Commercia, Vol. 1, Issue 1 (Jan-Jun 2025) 251003 (13pp)

India's Export Dynamics: A Comparative Analysis of the United States

Dr. Vijay Kumar[1,*] | **Dr. Sohanlal Gosai**[2]

[1]Associate Professor, Department of E.A.F.M., S.P.C. Government College, Ajmer (India)
[2]Assistant Professor, Department of E.A.F.M., S.P.C. Government College, Ajmer (India)

*Corresponding author: nvijaynarwal@gmail.com

Abstract:
This study investigates India's export dynamics, with a particular focus on its trade relationship with key global partners, especially the United States. Over the years, India's exports have grown significantly. The export intensity index reveals that India's trade with the United States is robust, accounting for 18% of India's total exports in 2023, the concentration index indicates a moderate diversification in India's export portfolio, although certain markets like the UAE and China exhibit higher concentration. For instance, the UAE's export intensity index has increased from 11.4 in 1988 to 39.04 in 2022, showcasing its growing importance, while Japan's index fell from 57.79 to 7.10 during the same period, reflecting diminishing trade ties. Despite a significant rise in overall exports, challenges persist, including a widening trade deficit, tariff barriers, and limited integration into global value chains.

Keywords: Export Intensity Index**,** Export Concentration Index**,** Global Value Chains (GVCs), Regional Comprehensive Economic Partnership (RCEP), Comprehensive Economic Partnership Agreement (CEPA)

1. Introduction:

The trade relationship between India and the United States is a cornerstone of the economic partnership between two of the world's largest democracies. Over the years, this bilateral trade has grown significantly, encompassing a wide array of goods and services, including technology, pharmaceuticals, textiles, and agricultural products.

India is a key market for American exports, particularly in areas such as defence, aerospace, and information technology. Conversely, the USA is a major destination for Indian exports software services, engineering goods, and textiles. This mutual exchange not only bolsters economic growth but also fosters innovation and strengthens geopolitical ties (Finger & Kreinin, 1979). However, this relationship is not without its challenges. Issues such as trade deficits, intellectual property rights, and tariff disputes have occasionally strained the partnership. Despite these hurdles, ongoing dialogues and negotiations aim to promote a more balanced and mutually beneficial trade relationship (Li, 2024).

Received: 01 January 2025 | **Revised:** 17 January 2025
Accepted: 18 January 2025 | **Published Online:** 18 January 2025

Export intensity and concentration ratio are crucial indicators in international trade and economic analysis. Export intensity measures the proportion of a country's total production or sales dedicated to exports, reflecting its global market engagement. On the other hand, the concentration ratio assesses the diversity of export markets or products, indicating dependence on specific sectors or regions. High export intensity signifies robust participation in global trade, driving economic growth. Meanwhile, a high concentration ratio highlights vulnerability to external shocks, as reliance on limited markets or products poses risks. Together, these metrics offer valuable insights for policymakers to ensure sustainable and diversified trade growth (Krugman,1980).

India's export intensity highlights the country's growing integration into the global economy. Export intensity refers to the share of a nation's total output that is exported, indicating the economy's reliance on external demand. India has demonstrated consistent growth in export intensity, driven by sectors like information technology, pharmaceuticals, textiles, and automotive components. With a focus on trade agreements, manufacturing initiatives like "Make in India," and digital globalization, India has diversified its export portfolio. However, challenges such as supply chain disruptions, infrastructure gaps, and trade barriers persist. (DM et al., 2024). Enhancing export intensity is key to boosting India's GDP, creating jobs, and achieving long-term economic sustainability.

2. Methodology:

A. Export Intensity Ratio:

In economics, the term "intensity index" often refers to a measure that quantifies the degree or intensity of a specific economic activity, factor, or phenomenon relative to a benchmark. This concept can vary in meaning depending on the context, but here are some common applications: Export intensity measures the extent of export between two countries relative to their total export with the rest of the world. An index value greater indicates that export between the two countries is more intense than expected. The specific "intensity index" in question depends on the context of the economic analysis.

