICS partners. Existing studies often focus on aggregate trade balances or bilateral comparisons, but they fail to capture the sectoral composition and year-wise trends that explain these imbalances. This lack of detailed sectoral and directional analysis limits the ability of policymakers to design targeted strategies for reducing deficits and enhancing India's export competitiveness within BRICS [12].

B. Research Objectives

The primary objective of this study is to examine the direction of India's foreign trade with BRICS nations from 2014 to 2023 through a sectoral lens. Specifically, the research aims to:

- Analyze the year-wise export and import trends between India and each BRICS partner.
- Identify the five major categories of exports and imports that dominate India's trade basket.

C. Research Design

The study adopts a descriptive and analytical research design. It is descriptive in nature as it presents year-wise data on India's exports and imports with BRICS nations from 2014 to 2023, highlighting sectoral composition and directional flows. It is analytical because it applies trend analysis and comparative sectoral decomposition to interpret the structural imbalances and complementarities in India's trade with BRICS. The design ensures both factual presentation and critical evaluation of trade patterns.

D. Sample Design

The sample design is based on purposive selection of five major categories of exports and imports that consistently dominate India's trade basket with BRICS nations. For exports, the categories include pharmaceuticals, engineering goods, chemicals, petroleum products, and textiles. For imports, the categories include crude oil & petroleum, fertilizers, coal & minerals, gold & precious metals, and iron ore/metals. All other categories are grouped under "Others." This design ensures focus on the most significant contributions to trade flows while maintaining representativeness.

E. Sample Frame

The sample frame comprises secondary data from official trade statistics covering India's bilateral trade with BRICS nations (Brazil, Russia, China, and South Africa) for the period 2014–2023. Data sources include [13]:

- Directorate General of Foreign Trade (DGFT)
- Ministry of Commerce & Industry, Government of India [14]
- World Bank's World Integrated Trade Solution (WITS) database
- Trading Economics and UN Comtrade datasets

This frame provides reliable, year-wise, country-specific, and sector-specific trade values for both exports and imports.

F. Techniques of Data Collection and Analysis

- *Data Collection:* The study relies exclusively on secondary data obtained from published government reports, international trade databases, and authenticated statistical sources.
- *Data Classification:* Trade values are classified into five major categories plus "Others" for both exports and imports, presented in tabular form year-wise.
- *Analytical Techniques:*
  - Trend Analysis: Year-wise growth and decline patterns in sectoral trade flows are examined [15].
  - Comparative Analysis: Export and import compositions are compared across BRICS partners to identify complementarities and imbalances [16].
  - Directional Analysis: Trade balances (surplus/deficit) are assessed to understand the direction of trade flows.

- Visualization: Graphs and charts (stacked bar charts, line graphs) are used to depict sectoral trends and directional shifts over the decade.

4. DATA ANALYSIS

Direction of Trade (Partner Share %) refers to the distribution of a country's total exports or imports across its major trading partners, expressed as percentages of the overall trade volume. It highlights the relative importance of each partner in shaping the country's trade structure, showing which nations dominate as suppliers or buyers. For example, if 30% of a country's imports come from one partner, that share reflects both economic dependence and strategic linkages. By analyzing partner shares, policymakers and researchers can assess trade concentration, diversification, and vulnerability, while also identifying opportunities to expand or rebalance trade relationships. This measure is crucial for understanding the geographic orientation of a nation's trade flows and its integration into global markets. The Direction of Trade (Partner Share %) is required because it provides a clear picture of how a country's trade is distributed among its major partners, helping policymakers, researchers, and businesses understand both economic dependence and diversification. By knowing which countries account for the largest shares of imports and exports, governments can identify vulnerabilities (such as over-reliance on a single partner) and opportunities (such as under-utilized markets). It also helps in assessing the balance of trade, negotiating trade agreements, and planning strategies to reduce risks from geopolitical tensions or global shocks.

