

Growth, Diversification and Structural Transformation of India's Drug and Pharmaceutical Exports: An Econometric Analysis of Product and Destination Patterns, 2014–15 To 2024–25

Dr. P. Jayaparakaran

Associate Professor, PG & Research Department of Economics, The Madurai Diraviyam Thayumanavar Hindu College, Tirunelveli, Tamilnadu, Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli – 627012, Tamil Nadu, India.

ORCID ID: <https://orcid.org/0000-0003-1298-365X>

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ABSTRACT

This study examines the growth, geographical diversification and product structural transformation of India's drug and pharmaceutical exports during 2014–15 to 2024–25. Using secondary data from the Directorate General of Commercial Intelligence and Statistics (DGCI&S), the study analyses aggregate exports, major destination markets and product categories. CAGR, trend regression, Herfindahl–Hirschman Index (HHI), Shannon Entropy, product-share analysis, correlation analysis and period-wise mean comparisons are employed. The findings show that pharmaceutical exports increased from US\$15.43 billion in 2014–15 to US\$30.47 billion in 2024–25, registering a CAGR of 7.04 per cent and a significant positive long-term trend. Geographical concentration declined moderately, as reflected by the fall in HHI and rise in Shannon Entropy. However, Drug Formulations & Biologicals remained the dominant product category, indicating limited product diversification despite significant structural changes. The study concludes that India's pharmaceutical export sector has achieved strong growth and expanding market reach, but future policy should focus on market diversification, higher-value pharmaceutical products, research and development, and export resilience

Keywords: Pharmaceutical exports; Drug exports; Export growth; Export diversification; Destination diversification; Product diversification; Structural transformation; Herfindahl–Hirschman Index; Shannon Entropy; Econometric analysis; India..

INTRODUCTION

The pharmaceutical industry is an important component of India's international trade, with a strong presence in global markets, particularly in generic medicines, formulations and biological products. Therefore, assessing pharmaceutical export performance requires attention not only to export growth but also to destination markets and product composition. During 2014–15 to 2024–25, India's pharmaceutical exports increased substantially from US\$15.43 billion to US\$30.47 billion. However, the USA remained the largest individually identified destination, while Drug Formulations & Biologicals continued to dominate the export basket. These patterns raise questions about the extent of geographical and product diversification accompanying export growth.

Against this background, the study examines the growth, geographical diversification and product structural transformation of India's pharmaceutical exports during 2014–15 to 2024–25. It employs CAGR, trend regression, HHI, Shannon Entropy, product-share analysis and correlation analysis to assess these dimensions. The study provides useful implications for market and product diversification, value addition, R&D and strengthening India's competitiveness in global pharmaceutical trade

REVIEW OF LITERATURE

The literature on India's pharmaceutical exports has examined export performance, technological capabilities, innovation, competitiveness and international market expansion. These studies provide a foundation for analysing the growth and structural characteristics of India's pharmaceutical exports

Chadha (2009), using firm-level data for 131 Indian pharmaceutical firms during 1989–2004, found that technological capabilities and innovation positively influenced export performance. The study highlighted the importance of technology.:

in enabling Indian firms to compete in international markets. Rentala et al. (2014) examined 251 Indian pharmaceutical firms during 2005–2013 and found that firm size, imports of capital goods and raw materials royalty payments and technology choice significantly influenced export competitiveness. Mahajan et al. (2015) analysed India's pharmaceutical trade using indicators such as revealed comparative advantage and trade specialisation. Their findings highlighted changes in India's international competitive position and demonstrated the usefulness of quantitative trade indicators for evaluating pharmaceutical export performance. Tyagi and Nauriyal (2017) found that R&D intensity, patenting activity and firm size were important determinants of export performance among Indian pharmaceutical firms. Similarly, Mishra and Jaiswal (2017) reported that mergers and acquisitions, innovation, foreign technology acquisition and marketing capabilities were associated with stronger export competitiveness.

Mahajan et al. (2019) examined structural changes following India's transition to the product-patent regime and identified challenges such as competition in generic markets, dependence on imported bulk-drug inputs, rising R&D costs and stricter regulatory requirements. Ahmed et al. (2020) examined the implications of COVID-19 for Indian pharmaceutical exports and highlighted both opportunities and challenges arising from changing international demand and export-policy interventions. The study also emphasised the need to strengthen competitiveness across pharmaceutical product groups. Löfgren (2022) highlighted India's important role in global generic-medicine supply and the continued significance of the United States as a major destination, while also drawing attention to India's dependence on imported active pharmaceutical ingredients, particularly from China.

