WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Assessing India's Import Concentration and Regional Shift, 2019–2024: Evidence from the Herfindahl-Hirschman Index

Bhisham Datt[1], Dr. (Prof) Parmil Kumar[2]

[1] Research Scholar, Sahu Jain College, Najibabad (Mahatma Jyotiba Phule Rohilkhand University, Bareilly, India)
[2]Professor in Commerce, Sahu Jain College, Najibabad (Mahatma Jyotiba Phule Rohilkhand University, Bareilly, India)

ABSTRACT

This paper is a study of the import structure of India and its evolution between 2019 to 2024. The focus of study is on both growth and regional diversification. Secondary data has been taken from the Reserve Bank of India's Handbook of Statistics on the Indian Economy. The analysis has been made of directional shifts in imports across major regions such as OECD, OPEC, Asia, Eastern Europe, Africa, and Latin America. Evaluated is made by using descriptive statistics, Compound Annual Growth Rate (CAGR), and the Herfindahl-Hirschman Index (HHI). The study confirms robust growth in imports of country. Gradual decline is indicated in the HHI, which shows decreasing dependence on a few dominant partners and hints a more balanced regional distribution. Increase in India's imports from Eastern Europe, particularly from Russia, and sustained engagement with Asian and OECD countries shows an ongoing regional reconfiguration. The findings of paper suggest that India's imports are becoming more diversified and resilient, with significant implications for trade policy, external vulnerability, and long-term economic stability.

Key Words Imports, Herfindahl-Hirschman Index, Trade diversification, Regional shift.

Introduction

The import structure of India has gone through the significant transformation over some past years. It represents a shift in global trade dynamics and domestic economic interests. Between the year 2019 and 2024, import composition and direction diversified a lot. India's trade links evolved across Asia, OECD, and emerging regions. This time experienced noteworthy shifts in trade patterns. The trade story of India carried on with trade concentration, driven by global supply chain disruptions, fluctuating commodity prices, and geopolitical upheavals. Applying the Herfindahl-Hirschman Index (HHI), this study empirically examines the degree of concentration and diversification in import of India. The analysis gives new insights into shifting trade patterns, emphasising India's transition toward a more balanced and resilient import portfolio.

Objectives of the study are:

1. To evaluate the patterns and directional shifts in India's imports.
2. To measure and evaluate the degree of import concentration and diversification.

Review of Literature

Devkota (2019), in his paper 'Impact of Export and Import on Economic Growth: Time Series Evidence from India' examines the cointegration and causal relationships between export, import, and economic growth in India. Study is based on the data from 1996:Q2 to 2019:Q2. For study, author used Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests. Existence of cointegrating relationship is studied using Johansen's cointegration test. Finally, the causal relationships between the variables are examined using Vector Error Correction Model (VECM). The results show that, under both tests, the time series variables are non-stationary at their levels and are stationary at their first differences. The paper concludes that with an increase in the income of the nation, the nation's spending will increase, and some of the spending will be on import.

Dwesar & Kesharwani (2019) discusses about massive growth in Industrialization and Gross Domestic Product (GDP) and a stronger relation between India and China. The paper examines the intensity of Intra-Industry Trade (IIT) between India and China using A-Index over a two-decade period (1999 to 2018). This study examines trade patterns of commodities traded between the countries and how have they changed over the years. The study used data of 99 commodities and conducts a decade wise comparison. The study has important implications for policymakers, economists and business involved internal trade.

Sivamma & Krishnamoorthy (2019) discusses about static and economic gains to the consumers, producers, investors, government and the country provided by foreign trade. They opine that trade ensures growth oriented structural changes in the economy benefitting all sections of the population. The study is based on the secondary data collected from the websites of the Reserve Bank of India and the World Bank relating to total exports and imports as well as the exports and imports of the principal commodities. This study covered the 15-year period from 2004-05 to 2018-19. The study clearly highlighted the impact of global economic crisis of 2008 and the recent policy changes on India's exports and imports.