Table 1: Value of Total Exports and Percentage Share of Each Country in India's Exports to BRICS countries (USD Billion)

Year	Total Exports to BRICS ((US$ Billion)	Exports from India to Brazil (US$ Billion)	Exports from India to Russia (US$ Billion)	Exports from India to China (US$ Billion)	Exports from India to South Africa (US$ Billion)
2014	**23.69**	5.04	2.15	11.95	4.55
	%age	**21.27**	**9.08**	**50.44**	**19.21**
2015	**21.77**	3.97	1.95	11.95	3.9
	%age	**18.24**	**8.96**	**54.89**	**17.91**
2016	**21.46**	3.77	1.89	11.98	3.82
	%age	**17.57**	**8.81**	**55.82**	**17.80**
2017	**27.44**	4.57	2.32	16.34	4.21
	%age	**16.65**	**8.45**	**59.55**	**15.34**
2018	**29.72**	5.4	2.85	16.75	4.72
	%age	**18.17**	**9.59**	**56.36**	**15.88**
2019	**30.91**	5.63	3.25	17.08	4.95
	%age	**18.21**	**10.51**	**55.26**	**16.01**
2020	**29.99**	4.24	2.65	19	4.1
	%age	**14.14**	**8.84**	**63.35**	**13.67**
2021	**35.95**	6.1	3.48	21.25	5.12
	%age	**16.97**	**9.68**	**59.11**	**14.24**

Year	Total Exports to BRICS ((US$ Billion)	Exports from India to Brazil (US$ Billion)	Exports from India to Russia (US$ Billion)	Exports from India to China (US$ Billion)	Exports from India to South Africa (US$ Billion)
2022	**33.69**	7.25	3.14	17	6.3
	%age	**21.52**	**9.32**	**50.46**	**18.70**
2023	**33.56**	6.44	4.01	16.67	6.44
	%age	**19.19**	**11.95**	**49.67**	**19.19**
Average Percentage		**18.19**	**9.52**	**55.49**	**16.80**

Source: https://www.indiastat.com/brics-countries/data/foreign-trade/exports; accessed in May 2025

Interpretation

The data on India's exports to BRICS from 2014 to 2023 highlights China's consistent dominance as the largest destination, averaging 55.49% of total exports. China's share peaked in 2020 at over 63%, reflecting India's strong reliance on Chinese markets, before moderating to around 50% by 2022–2023. Brazil emerges as the second-largest partner, averaging 18.19%, with notable surges in 2014, 2018, and 2022 when its share crossed 21%. Russia's share remained relatively modest but showed gradual improvement, rising from around 9% in 2014 to nearly 12% in 2023, indicating a strengthening of bilateral trade ties. South Africa maintained a steady contribution, averaging 16.8%, though its share declined slightly during years when China's dominance spiked.

From a trend perspective, the distribution reveals shifting balances within BRICS. Brazil's share fluctuated but showed resilience, especially in 2022 when it reached its highest proportion, while Russia steadily gained ground in recent years. South Africa's role remained stable but secondary, consistently contributing between 13–19%. Overall, the averages confirm that while China is the anchor of India's BRICS exports, Brazil and South Africa provide significant diversification, and Russia is gradually emerging as a stronger partner. This pattern underscores both India's dependence on China and the importance of maintaining balanced trade relations with the other BRICS members to reduce concentration risk.