Export Intensity Index of India

$XI_i = (X_i/X_{w.})\times100$

XI_i = Export Intensity of i^{th} country.

X_i = Export value of i^{th} country

X_w = Export value of the whole word

B. Export Concentration Ratio

The export concentration index measures how concentrated or diversified a country's exports are across different products or trading partners. A higher index indicates that a country's exports are dominated by a few products or are reliant on a limited number of markets, making the economy more vulnerable to external shocks. Conversely, a lower index suggests a more diversified export portfolio, which can enhance economic resilience. (DM et al., 2024). The Herfindahl-Hirschman

Index (HHI) is commonly used to calculate export concentration. (Herfindahl, O. C. 1950). It sums the squares of the market shares of each export category, yielding a value between 0 and 1. Values closer to 1 indicate high concentration, while values near 0 signify diversification.
These examples illustrate how export concentration varies by country, influencing economic stability and growth prospects.
For more detailed and updated statistics on export concentration indices by country, resources such as the World Bank's WITS provide comprehensive data. Understanding a country's export concentration is crucial for policymakers aiming to enhance economic resilience through diversification strategies.

Export Concentration Index in terms of United States

$XC_i = (X_i/X_u)\times 100$
XC_i = Export Intensity of i^{th} country.
X_i = Export value of i^{th} country
X_u = Export value of United States

3. India's Balance of Trade:

India's trade data shows a clear trend of increasing exports and imports over the years as shown below Table 1. Exports grew from $18 billion in 1990-91 to $451 billion in 2022-23, while imports rose from $24 billion to $716 billion in the same period. However, the trade deficit (imports exceeding exports) has widened significantly, from -$6 billion in 1990-91 to -$265 billion in 2022-23. The underwritten table indicates that while India is exporting more, its dependency on imports has grown even faster, leading to a larger trade gap. Major growth in trade occurred after 2000, reflecting economic liberalization and globalization, though challenges like the pandemic have caused fluctuations in recent years.
India's economic story is one of dramatic transformation. Following an extended period of sluggish progress post-independence, India's post-independence has grown in recent decades and has become the world's fifth-largest economy. Despite this impressive domestic performance, India's engagement with international trade remains low. India accounts for just 2% of global goods exports and just over 1% of the world's stock of foreign direct investment. This disconnects from international markets holds back India's economic potential. (Kumar, 2002).
Many countries have embraced the opportunities provided by global value chains (GVCs), wherein countries can leverage their comparative advantages more effectively by specializing in parts of a product's production process. Countries in Asia, such as China, and South India's trade performance will require enhancing competitiveness or expanding market access (or both). Despite significant improvements, especially in recent years, several domestic shortcomings, including infra weakness, challenging labour regulations, difficulties in land acquisition, and a complex regulatory and bureaucratic environment, hamper Indian productivity. Externally, India faces a number of significant challenges as well. (Balassa, 1965). WTO has stagnated, having been unable to advance the Doha process. The situation began over two decades ago and is now subject to several regressive pressures. The United States, once a champion of the rules-based

international trade system, has adopted its trade relations by imposing tariffs on its partners under questionable 'national security' justifications. Additionally, it has engaged China in a broad-based trade war and has undermined the World Trade Organization's (WTO) dispute settlement process by blocking judicial appointments. President-elect Trump has promised to raise trade barriers across the board.