Sharma & Sharma (2025) in their paper narrate that the Indian economy has expanded and is diverse. They opine that every economy depends heavily on the level of foreign commerce for its growth. This concise study featured new foreign trade policy approach and benefits, role of industrialization in foreign trade at India and lots more, shows how much trade in India has suffered a fluctuating deficit over the past few years while India gains from changes in the global price of hydrocarbons for its imports.

Kaushik & Sohrabji (2022) examine the potential impact of an India-U.S. FTA on India's trade. They use two approaches to estimate trade effects, compound annual growth analysis and Gravity model estimation. CAGR analysis shows that trade (after an agreement) with the treatment group outperforms the control group although the results are not symmetric for imports and exports. The Gravity estimation confirms the results. The results show that following a trade agreement with the U.S., India is likely to experience a worsening trade balance.

Rijesh (2020) examines the impact of capital goods import on Indian manufacturing exports at the sectoral level. Import of capital goods provides dynamic productivity gains through quality, variety, and cost-efficiency channels that further boost manufacturing exports. The panel regression analysis based on fixed effect(s) feasible generalized least squares (FGLS), and ordinary least squares (OLS) indicate that, after controlling for world demand, relative export prices, and in-house research and development (R&D), the capital goods import has a positive and statistically significant impact on the aggregate manufacturing sector. The OLS estimates at the sectoral level further confirm the positive impact across nine major sectors. In general, the engineering sectors such as metals, machinery and transport equipment, and traditional labor-intensive sectors like textiles show positive benefit from these technology imports.

Gurung (2021) uses econometric analysis, and identifies the major determinants of India's imports in the post-reforms period. Yearly time series data for the period of 25 years from 1990-91 to 2014-15 has been used from the RBI Handbook of Statistics and the World Bank datasets. In order to identify determinants of import, an import function has been estimated. Stationarity of the data was checked using the Augmented Dickey-Fuller Test. The most important and dominant factor in determining the demand for India's imports is found to be the domestic income (ZGDP). This study identifies important domestic and international macroeconomic variables that have to be handled in order to manage India's imports.

Sharma & Paramati (2020) investigate the effects of economic policy and financial market uncertainties on Indian imports. For this purpose, authors consider a panel of 97 commodities imported to India during the period: September 2011 to January 2019. They utilize two panel estimation techniques, the Pooled Mean Group (PMG) and Cross-sectionally Augmented Distributed Lag (CS-DL), for the analyses. In the short-run, they find that economic uncertainty leads to more imports to India. Conversely, in the long-run, it has a dampening effect.

Research Methodology

Data Source

The study is based on secondary data gathered from the Reserve Bank of India's Handbook of Statistics on the Indian Economy for the period 2019–2024, which gives precise annual information on India's import values by region and country group. Data for important import partners and regional blocs are collated to study directional movements and concentration patterns in India's imports.

Research Design

This study utilises a descriptive and analytical research design. Descriptive statistics have been used to assess trends in total imports, regional shares, and growth rates across the study period. Directional variations in imports across major regions—including OECD, OPEC, Asia, Africa, Latin America, and Eastern Europe—have been investigated to uncover emerging trends and shifts in trade dependency.

Tools & Techniques

Compound Annual Growth Rate (CAGR)

CAGR is used to measure the increase of India's imports with each area over the study period. It gives a standardized measure of growth that accounts for compounding effects. **The formula is:**

$$CAGR = (\text{Final value}/\text{ Initial value})^{1/n} - 1$$

Herfindahl–Hirschman Index (HHI)

The Herfindahl-Hirschman Index is regarded as the principal tool to quantify the degree of concentration and diversity in India's import structure. The Herfindahl–Hirschman Index (HHI) is applied to measure the concentration or diversity of India's imports across regions. It is calculated as.

$$HHI = \sum_{i=1}^{n} s_i^2$$

Where: s_i = Share of trade with country i.

All data have been compiled, cleaned, and analyzed using MS Excel. Regional import shares have been computed as a proportion of total imports for each year, followed by calculation of HHI values for 2019–2024. Growth rates, compound annual growth rates (CAGR), and changes in concentration are produced to measure both the pace and direction of structural developments. This permits an empirical examination of whether India's import profile is progressing toward diversification or remaining concentrated in a few major regions.