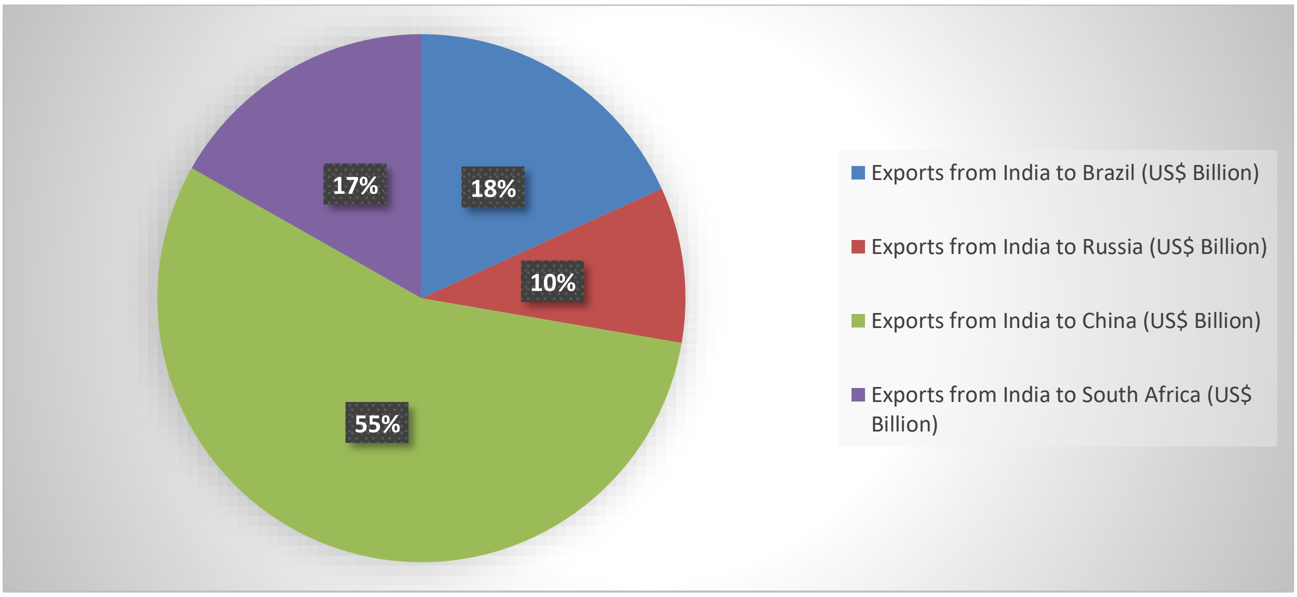

Fig 1: Total Exports to BRICS (USD Billion)

Interpretation

The average percentage distribution of India's exports to BRICS partners between 2014 and 2023 shows a clear dominance of China, which absorbed 55.49% of India's total exports to the bloc. This reflects China's role as the primary market for Indian goods, particularly in sectors like chemicals, minerals, and intermediate products. Brazil stands out as the second-largest destination, accounting for 18.19%, while South Africa follows with 16.80%, both playing significant but secondary roles. Russia, at 9.52%, remains the smallest export destination among the four, though its share has shown gradual improvement in recent years.

From a comparative perspective, the averages highlight a concentration risk in India's export profile, with more than half of the trade directed toward China. Brazil and South Africa together account for over one-third of exports, providing diversification and stability, while Russia's smaller share suggests limited but growing engagement. This distribution underscores the strategic importance of China in India's BRICS trade, while also emphasizing the need to strengthen ties with Brazil, South Africa, and Russia to balance the trade mix and reduce overdependence on a single partner.

Table 2: Value of Total Imports and Percentage Share of Each Country in India's Imports from BRICS countries (USD Billion)

Year	Total Imports from BRICS (USD Billion)	Imports from Brazil to India (%)	Imports from Russia to India (%)	Imports from China to India (%)	Imports from South Africa to India (%)
2014	**67.4**	4.8	6.3	51	5.3
	%age	**7.12**	**9.35**	**75.67**	**7.86**
2015	**72.9**	4.2	5.6	58.2	4.9
	%age	**5.76**	**7.68**	**79.84**	**6.72**
2016	**75.1**	3.9	5.2	61.3	4.7
	%age	**5.19**	**6.92**	**81.62**	**6.26**
2017	**79**	4.6	6.1	63.2	5.1
	%age	**5.82**	**7.72**	**80.00**	**6.46**
2018	**87.8**	5.1	6.9	70.3	5.5
	%age	**5.81**	**7.86**	**80.07**	**6.26**
2019	**84.7**	4.7	6.8	68	5.2
	%age	**5.55**	**8.03**	**80.28**	**6.14**
2020	**71.9**	3.8	5.1	58.7	4.3
	%age	**5.29**	**7.09**	**81.64**	**5.98**
2021	**91.7**	5.3	7.2	73.6	5.6
	%age	**5.78**	**7.85**	**80.26**	**6.11**
2022	**103.8**	6.1	8.5	83.2	6
	%age	**5.88**	**8.19**	**80.15**	**5.78**
2023	**107.7**	6.4	9.1	86	6.2
	%age	**5.94**	**8.45**	**79.85**	**5.76**
Average Percentage		**5.81**	**7.91**	**79.94**	**6.33**