Table 1: India's Balance of Trade

Year	Exports (including re- exports)	Imports	Trade Balance	Rate of Change (%)	
	(US $ million)	(US $ million)	(US $ million)	Export	Import
1990-91	18143	24075	-5932	9.2	13.5
1996-97	33470	39133	-5663	5.3	6.7
2001-02	43827	51413	-7587	-0.6	2.9
2005-06	103091	149166	-46075	23.4	33.8
2010-11	249816	369769	-119954	39.8	28.2
2015-16	262291	381008	-118717	-15.5	-15
2016-17	275852	384357	-108505	5.2	0.9
2017-18	303526	465581	-162055	10	21.1
2018-19	330078	514078	-184000	8.7	10.4
2019-20	313361	474709	-161348	-5.1	-7,7
2020-21	291808	394436	-102627	-6.9	-16.9
2021-22	422004	613052	-191048	44.6	55.4
2022-23	451070	715969	-264899	6.9	16.8

Source: *WITS database, World Bank, https://wits.worldbank.org*

A critical moment In India's recent trade policy was its decision not to sign the Regional Comprehensive Economic Partnership (RCEP). Covering 16 nations and accounting for a third of global trade, this agreement could have provided India with tariff-free access and made it a more attractive destination for foreign direct investment (FDI). (Dhiman, 2020).

However, India's concerns about trade imbalances, particularly with China, contributed to its decision to stay out of this agreement. tall for economic disruption drove India to opt While these are valid concerns, India's decision denies its markets the competitive boost of Asia's dynamic supply networks Important alternative options for India would be to join the Comprehensive and Progressive Agree for Trans-Pacific Partnership (CPTPP)-a large free trade area centered around the Pacific-rim countries and to make progress on trade agreement negotiations with UK and European Union.

Amidst the fears concerning WTO's stasis (and possible retrogression), it must not be forgotten that the multilateral trade system continues to offer India tremendous economic opportunities India must boldly engage the global market. While pursuing self-reliance in sectors critical for national. Korea, has efficiently integrated their economies into these networks, which account for a significant fraction of global trade. Unfortunately, India's share in these value chains is small. By relying instead on its domestic market, India is missing out on the benefits of economic scale and specialization that these global chains enable. GVCS also bring the important realization that efficient imports support (and are necessary for) the creation of high-quality and competitively priced India's approach will also require a nuanced consideration break with the multilateral, non-discriminatory architecture of WTO by insisting on bilateral reciprocity in trade policy with all partners, raising serious questions about the future of the global trade system. Against this challenging multilateral backdrop, India, in recent decades, negotiated several 'free trade agreements', primarily with neighbouring reciprocators. (Panagariya, 2010). These counters the mercantilist views concerning trade (which see imports as bad and exports as Good) that can sometimes be popular in policy circles. From the GVC standpoint, India's unilateral drift towards higher tariffs on imports over the last decade has, if anything, worsened the problem. By raising the domestic production of exports that rely on these, such as Afghanistan, Bhutan, Nepal, And Sri Lanka and prices of imported inputs and disincentives Thailand, and with regional partners such as South Security, India must avoid the protectionist and bureaucratic quagmires that previously stifled its growth.

4. India's Export Trend:

India's exports have Shown consistent growth over the years, reflecting its increasing integration into the global economy. Between 1988 and 2002, exports grew at a slow but steady pace (Figure 1), driven by gradual economic reforms initiated in 1991. The period from 2002 to 2008 marked a significant rise, coinciding with globalization and India's growing presence in sectors like IT, pharmaceuticals, and manufacturing. However, the global financial crisis of 2008 caused a sharp dip in exports as international demand declined.