Limitations of Study

The study focuses on merchandise imports and assesses region- and bloc-level data rather than individual product categories, which may limit commodity-specific findings. The HHI is computed at an aggregate regional level, therefore intra-regional changes and firm-level market dynamics are not represented. Additionally, the analysis depends exclusively on RBI data and does not employ alternative databases, which may differ in classification or coverage.

Discussion and Analysis

Since 2019, India's imports have grown. Most imports originate from Asia, primarily China. At present, China is India's largest trading partner. Key imports of India are crude oil, gold, electronics, and machinery. These items of imports support manufacturing and energy demands of country. Asia including Northeast Asia, West Asia (GCC), and ASEAN—makes up over half of India's imports. Despite tariffs and geopolitical concerns, India depends on these regions. Rising commodity prices and industrial demand increased imports. In FY 2023–24, imports reached around $678,214.8 million.

TABLE 1: India's Import Direction Since 2019 and CAGR from 2020 to 2024

(US$ Million)

Group/Country	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**CAGR %**
I. O E C D Countries	155916.4	135421.7	192493.2	212245.6	206085.9	7.223288
A. European Union	46604.1	35444.3	45764.4	54182.5	54160.9	3.828227
Of which:						
1. Belgium	8879.5	6940.7	9951.7	9177.7	7236.8	-4.98558
2. France	6168.8	4343.2	5782.1	6201.0	7971.2	6.618055
3. Germany	13691.1	13643.0	14968.1	16601.5	16644.3	5.004231
4. Italy	4490.9	3862.1	5048.5	5591.9	5796.5	6.587951
5. Netherlands	3391.0	3317.7	4478.1	5961.4	4966.5	10.00962
B. North America	43997.0	34420.4	50694.9	58899.0	49853.0	3.173237
1. Canada	3880.3	2686.4	3132.8	4167.6	4553.2	4.078939
2. U S A	35819.9	28888.1	43314.1	50863.9	42195.5	4.180261
C. Asia and Oceania	22738.7	19553.6	31530.8	35984.4	34189.8	10.73444
Of which:						
1. Australia	9782.2	8247.3	16756.2	19011.3	16159.2	13.3694
2. Japan	12434.7	10924.7	14399.8	16495.3	17695.5	9.221184
D. Other O E C D Countries	42576.6	46003.4	64503.1	63179.7	67882.2	12.36893
Of which:						
1. Switzerland	16899.9	18231.0	23392.3	15794.0	21248.0	5.890861