The existing literature has largely focused on firm-level determinants, innovation, competitiveness and revealed comparative advantage. Comparatively less attention has been given to examining export growth together with changes in destination concentration and product composition over a recent, consistent period. The present study addresses this gap by analysing India's pharmaceutical exports during 2014–15 to 2024–25, combining growth analysis with destination diversification (HHI and Shannon Entropy) and product structural transformation.

OBJECTIVES OF THE STUDY

The study examines the growth, geographical diversification and product structural transformation of India's drug and pharmaceutical exports during 2014–15 to 2024–25. The specific objectives are:

1. To analyse the growth and trend of India's drug and pharmaceutical exports during the study period.
2. To examine the growth of major destination markets and their contribution to India's pharmaceutical export expansion.
3. To measure geographical diversification and concentration using the Herfindahl–Hirschman Index (HHI) and Shannon Entropy Index.
4. To examine the growth and changing composition of major pharmaceutical product categories and identify structural changes in the export basket.

RESEARCH HYPOTHESES

Based on the study objectives, the following null hypotheses are formulated:

H₀₁: There is no significant growth trend in India's pharmaceutical exports during 2014–15 to 2024–25.

H₀₂: There is no significant change in the geographical concentration of India's pharmaceutical exports during the study period.

H₀₃: There is no clear structural change in the product composition of India's pharmaceutical exports during the study period.

METHODOLOGY

The study uses secondary data on India's drug and pharmaceutical exports for 2014–15 to 2024–25, expressed in US\$ million and sourced from the Directorate General of Commercial Intelligence and Statistics (DGCI&S). The data cover aggregate exports, major destination markets and major pharmaceutical product categories. The eleven-year period provides a consistent basis for analysing export growth, geographical diversification and product structural changes.

The study employs descriptive, statistical and econometric techniques appropriate to the available annual data. These include annual growth rates, CAGR, linear trend regression, semi-log trend regression, HHI, Shannon Entropy, product-share analysis, Pearson correlation and Welch mean-comparison tests.

The annual growth rate (AGR) is used to measure year-to-year changes in India's pharmaceutical exports. It is calculated as:

$$AGR_t = \frac{X_t - X_{t-1}}{X_{t-1}} \times 100$$

Where X_t is the current year's export value and X_{t-1} is the previous year's export value.

The Compound Annual Growth Rate (CAGR) measures the average annual growth of pharmaceutical exports over the study period. It is calculated as:

$$CAGR = \left[\left(\frac{X_n}{X_0} \right)^{1/n} - 1 \right] \times 100$$

where X_n is the final-year export value, X_0 is the initial-year export value, and n is the number of years.

The linear trend model is used to estimate the direction and average annual change in India's pharmaceutical exports over the study period. The model is specified as: $X_t = a + bt + e_t$, where X_t is the export value, a is the intercept, b is the trend coefficient, t represents time, and e_t is the error term. A positive and statistically significant b indicates an upward export trend.

The semi-log trend model is used to estimate the annual growth rate of India's pharmaceutical exports. It is specified as: $\ln X_t = a + bt + e_t$, where X_t is export value and t represent time. The annual trend growth rate is estimated as: Growth Rate = $(e^b - 1) \times 100$. A positive and statistically significant b indicates a significant upward export trend.

The Herfindahl–Hirschman Index (HHI) is used to measure the concentration of India's pharmaceutical exports across destination markets. It is calculated as:

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

where s_i is the share of destination i in total pharmaceutical exports. A lower HHI indicates greater geographical diversification, while a higher HHI indicates greater concentration.

The Shannon Entropy Index measures the degree of geographical diversification of India's pharmaceutical exports. It is calculated as:

$$SE = - \sum_{i=1}^n s_i \ln(s_i)$$

where s_i is the export share of destination i . A higher entropy value indicates greater geographical diversification, while a lower value indicates greater concentration.

Product-wise structural transformation is examined by analysing changes in the export share and growth of major pharmaceutical product categories during 2014–15 to 2024–25. Changes in category shares are used to identify shifts in the composition of India's pharmaceutical export basket.

Pearson's correlation coefficient is used to examine the strength and direction of the relationship between total pharmaceutical exports and major destination/product categories. The coefficient ranges from -1 to $+1$, with values closer to ± 1 indicating stronger relationships. The statistical significance of the correlation coefficients is also assessed to determine whether the observed relationships are statistically meaningful. Correlation indicates association and does not establish causality.