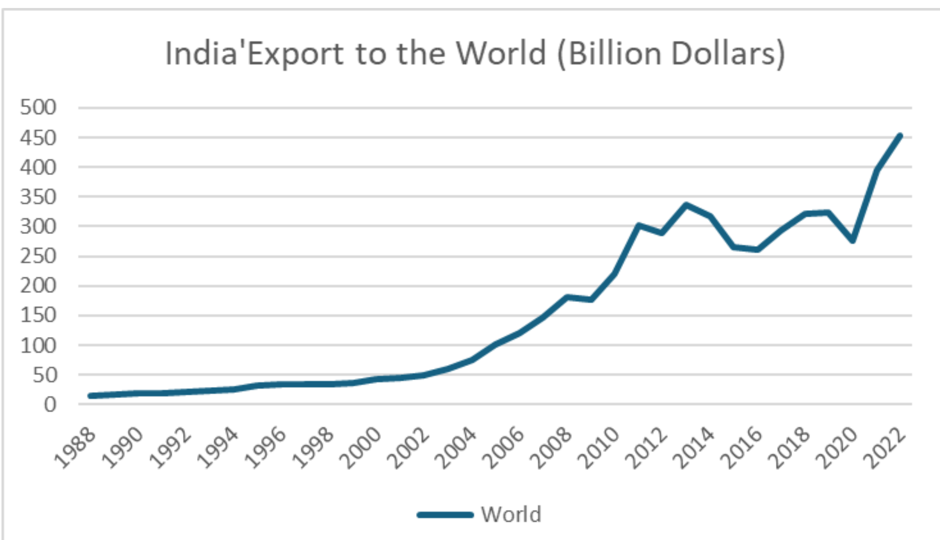

Figure 1: India's Export Volume, **Source:** *WITS data analysis, World Bank, https://wits.worldbank.org*

From 2010 to 2018, exports recovered and grew steadily but at a slower rate, reflecting challenges such as global economic uncertainty and shifting Trade dynamics. The period after

2020 saw a remarkable surge in exports, reaching record highs by 2022. This can be attributed to the post-pandemic recovery, increased global demand, and government initiatives to boost exports through schemes like "Make in India" and production-linked incentives. (Panagariya, 2010).

Overall, India's export trends highlight its resilience and growing role in global trade, with recent years showing accelerated growth driven by strategic policy measures and global economic recovery.

5. India's Important Export Partners:

India’s major export partners include the United States, United Arab Emirates (UAE), United Kingdom, China, and Japan, as shown above Table 2 and Table 3. The United States is the largest market for Indian exports, driven by strong demand for software services, pharmaceuticals, and textiles. The UAE serves as a key destination for petroleum products, gems, and jewelry, owing to its strategic location as a trading hub.

Table 2: India’s Export to top 5 countries (Billion Dollars)

Partner Name	1988	1991	1996	2001	2006	2011	2016	2022
United Arab Emirates	2.0998	4.1333	4.4099	5.8559	9.4484	12.3952	11.54	6.9193
United Kingdom	5.7005	6.3717	6.1236	5.0062	4.4421	2.9451	3.2902	2.482
United States	18.4265	16.3507	19.5967	19.153	15.4335	10.919	16.1307	17.7232
China	0.3279	0.2697	1.8369	2.1025	6.4597	5.5452	3.425	3.3322
Japan	10.6487	9.2436	5.9933	3.5353	2.3137	1.855	1.4702	1.2591

Source: *Ministry of Commerce and Industry, Government of India.* *https://www.commerce.gov.in/trade-statistics/export-import-data-bank-monthly*

Table 3: India's Relative Export Concentration Ratio (with the USA as the base)

Country/Year	1988	1991	1996	2001	2006	2011	2016	2022
The United Arab Emirates	11.39554446	25.27904004	22.50327861	30.57432256	61.22007322	113.5195531	71.5406027	39.04091812
United Kingdom	30.93642309	38.96897381	31.24811831	26.13794184	28.78219458	26.97225021	20.39713094	14.00424303
United States	100	100	100	100	100	100	100	100
China	1.779502347	1.649470665	9.37351697	10.97739258	41.85505556	50.78487041	21.23280453	18.80134513
Japan	57.7901392	56.53335943	30.58321044	18.45820498	14.99141478	16.98873523	9.114297582	7.10424754

The United Kingdom is a significant importer of Indian garments, engineering goods, and IT services, reflecting historical and economic ties. Trade with China primarily includes organic chemicals and cotton, though the relationship is marked by a trade imbalance. Japan focuses on importing engineering goods, auto components, and marine products, leveraging its technology-driven economy. These partnerships highlight India's diverse export basket and strategic engagement across regions. The trend of India’s export with these countries is represented in Figure 2.