TABLE 1: India's Import Direction Since 2019 and CAGR from 2020 to 2024						
(US$ Million)						
Group/Country	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**CAGR %**
2. U.K.	6712.6	4955.8	7017.8	8960.7	8413.6	5.80904
II. O P E C	114928.2	72090.6	138782	156675.0	129087.5	2.947166
Of which:						
1. Iran	1397.3	331.5	463.4	672.1	625.1	-18.2166
2. Iraq	23740.2	14287.1	31927.1	34385.5	29961.4	5.991108
3. Kuwait	9573.8	5214.1	11001.8	12247.4	8362.8	-3.32441
4. Saudi Arabia	26857.4	16186.8	34100.6	42035.3	31416.4	3.997551
5. U A E	30256.6	26623.0	44833.5	53231.5	48025.6	12.24401
III. Eastern Europe	12167.9	9343.5	14235.1	48466.5	63185.6	50.95608
Of which:						
1. Russia	7093.0	5485.7	9870.0	46212.7	61159.3	71.35948
IV. Asia	160368.1	147943.7	216386.1	246372.1	234733.8	9.992839
A. S A A R C	3835.6	3377.1	5486.4	5446.0	5171.0	7.754473
1. Afghanistan	529.8	509.5	510.9	452.8	642.3	4.931648
2. Bangladesh	1264.7	1091.7	1977.9	2021.2	1844.8	9.898165
3. Bhutan	405.7	433.0	545.0	535.6	339.1	-4.38397
4. Maldives	6.0	24.5	68.9	496.6	86.6	94.91338
5. Nepal	711.6	673.2	1371.0	841.5	831.1	3.957143
6. Pakistan	14.0	2.4	2.5	20.1	2.9	-32.5367
7. Sri Lanka	903.7	642.9	1010.0	1078.1	1424.2	12.0435
B. Other Asian Countries	156532.5	144566.6	210899.7	240926.1	229562.7	10.04598
Of which:						
1. People's Republic of China	65260.7	65212.3	94570.6	98505.8	101735.8	11.73919
2. Hong Kong	16935.3	15172.8	19096.6	18275.0	20448.4	4.82542
3. South Korea	15659.7	12773.0	17477.2	21227.3	21135.4	7.784611
4. Malaysia	9782.3	8373.1	12424.2	12734.9	12754.0	6.856602
5. Singapore	14746.8	13304.9	18962.2	23595.4	21199.2	9.497807
6. Thailand	6788.4	5682.3	9332.6	11193.4	9909.2	9.91774
7. Indonesia	15061.9	12470.2	17702.8	28820.4	23410.6	11.65629
V. Africa	20647.1	19445.3	32953.4	32800.0	28247.3	8.150734
Of which:						
1. Benin	358.9	326.0	402.1	452.6	214.6	-12.0645
2. Egypt Arab Republic	2031.4	1892.4	3520.8	1951.5	1157.4	-13.1196

TABLE 1: India's Import Direction Since 2019 and CAGR from 2020 to 2024						
(US$ Million)						
Group/Country	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**CAGR %**
3. Kenya	89.6	130.3	145.4	116.7	176.3	18.43664
4. South Africa	6969.8	7568.2	10965.8	10397.8	10538.2	10.88851
5. Sudan	396.8	368.3	129.2	218.2	330.6	-4.46054
6. Tanzania	1023.5	934.9	2279.2	2541.3	3291.9	33.91823
7. Zambia	843.3	126.5	118.2	184.9	204.1	-29.8601
VI. Latin American Countries	9842.2	9690.7	17249.9	17539.5	15530.5	12.07876
VII. Others	715.8	443.9	906.5	1774.8	1275.5	15.53729
VIII. Unspecified	123.5	56.4	45.9	95.3	68.7	-13.638
Total	474709.3	394435.9	613052.0	715968.9	678214.8	9.328875

Source: Self Compiled with use of MS Excel, data taken from RBI handbook of statistics on Indian Economy

Imports of India have seen big changes during 2019 to 2024. Total imports rose from $474.7 billion in year 2019–20 to $678.2 billion in year 2023–24. Growth rate during the period was about 9.3% each year. This shows strong expansion, in spite of some ups and downs along the way.

Imports from OECD countries increase. Especially from the EU and North America imports increase during this period. Countries like Germany, France, Italy, and the Netherlands also show growth, though Belgium showed a small slip.

OPEC countries showed slower growth. It was around 2.9%, mainly because of crude oil demand and prices change. The UAE and Iraq remained large suppliers of crude, while imports from Iran and Kuwait declined during the study period due to different reasons.

Eastern Europe came up with a sharp rise, led by Russia. It showed an astonishing growth rate of over 71%. This reflects stronger trade ties shaping due to global geopolitical changes.

Asia continues to dominate India's import basket. Growth rate for this region has been at 10%. China alone recorded a growth of 11.7%. It was mainly driven by industrial and electronic requirements. ASEAN countries also recorded steady growth.

Africa and Latin America recorded diverse trade with growth rates of 8.1% and 12.1% respectively. Even imports from "Others" and "Unspecified" categories showed notable increase. It is hinting at new trade relationships.

It is evident from the above table and following discussion that India's imports are spreading across more regions. However, Asia and OECD countries remain the core of activities. Energy, machinery, and electronics are still the major items of imports. The increase in imports from Russia highlights shifting global trade patterns. The slight dip in 2023–24 points to stabilizing commodity prices and broader economic adjustments.