The study compares pharmaceutical export performance across three periods: Pre-COVID (2014–15 to 2019–20), COVID/recovery (2020–21 to 2021–22), and Post-COVID (2022–23 to 2024–25). The differences in mean export values across periods are assessed to identify changes in export performance.

RESULTS AND DISCUSSION

This section examines the growth, geographical diversification and product-level structural transformation of India's drug and pharmaceutical exports during 2014–15 to 2024–25.

Growth Performance of India's Pharmaceutical Exports

India's drug and pharmaceutical exports increased from US\$15,431.5 million in 2014–15 to US\$30,467.4 million in 2024–25, indicating that export value almost doubled during the study period. The annual observations in the destination dataset confirm the aggregate series for the complete period.

Table 1

India's Drug and Pharmaceutical Export Growth, 2014–15 to 2024–25

Year	Export value (US\$ million)	Annual growth (%)
2014–15	15,431.5	—
2015–16	16,909.5	9.58
2016–17	16,785.0	-0.74
2017–18	17,282.8	2.97
2018–19	19,146.6	10.78
2019–20	20,703.5	8.13
2020–21	24,444.0	18.07
2021–22	24,594.3	0.61
2022–23	25,393.0	3.25
2023–24	27,851.7	9.68
2024–25	30,467.4	9.39

Source: Compiled from Directorate General of Commercial Intelligence and Statistics (DGCI&S) data.

The results demonstrate a clear upward movement in India's pharmaceutical exports, although the rate of growth varied across years. Export growth was negative in 2016–17, followed by moderate recovery in 2017–18. Growth strengthened considerably during 2018–19 and 2019–20 and reached a peak of 18.07 per cent in 2020–21. Growth subsequently slowed sharply to 0.61 per cent in 2021–22 before recovering to 9.68 per cent and 9.39 per cent in 2023–24 and 2024–25, respectively. Over the entire period, pharmaceutical exports increased by approximately 97.44 per cent. Thus, India's pharmaceutical exports recorded an average annual compounded growth of approximately 7.04 per cent during 2014–15 to 2024–25.

Econometric Trend Analysis

To determine whether the observed increase represents a statistically significant long-term trend, both linear and semi-log trend models were estimated.

Table 2

Trend Regression Results for Pharmaceutical Exports

Indicator	Linear Trend	Semi-log Trend
Intercept	12,744.88	9.5478
Time coefficient	1,497.21	0.06899
R ²	0.9570	0.9695
t-value	14.14	16.90
Annual trend growth	—	7.14%

Source: Author's calculations from pharmaceutical export data.

The linear trend indicates an average annual increase of approximately US\$1.50 billion in India's pharmaceutical exports, with a high R² of 0.957. The semi-log model shows a significant annual trend growth of 7.14 per cent ($R^2=0.9695$; $t=16.90$, $p<0.01$). The close agreement between the CAGR of 7.04 per cent and the semi-log estimate confirms sustained export growth. Thus, H₀₁ is rejected and H₁₁ is supported, indicating a statistically significant positive trend in India's pharmaceutical exports during 2014–15 to 2024–25.

Destination-wise Export Performance

India's pharmaceutical exports are distributed across several major international destinations. The dataset covers Brazil, Germany, Hong Kong, Italy, the Netherlands, China, Russia, UAE, UK, USA and Others.

Table 3

Pharmaceutical Exports to Major Destinations

Destination	2014–15	2024–25	Absolute increase	CAGR (%)
Brazil	375.9	778.5	402.6	7.55
Germany	372.9	597.6	224.7	4.82
Hong Kong	43.5	52.6	9.1	1.90
Italy	99.1	244.6	145.5	9.45
Netherlands	243.2	616.8	373.6	9.76
China	139.1	324.9	185.8	8.83
Russia	425.6	577.2	151.6	3.10
UAE	109.3	378.5	269.2	13.22
UK	543.1	914.0	370.9	5.34
USA	4,311.7	10,515.2	6,203.5	9.34
Others	8,768.0	15,467.4	6,699.4	5.84

Source: Calculated from DGCI&S destination-wise export data.