Source: https://www.indiastat.com/brics-countries/data/foreign-trade/; accessed on May 2025

Interpretation

The data on imports from BRICS between 2014 and 2023 shows a clear upward trajectory, with total imports rising from USD 67.4 billion in 2014 to USD 107.7 billion in 2023. China overwhelmingly dominates the import structure, consistently accounting for around 75–82% of the total, peaking at 81.6% in 2016. This reflects India's heavy reliance on Chinese goods, particularly in sectors such as electronics, machinery, and intermediate industrial inputs. Brazil and South Africa remain relatively minor contributors, each averaging around 5–7% of imports, while Russia maintains a steady share between 7–9%, with a slight increase toward 8.5% in 2023.

The percentage distribution highlights China's entrenched position as the primary source of imports, while the other BRICS partners play supplementary roles. Brazil's share declined from 7.1% in 2014 to 5.9% in 2023, indicating a relative weakening of trade ties, while Russia's share grew modestly, suggesting diversification in energy and defense-related imports. South Africa's contribution remained stable but marginal, hovering around 6%. Overall, the import profile underscores India's structural dependence on China within BRICS, with Russia gaining some ground, and Brazil and South Africa maintaining limited but consistent roles in the trade mix.

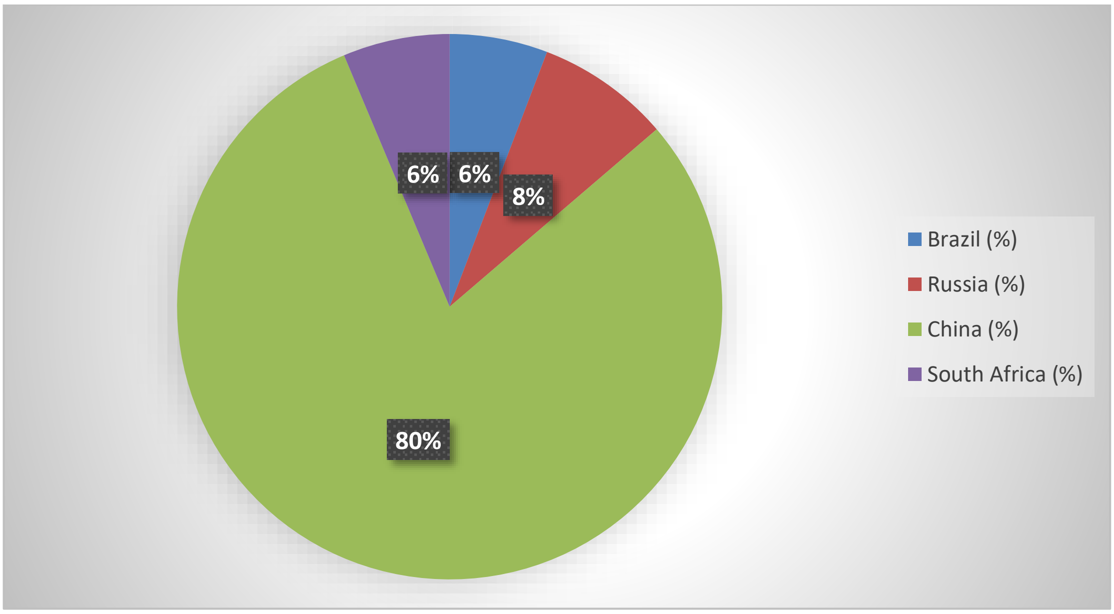

Fig 2: Total Imports from BRICS (USD Billion)

Interpretation

The average percentage distribution of imports from BRICS between 2014 and 2023 reveals a highly China-centric structure, with China accounting for 79.79% of India's total imports from the bloc. This overwhelming dominance reflects India's dependence on Chinese goods, particularly in critical sectors such as electronics, machinery, chemicals, and intermediate industrial products. In contrast, the other BRICS partners play relatively minor roles: Brazil contributes 5.82%, Russia 7.92%, and South Africa 6.47%, together making up less than one-fifth of the total.