Table 2 Herfindal's Index of Concentration of Different Regions in India's Imports					
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
European Union	46604.10	35444.30	45764.40	54182.50	54160.90
North America	43997.00	34420.40	50694.90	58899.00	49853.00
Asia and Oceania	22738.70	19553.60	31530.80	35984.40	34189.80
Other O E C D Countries	42576.60	46003.40	64503.10	63179.70	67882.20
O P E C	114928.20	72090.60	138782.00	156675.00	129087.50
Eastern Europe	12167.90	9343.50	14235.10	48466.50	63185.60
S A A R C	3835.60	3377.10	5486.40	5446.00	5171.00
Other Asian Countries	156532.50	144566.60	210899.70	240926.10	229562.70
Africa	20647.10	19445.30	32953.40	32800.00	28247.30

Table 2 Herfindal's Index of Concentration of Different Regions in India's Imports					
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Latin American Countries	9842.20	9690.70	17249.90	17539.50	15530.50
Others	715.80	443.90	906.50	1774.80	1275.50
Unspecified	123.50	56.40	45.90	95.30	68.70
Total	474709.30	394435.90	613052.00	715968.90	678214.80
HHI INDEX	1989.58	2031.58	2000.23	1912.74	1861.36

Source: Self compiled using MS Excel, Data taken from RBI handbook of statistics on Indian Economy

Herfindahl-Hirschman Index (HHI), measures how concentrated imports fell from 1989.58 to 1861.36. This drop reveals India's imports are now spread more evenly across regions. It shows greater diversification instead of being dominated by just a few partners.

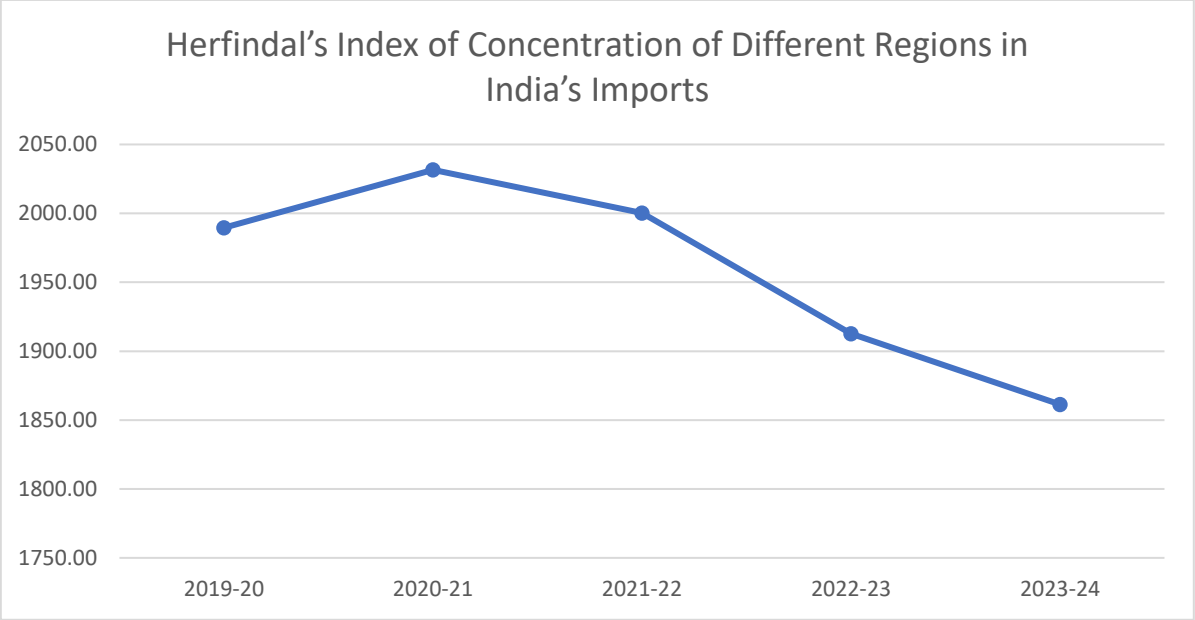

Figure: 1

Source: Self compiled using MS Excel, data taken from RBI handbook of statistics on Indian Economy

The Figure 1 shows how India's import concentration has changed between 2019–20 and 2023–24. The Herfindahl Index, which measures how dependent imports are on a few regions, first climbed to its highest point in 2020–21. It is evident that during the 2020–21, India's imports were more concentrated, and relying heavily on fewer partners.