The results reveal substantial expansion across most destination markets. The USA recorded the largest increase among the individually identified destinations, rising from US\$4.31 billion in 2014–15 to US\$10.52 billion in 2024–25. The UAE recorded the highest CAGR among the listed destinations at approximately 13.22 per cent, followed by the Netherlands at 9.76 per cent and Italy at 9.45 per cent. The substantial increase in exports under the Others category also indicates that Indian pharmaceutical exports are distributed across a relatively broad group of international markets.

Contribution of Major Destinations to Export Growth

Total pharmaceutical exports increased by US\$15,035.9 million during 2014–15 to 2024–25. Of this increase, the USA contributed 41.26 per cent, while Others contributed 44.56 per cent. Together, they accounted for 85.82 per cent of the total export increase. However, Others is a residual category representing multiple markets rather than a single destination. Therefore, its contribution reflects the broad expansion of markets outside the individually identified destinations rather than concentration in a particular group of countries.

Geographical Diversification of Pharmaceutical Exports

The geographical diversification of India's pharmaceutical exports was assessed using the Herfindahl–Hirschman Index (HHI) and Shannon Entropy Index.

Table 4

Destination Concentration and Diversification

Year	HHI	Shannon Entropy
2014–15	0.4045	1.2666
2015–16	0.4006	1.2348
2016–17	0.3998	1.2326
2017–18	0.4004	1.2661
2018–19	0.3913	1.2892
2019–20	0.3850	1.2908
2020–21	0.3876	1.2922
2021–22	0.3981	1.2852
2022–23	0.3928	1.2949
2023–24	0.3842	1.3073
2024–25	0.3799	1.2941

Source: Author's calculations from destination-wise pharmaceutical export data.

The HHI declined from 0.4045 in 2014–15 to 0.3799 in 2024–25, while Shannon Entropy increased from 1.2666 to 1.2941, indicating a modest reduction in destination concentration and broadening of export markets. However, annual fluctuations, including an increase in HHI during 2021–22, show that diversification was not continuous. Overall, The results indicate a modest overall reduction in geographical concentration, supporting the presence of a change in the destination structure.

Product-wise Export Performance

The product-wise data cover five major categories.

Table 5

Product-wise Export Growth

Product category	Initial observation	Final observation	Period covered	CAGR (%)
Ayush & Herbs	354.00	688.89	2014–15–2024–25	6.88
Bulk Drugs & Drug Intermediates	3,565.00	4,869.98	2014–15–2024–25	3.17
Drug Formulations & Biologicals	11,214.00	22,928.83	2014–15–2024–25	7.41
Surgicals	299.00	756.76	2014–15–2024–25	9.73
Vaccines	653.40	1,222.40	2017–18–2024–25	9.36

Source: Calculated from the product-wise DGCI&S data.

Among the major product categories, Surgicals recorded the highest CAGR (9.73%), followed by Drug Formulations & Biologicals (7.41%) and Ayush & Herbs (6.88%). Bulk Drugs & Drug Intermediates grew more slowly at 3.17%, while Vaccines recorded 9.36% during 2017–18 to 2024–25. A full-period vaccine CAGR could not be calculated because data were unavailable for 2014–15 to 2016–17.

Product Structural Transformation

Changes in product shares provide a clearer picture of structural transformation than export values alone.

Table 6

Changes in Product Composition

Product category	Share 2014–15 (%)	Share 2024–25 (%)	Change (percentage points)
Ayush & Herbs	2.29	2.26	-0.03
Bulk Drugs & Drug Intermediates	23.10	15.98	-7.12
Drug Formulations & Biologicals	72.67	75.26	+2.59
Surgicals	1.94	2.48	+0.55
Vaccines	—	4.01	—

Source: Author's calculations based on product-wise export data.

The major structural change was the decline in Bulk Drugs & Drug Intermediates from 23.10% to 15.98%, while Drug Formulations & Biologicals increased from 72.67% to 75.26%, remaining the dominant export category. Surgicals increased marginally, and Vaccines accounted for 4.01% in 2024–25. Overall, the findings indicate structural transformation without substantial product diversification, as the dominance of Formulations & Biologicals strengthened during the study period.

Product-wise Contribution to Export Expansion

The Drug Formulations & Biologicals category recorded the largest increase, rising by US\$11,714.83 million between 2014–15 and 2024–25, compared with US\$1,304.98 million for Bulk Drugs & Drug Intermediates, US\$334.89 million for Ayush & Herbs, and US\$457.76 million for Surgicals. Thus, Drug Formulations & Biologicals were the principal driver of India's pharmaceutical export expansion, while their continued dominance indicates limited product diversification.