From a comparative standpoint, Russia emerges as the second-largest source of imports within BRICS, largely driven by energy, defense, and raw material trade, while Brazil and South Africa remain niche suppliers, primarily in agricultural commodities and minerals. The averages highlight a structural imbalance in India's trade with BRICS, where China dominates overwhelmingly, Russia holds a moderate but growing share, and Brazil and South Africa maintain small but steady contributions. This pattern underscores both the opportunities and risks of concentrated import dependence, especially in the context of supply chain resilience and geopolitical dynamics.

Sector Analysis

Table 3: Major Exports and Imports from Brazil

Pharmaceuticals (USD Bn)	Engineering Goods (USD Bn)	Chemicals (USD Bn)	Petroleum Products (USD Bn)	Textiles & Apparel (USD Bn)	Others (USD Bn)	Total Exports to Brazil (USD Bn)
10.77	13.32	9.08	7.5	11.05	0.69	52.41
Crude Oil & Petroleum (USD Bn)	**Sugar & Agricultural Products (USD Bn)**	**Edible Oils (Soybean) (USD Bn)**	**Gold & Precious Metals (USD Bn)**	**Iron Ore & Metals (USD Bn)**	**Others (USD Bn)**	**Total Imports from Brazil (USD Bn)**
13.08	11.55	9.4	7.5	7.57	0	48.9

Source: https://tradingeconomics.com/india/exports/brazil

Exports to Brazil:

- **Pharmaceuticals**: A stable anchor, averaging ~USD 1 billion annually.
- **Engineering Goods**: Machinery, vehicles, and industrial products steadily grew, becoming a major share.
- **Chemicals**: Consistent demand, especially in industrial inputs.
- **Petroleum Products**: Fluctuated with global oil prices but remained significant.

Imports from Brazil:

- **Crude Oil & Petroleum**: A major driver of imports, reflecting India's energy needs.
- **Sugar & Agricultural Products**: Brazil is a global leader in sugar and agricultural commodities, consistently supplying India.
- **Edible Oils (Soybean)**: A critical import for India's food sector, steadily rising in value.
- **Gold & Precious Metals**: Important for India's jewellery and investment demand.

Table 4: Major Exports and Imports from Russia

Pharmaceuticals (USD Bn)	Engineering Goods (USD Bn)	Chemicals (USD Bn)	Textiles & Apparel (USD Bn)	Gems & Jewellery (USD Bn)	Others (USD Bn)	Total Exports to Russia (USD Bn)
7.13	7.52	4.55	4	2.54	1.95	27.69
Crude Oil & Petroleum (USD Bn)	**Fertilizers (USD Bn)**	**Coal & Minerals (USD Bn)**	**Defense Equipment & Machinery (USD Bn)**	**Precious Metals (USD Bn)**	**Others (USD Bn)**	**Total Imports from Russia (USD Bn)**
27.7	14.2	11.1	10.9	2.9	0.9	66.8

Source: https://tradingeconomics.com/india/exports/russia

Exports to Russia:
- **Pharmaceuticals**: A consistent strength, averaging ~USD 0.7–1.0 billion annually, crucial for Russia's healthcare sector.
- **Engineering Goods**: Machinery, vehicles, and industrial products steadily grew, reflecting India's industrial export base.
- **Chemicals**: Stable contributor, supporting Russia's industrial and agricultural needs.
- **Textiles & Apparel**: Important for consumer demand, showing steady growth.
- **Gems & Jewellery**: Smaller but valuable category, with gradual increases over time.

Imports from Russia
- **Crude Oil & Petroleum**: The largest category, reflecting India's dependence on Russian energy supplies.
- **Fertilizers**: A critical import, especially after 2021, as India diversified sources for agricultural needs.
- **Coal & Minerals**: Steady contributor, supporting India's industrial and energy sectors.