A. United States:

In the last decade, India's exports to the United States have steadily increased, reflecting strong trade relations between the two nations. In the fiscal year 2023-24, India's exports to the U.S. reached $77.5 billion, growing at an average annual rate of 10.3% over the past 30 years. The U.S. now accounts for 18% of India's total exports, up from 16.4% in 1992. This indicates the growing importance of the American market for Indian businesses.

India's primary exports to the U.S. include drugs and pharmaceuticals, pearls and precious stones, petroleum products, telecom instruments, and ready-made garments. These categories make up around 40% of the total exports to the U.S., with industries such as pharmaceuticals and telecom instruments relying heavily on American demand for over 30% of their turnover.

Recent developments have further bolstered this trade relationship. India has shown interest in easing market access for U.S. firms, provided reciprocal actions are taken. Additionally, e-commerce platforms like Amazon have contributed significantly to export growth for Indian small and medium-sized enterprises, with projected exports through Amazon reaching $5 billion by 2024.

Overall, the past decade has seen consistent growth in India's exports to the U.S., supported by diversification across various sectors and advancements in e-commerce. Negotiations and market access reforms are expected to strengthen this relationship in the coming years.

B. Japan:

Over the past decade, India's exports to Japan have experienced fluctuations, with a general upward trend in recent years (Table 4). In the fiscal year 2013-14, exports stood at $6.81 billion but declined to $3.85 billion by 2016-17. This downturn was followed by a recovery, reaching $6.18 billion in 2021-22, before slightly decreasing to $5.46 billion in 2022-23. Key export commodities during this period included petroleum products, organic chemicals, marine products, machinery, and vehicles. Despite the recent growth, India's trade deficit with Japan has widened, with imports from Japan increasing from $9.75 billion in 2016-17 to $16.49 billion in 2022-23. To enhance export performance, there is a recognized need to diversify India's export basket and address non-tariff barriers in the Japanese market.

C. Arab Emirates (UAE):

Over the past decade, India's exports to the United Arab Emirates (UAE) have experienced significant growth, with a notable surge following the implementation of the Comprehensive Economic Partnership Agreement (CEPA) on May 1, 2022. In the fiscal year 2022-23, exports increased by 11.8% to $31.3 billion, up from $28 billion in the previous year. This growth is attributed to duty-free access for Indian products such as textiles, agriculture, gems, and jewelry. Projections indicate that exports may reach $50 billion by 2026-27, reflecting a 60% increase over current figures. Key sectors contributing to this rise include automobiles, with a 42%

increase to $715.58 million, and electrical machinery, which saw a 32% rise to $3.65 billion in 2022-23. The CEPA has been instrumental in enhancing trade relations, providing Indian exporters with preferential access to the UAE market, and fostering economic collaboration between the two nations.

D. China:

Over the past decade, India's exports to China have experienced significant fluctuations. Between 2016 and 2021, exports rose from approximately $8.96 billion to $28.03 billion, marking a substantial increase. However, in 2022, exports declined sharply by 37.59% to $17.49 billion. This downturn was followed by a modest recovery in 2023, with exports increasing by 7.13% to $16.23 billion. Despite these variations, the trade deficit with China has consistently widened, reaching $83.36 billion in 2023. This persistent deficit underscores India's ongoing dependence on Chinese imports, particularly in sectors like electronics and machinery.