Correlation between Total Exports and Destination Markets

Pearson correlation coefficients were calculated to examine the association between India's aggregate pharmaceutical exports and exports to individual destinations.

Table 7

Correlation between Aggregate Pharmaceutical Exports and Destination-wise Exports

Destination	Pearson's r
Brazil	0.975
Germany	0.937
Hong Kong	0.727
Italy	0.936
Netherlands	0.925
China	0.893
Russia	0.801
UAE	0.942
UK	0.928
USA	0.971
Others	0.991

Source: Author's calculation.

All destinations show positive correlations with aggregate pharmaceutical exports. The strongest association is observed for Others ($r = 0.991$), followed by Brazil (0.975) and the USA (0.971). The strong correlation between total exports and the USA is consistent with the USA's importance in India's pharmaceutical trade. The high correlation for the Others category

reflects the broad expansion of exports across markets outside the specifically identified destinations. These coefficients should, however, be interpreted as associations rather than causal relationships, because both aggregate exports and destination-wise exports exhibit strong upward time trends.

Correlation between Total Exports and Product Categories

Table 8

Correlation between Aggregate Exports and Product Categories

Product category	Pearson's r
Ayush & Herbs	0.962
Bulk Drugs & Drug Intermediates	0.976
Drug Formulations & Biologicals	0.996
Surgicals	0.800
Vaccines*	0.985

*Vaccines are calculated over the available 2017–18 to 2024–25 observations.

The strongest association is between aggregate pharmaceutical exports and Drug Formulations & Biologicals ($r = 0.996$). This is consistent with the category's dominant position in India's pharmaceutical export basket. Vaccines also show a strong positive association with aggregate exports over their available observation period. Surgicals display the comparatively weaker, although still positive, association. These findings reinforce the conclusion that India's aggregate pharmaceutical export performance is closely associated with the performance of its major product categories, particularly Drug Formulations & Biologicals.

Export Performance across Pre-COVID, COVID/Recovery and Post-COVID Periods

To examine changes in export performance across major phases, the study divides the period into three phases: the Pre-COVID period (2014–15 to 2019–20), the COVID/recovery period (2020–21 to 2021–22), and the Post-COVID period (2022–23 to 2024–25).

Table 9

Average Pharmaceutical Exports across Periods

Period	Years	Mean exports (US\$ million)
Pre-COVID	2014–15–2019–20	17,709.82
COVID/recovery	2020–21–2021–22	24,519.15
Post-COVID	2022–23–2024–25	27,904.03

Average pharmaceutical exports increased substantially across the three periods. The mean export value rose from US\$17.71 billion in the pre-COVID period to US\$24.52 billion during the COVID/recovery period, and further to US\$27.90 billion in the post-COVID period.

Table 10

Welch Mean-Comparison Tests

Comparison	t-statistic	p-value	Interpretation
Pre-COVID vs. COVID/recovery	-8.775	0.0003	Significant
Pre-COVID vs. Post-COVID	-6.155	0.0073	Significant
COVID/recovery vs. Post-COVID	-2.307	0.1467	Not significant at 5%

The differences between the pre-COVID and COVID/recovery periods and between the pre-COVID and post-COVID periods are statistically significant at the 5% level, while the difference between the COVID/recovery and post-COVID periods is not significant. These results indicate a higher average export level in the later periods, but they do not establish a causal effect of COVID-19 on pharmaceutical exports.

Overall Discussion

The empirical findings indicate strong export growth, modest geographical diversification and limited product diversification during 2014–15 to 2024–25. Exports recorded a CAGR of 7.04% and a semi-log trend growth of 7.14%. HHI declined from 0.4045 to 0.3799, while Shannon Entropy increased from 1.2666 to 1.2941, indicating modest geographical diversification, although the USA remained the largest identified market. Product-wise, Drug Formulations & Biologicals remained dominant, with its share rising from 72.67% to 75.26%, while Bulk Drugs & Drug Intermediates declined by 7.12 percentage points. Overall, the sector shows strong growth, broader markets and continued dependence on Drug Formulations & Biologicals, reflecting an asymmetric diversification pattern.