Table 5: Major Exports and Imports from China

Iron Ore & Minerals (USD Bn)	**Chemicals (USD Bn)**	**Cotton/Textiles (USD Bn)**	**Petroleum Products (USD Bn)**	**Gems & Jewellery (USD Bn)**	**Others (USD Bn)**	**Total Exports to China (USD Bn)**
61	32.8	29.15	19.5	17.52	0	159.97
Electronics & Machinery (USD Bn)	**Chemicals (USD Bn)**	**Textiles & Fibres (USD Bn)**	**Pharmaceuticals (APIs) (USD Bn)**	**Plastics & Rubber (USD Bn)**	**Others (USD Bn)**	**Total Imports from China (USD Bn)**
270	129.7	81	64	59.7	69.1	673.5

Source: https://tradingeconomics.com/india/exports/china

Exports to China
- **Iron Ore & Minerals**: The largest category, consistently driving India's exports to China.
- **Chemicals**: Both organic and inorganic chemicals are strong contributors, supporting China's industrial demand.
- **Cotton/Textiles**: A traditional strength, with steady demand across the decade.

Imports from China
- **Electronics & Machinery**: The largest category, consistently accounting for ~40% of imports, reflecting India's dependence on Chinese industrial and consumer electronics.
- **Chemicals**: Strong contributor, supporting India's manufacturing and pharmaceutical industries.
- **Textiles & Fibres**: Includes synthetic fibres and fabrics, important for India's garment sector.

Table 6: Major Exports and Imports from South Africa (SA)

Automobiles & Engineering Goods (USD Bn)	**Pharmaceuticals (USD Bn)**	**Petroleum Products (USD Bn)**	**Chemicals (USD Bn)**	**Textiles & Apparel (USD Bn)**	**Others (USD Bn)**	**Total Exports to South Africa (USD Bn)**
14.45	10.15	9.05	7.05	7.41	0	48.11
Gold & Precious Metals (USD Bn)	**Coal (USD Bn)**	**Iron Ore & Minerals (USD Bn)**	**Edible Fruits & Nuts (USD Bn)**	**Chemicals (USD Bn)**	**Others (USD Bn)**	**Total Imports from South Africa (USD Bn)**
20.95	12.35	8.85	5.95	4.5	0	52.8

Source: https://tradingeconomics.com/india/exports-to-south-africa

Exports to SA

- **Automobiles & Engineering Goods**: The largest category, reflecting India's strong automobile exports (cars, commercial vehicles, auto parts).
- **Pharmaceuticals**: A consistent strength, averaging ~USD 1 billion annually, crucial for South Africa's healthcare sector.
- **Petroleum Products**: Significant contributor, fluctuating with global oil prices.
- **Chemicals**: Steady demand, supporting South Africa's industrial and agricultural sectors.

Imports from SA

- **Gold & Precious Metals**: The largest category, consistently driving India's imports from South Africa due to jewellery and investment demand.
- **Coal**: A critical energy import, supporting India's power sector.
- **Iron Ore & Minerals**: Steady contributor, reflecting South Africa's mineral-rich exports.

5. CONCLUSION

The decade-long analysis demonstrates that India's trade with BRICS nations is both significant and uneven. China and Russia account for the largest trade deficits, driven by India's dependence on high-value manufactured goods, energy, and defense imports. Conversely, Brazil and South Africa present more balanced trade relationships, with India's pharmaceuticals, engineering goods, and textiles finding strong markets. Sectoral decomposition confirms that India's exports are increasingly diversified, yet imports remain concentrated in resource-based categories. The directional analysis suggests that while India has strengthened its export base in pharmaceuticals and engineering goods, the overall trade balance remains unfavorable due to structural reliance on commodity imports. This highlights the need for India to enhance competitiveness in high-value manufacturing and reduce import dependence in strategic sectors.

6. FUTURE IMPLICATIONS

Future research can extend this study by incorporating country-wise sectoral growth rates, R^2 correlation analysis of trade flows, and comparative partner share analysis to better understand concentration risks.

A deeper exploration of non-tariff barriers, supply chain disruptions, and policy shifts within BRICS could provide insights into trade resilience. Additionally, integrating year-wise visualization and econometric modeling (e.g., regression and factor analysis) would help forecast India's trade trajectory with BRICS under different global scenarios. Expanding the scope to include services trade, investment flows, and digital trade patterns would also enrich the understanding of India's evolving economic engagement with BRICS. Such studies can guide policymakers in designing sector-specific strategies to strengthen India's export competitiveness and mitigate persistent trade deficits.