After 2021–22, the index began to fall steadily. It reached its lowest level in 2023–24. This decline is showing a clear shift in policy of country. India started spreading its imports across more regions, reducing its reliance on any single source.

Conclusion

India's imports between the year 2019 and 2024 exhibit a clear pattern of strong growth coupled by steady diversification in regional sourcing. The growth in overall imports, alongside a dropping Herfindahl-Hirschman Index, implies that India is slowly reducing its dependence on a few dominating suppliers and extending its import base across regions. This trend echoes both strategic policy choices and responses to global supply chain disruptions, commodity price shifts, and geopolitical realignments.

Asia, OECD economies, and some important energy suppliers continue to remain India's top import sources, the relative balance among regions has improved. Eastern Europe (primarily Russia) and other rising partners gaining significance. Overall, this article finds that India is evolving towards a more varied and regionally balanced import pattern.

Suggestions

India should continue to deepen diversification by expanding trade links with under-tapped regions like Africa, Latin America, and smaller Asian economies to further reduce concentration risks. Followings are the major suggestion for future policy framing:

• Encourage long-term trade agreements and strategic partnerships with new suppliers to avoid overdependence on a few sources.

• Promote participation in regional value chains, particularly for electronics, machinery, and intermediate goods. It can extend the supply base and enhance resilience.

• Find alternative suppliers for vital products such as electronics, machinery, and strategic minerals to avoid excessive reliance on any country.

• Promote import substitution in the industries which have significant concentration and strategic significance. It can be done by incentivizing domestic production and technology upgradation.

• Frame trade policies that can incorporate MSMEs into worldwide supply chains, and minimise dependence on few external sources.

• Improve coordination between different ministries to match diversification strategies with macroeconomic stability and long-term growth objectives.

References

1. Devkota, M. (2019). Impact of Export and Import on Economic Growth: Time Series Evidence from India. *Dynamic Econometric Models*. https://doi.org/10.12775/dem.2019.002.
2. Dwesar, R., & Kesharwani, A. (2019). Examining Intra-Industry Trade between India & China: Is India on the Right Track?. *Theoretical Economics Letters*. https://doi.org/10.4236/tel.2019.96117.
3. Sivamma, P., & Krishnamoorthy, D. (2019). Growth and Composition of India's Foreign Trade in Recent Years. , 22, 6012-6029.
4. Sharma, G., & Sharma, Y. (2025). FOREIGN TRADE AT INDIA – KEY FEATURES AT INDUSTRIAL SECTOR TRANSFORMATION. *EKONOMIKA I UPRAVLENIE: PROBLEMY, RESHENIYA*. https://doi.org/10.36871/ek.up.p.r.2025.02.06.004.
5. Kaushik, N., & Sohrabji, N. (2022). Would an India-US trade agreement be beneficial for India?. *International Review of Business and Economics*. https://doi.org/10.56902/irbe.2022.7.1.1.
6. Rijesh, R. (2020). Liberalization, Import of Capital Goods, and Industrial Exports: Evidence from Indian Manufacturing Sectors. *Global Journal of Emerging Market Economies*, 13, 81 - 103. https://doi.org/10.1177/2393957520974787.
7. Gurung, R., & Rai, R. (2021). ANALYSIS OF DETERMINANTS OF INDIA'S IMPORTS IN THE POST-REFORMS PERIOD. .
8. Sharma, C., & Paramati, S. (2020). Does economic policy uncertainty dampen imports? Commodity-level evidence from India. *Economic Modelling*. https://doi.org/10.1016/j.econmod.2020.09.019.