Hypothesis Testing

Table 11

Summary of Hypothesis Testing

Hypothesis	Result	Decision
H ₀₁ : No significant export growth trend	Significant positive trend	Rejected
H ₀₂ : No significant change in geographical concentration	HHI declined and Shannon Entropy increased	Evidence of geographical structural change
H ₀₃ : No significant change in product composition	Significant structural change	Rejected

The findings confirm a significant positive export trend and indicate changes in geographical concentration and product composition. However, the product results indicate structural change rather than strong product diversification, as the dominance of Drug Formulations & Biologicals increased.

MAJOR FINDINGS OF THE STUDY

The major findings of the study are as follows:

1. Strong and significant export growth: India's pharmaceutical exports increased by 97.44%, from US\$15,431.5 million in 2014–15 to US\$30,467.4 million in 2024–25, with a CAGR of 7.04%.
2. Uneven growth across destinations: Pharmaceutical exports expanded across most major markets, with the UAE recording the highest CAGR (13.22%), followed by the Netherlands (9.76%) and Italy (9.45%). The USA remained the largest individually identified destination.
3. Modest geographical diversification: The decline in HHI from 0.4045 to 0.3799 and the rise in Shannon Entropy from 1.2666 to 1.2941 indicate a modest but uneven reduction in destination concentration.
4. Continued product concentration: Drug Formulations & Biologicals remained the dominant export category, with its share increasing from 72.67% to 75.26%, while Bulk Drugs & Drug Intermediates declined from 23.10% to 15.98%.
5. Emergence of smaller product categories: Surgicals and Vaccines recorded relatively high growth, with CAGRs of 9.73% and 9.36%, respectively; however, their contribution remained smaller than that of Drug Formulations & Biologicals.
6. Strong product contribution: Drug Formulations & Biologicals accounted for approximately US\$11,714.83 million of the increase in pharmaceutical exports, confirming its central role in export expansion.
7. Strong associations with aggregate exports: The highest correlations were observed for Drug Formulations & Biologicals ($r = 0.996$) and the Others destination group ($r = 0.991$). These relationships represent associations rather than causal effects.
8. Higher export levels after 2019–20: Average exports increased from US\$17.71 billion in the pre-COVID period to

US\$24.52 billion during COVID/recovery and US\$27.90 billion post-COVID. The pre-COVID differences were statistically significant, whereas the COVID/recovery and post-COVID difference was not significant at the 5% level.

Overall, India's pharmaceutical export performance is characterised by strong growth, modest and uneven geographical diversification, and continued product concentration, particularly in Drug Formulations & Biologicals.

POLICY IMPLICATIONS

The study indicates strong growth in India's pharmaceutical exports, modest geographical diversification and continued dominance of Drug Formulations & Biologicals. India should therefore pursue a more diversified, innovative and resilient export strategy by expanding into emerging markets and strengthening market intelligence, trade facilitation and regulatory support. Greater emphasis should be placed on vaccines, complex generics, biosimilars, APIs, specialty medicines and other higher-value products, supported by increased R&D and collaboration among industry, universities and research institutions. Domestic production of APIs and critical intermediates should also be strengthened to reduce supply-chain vulnerabilities. Government agencies should provide exporters, particularly SMEs, with support for international certification, regulatory compliance, export credit and market information. Finally, maintaining adequate domestic capacity for critical medicines and pharmaceutical inputs can improve export resilience during future disruptions. Overall, India should move beyond an export-volume-oriented approach towards market diversification, product upgrading, value addition and technological advancement to strengthen its position in global pharmaceutical trade.

CONCLUSION

This study examined the growth, geographical diversification and product structural transformation of India's drug and pharmaceutical exports during 2014–15 to 2024–25. Exports increased from US\$15,431.5 million to US\$30,467.4 million, registering an overall increase of 97.44 per cent and a CAGR of 7.04 per cent, confirming strong long-term growth despite annual fluctuations. Destination analysis indicates modest geographical diversification, with HHI declining from 0.4045 to 0.3799 and Shannon Entropy increasing from 1.2666 to 1.2941, although the USA remained the largest individually identified market.

Product analysis indicates structural transformation with limited diversification. Drug Formulations & Biologicals remained dominant, with its share increasing from 72.67 per cent to 75.26 per cent, while Bulk Drugs & Drug Intermediates declined from 23.10 per cent to 15.98 per cent. Overall, India's pharmaceutical exports show strong growth, modest geographical diversification and continued product concentration. Future policies should focus on market and product diversification, R&D, higher-value products, stronger API production and technological upgrading to build a more competitive and resilient export sector.

Declaration of Conflicting Interests

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