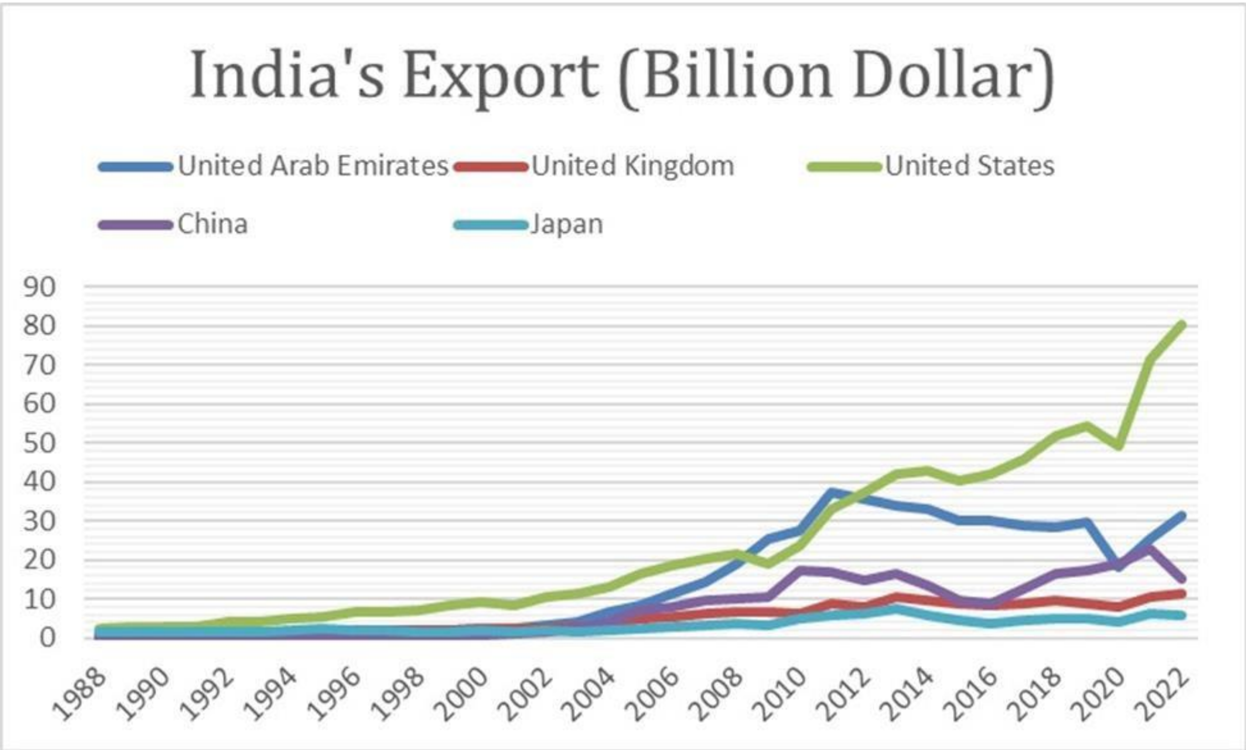

Figure 2: India’s Export Trend

E. United Kingdom:

Over the past decade, India's exports to the United Kingdom have experienced consistent growth. In the fiscal year 2022-2023, bilateral trade in goods and services reached £36.3 billion, marking a 34.2% Increase from the previous year. India's exports to the UK during this period amounted to £21.6 billion, with merchandise exports at £10.5 billion and services exports at £11.0 billion. Key export sectors included machinery, textiles, chemical products, and precious stones. Notably, from April to September 2024, India's exports to the UK grew by 12.38% compared to the same period in 2023, totalling $7.32 billion. This upward trend underscores the strengthening of trade relations between the two nations.

6. Export Intensity Ratio:

India's export intensity with its trade partners has been analyzed and indexed. The United States, United Arab Emirates, United Kingdom, China, and Japan are the primary countries involved in India's export activities. The export share percentage is given in Figure 3. Notably, the United States accounts for 17% of these exports.

Figure 3: Export share in percentage. **Source:** *"India's Trade Data." Ministry of Commerce and Industry, Government of India, https://www.commerce.gov.in/trade-statistics*

The United Arab Emirates (UAE) has emerged as a significant export partner for India. In 1988, the UAE's share of India's exports was approximately 2%, which has increased to about 7-8% over the years, although fluctuations have been observed in this trend. Conversely, the importance of the United Kingdom as an export destination for India has been steadily declining. Exports share to the United Kingdom fell from around 5% in 1988 to about 2% more recently. The trend of the Export Intensity Index is depicted in Figure 4.