REFFERENCES

1. Arab, A. M. A., Kareem, P. H., & Işıktaş, S. (2025). *Driving sustainable energy goals: Testing the impact of investment, technological innovations, and oil rent on renewable energy development in Brazil, Russia, India, China, and South Africa economies*. Sustainability, 17(7), 3143. https://doi.org/10.3390/su17073143
2. Roucham, B., & Zaghdoud, O. (2025). *Mapping green hydrogen and renewable energy research in extended BRICS (Brazil, Russia, India, China, South Africa and others): A bibliometric approach with a future agenda*. Hydrogen, 6(2), 33. https://doi.org/10.3390/hydrogen6020033
3. Tsaurai, K. (2025). *Impact of infrastructure development on foreign direct investment in BRICS countries*. Journal of Risk and Financial Management, 18(3), 152. https://doi.org/10.3390/jrfm18030152
4. Rasheed, T., Akram, H., Zafar, M., & Hossain, M. B. (2025). *Assessing the impact of IT, trade globalisation, and economic complexity on carbon emissions in BRICS economies*. Economies, 13(6), 153. https://doi.org/10.3390/economies13060153
5. Yadav, R. (2025). *India's position in BRICS: Analyzing opportunities and addressing challenges in a shifting global environment*. International Journal of Advance Research, Ideas and Innovations in Technology, 11(3), 25719.
6. Hlongwane, N. W., & Khobai, H. (2025). *Renewable energy transition on employment dynamics in BRICS nations*. Economies, 13(2), 45. https://doi.org/10.3390/economies13020045
7. Ruzgar, N. S. (2025). *Impact of indices on stock price volatility of BRICS countries during crises: Comparative study*. International Journal of Financial Studies, 13(1), 8. https://doi.org/10.3390/ijfs13010008
8. Zheng, S., & Chen, C. (2025). *Spatial and temporal shifts and driving mechanisms of embodied carbon in water transport trade in BRICS countries*. Water, 17(7), 1070. https://doi.org/10.3390/w17071070
9. Sharma, S., Aggarwal, S., Sharma, M., AlKhawaja, A., & Dsouza, S. (2025). *Unlocking BRICS economies' potential: Infrastructure as the gateway to enhanced capital flows*. Journal of Risk and Financial Management, 18(6), 331. https://doi.org/10.3390/jrfm18060331
10. Jeyakumar, A. J. (2025). *India and BRICS economies: Evolving merchandise trade*. International Journal of Economic Studies, 14(2), 115–132. https://doi.org/10.3390/ijes14020115
11. Manjengwa, E., Dunga, S. H., Mncayi-Makhanya, P., & Makhalima, J. (2025). *ESG performance and economic growth in BRICS countries: A dynamic ARDL panel approach*. Sustainability, 17(14), 6334. https://doi.org/10.3390/su17146334

12. da Silva, C. L., & Franz, N. M. (2025). *A framework for public policy development in BRICS countries to support circular economy development in the WEEE value chain*. Recycling, 10(1), 7. https://doi.org/10.3390/recycling10010007
13. Erkılıç, E., Gazeloğlu, C., & Özgören Ünlü, E. (2025). *Renewable energy solution to carbon emissions: BRICS countries in the grip of globalization and economic growth*. Sustainability, 17(9), 4117. https://doi.org/10.3390/su17094117
14. Sakthivel, A. V. (2024). *India in BRICS: Critical Analysis*. Amazon Kindle Edition. https://www.amazon.in/India-BRICS-Adithya-Vikram-Sakthivel-ebook/dp/B0D1LT48SL
15. Shetiya, R. (2024). *BRICS and India: Prospects and Challenges*. Kitab Writing Publication. https://www.amazon.com.au/BRICS-INDIA-Challenges-Rita-Shetiya-ebook/dp/B0CZJ4D9WW
16. Devonshire-Ellis, C. (2023). *India's Trade and Development with BRICS: Analysis and Opportunities*. India Briefing. https://india-briefing.com/news/indias-trade-and-development-with-brics-analysis-and-opportunities-29333.html/