7. Concentration Index:

Overall, this index provides a useful snapshot of the export performance of various countries relative to the US. The given data and graph represent an index of India's export performance relative to the United States, which is set at 100. This implies that the United States serves as the benchmark, and the export performance of other countries is calculated in comparison to it (OECD, 2007). The United Arab Emirates (UAE) has a high index value, ranging from 11.40 in 1988 to 39.04 in 2022, indicating significant growth in its export sector. However, it remains significantly lower than that of the United States. India export concentration is shown in Table 4.

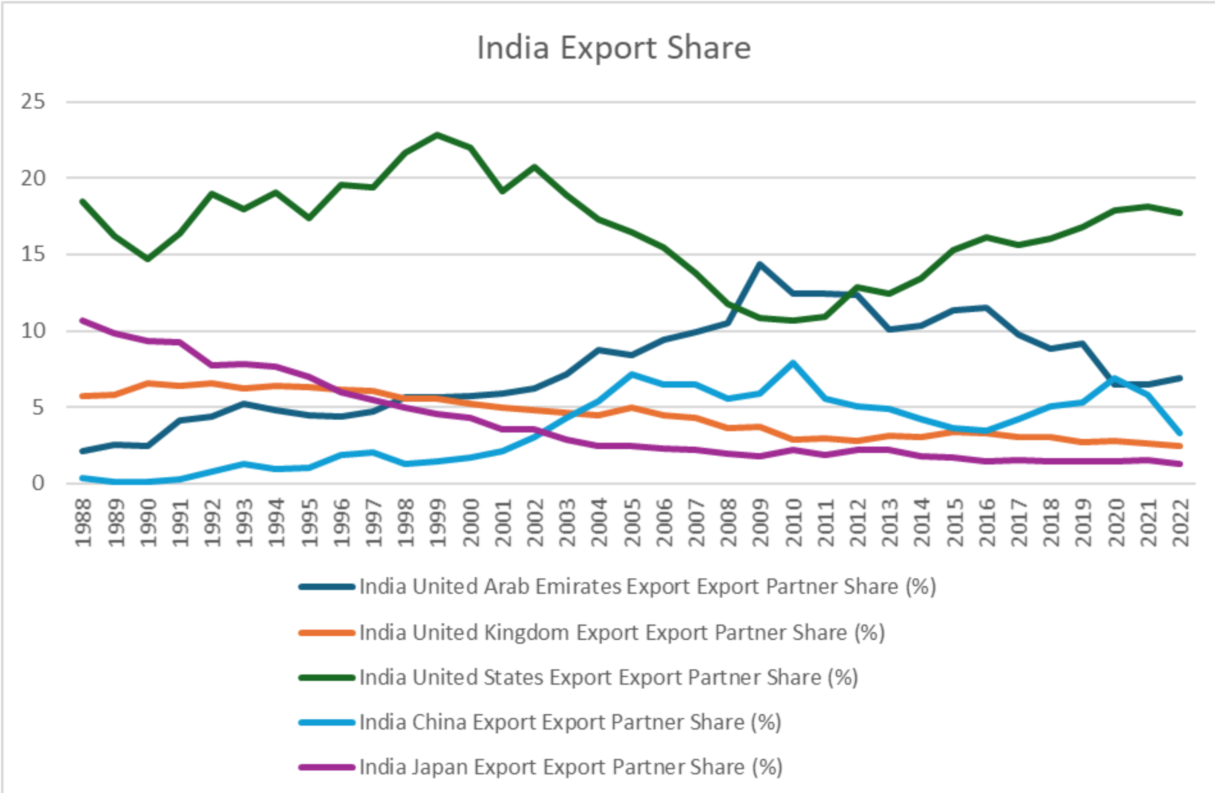

Figure 4: Export Intensity Index

Table 4: India Export Concentration Index

Country/Year	1988	1991	1996	2001	2006	2011	2016	2022
The United Arab Emirates	11.39554446	25.27904004	22.50327861	30.57432256	61.22007322	113.5195531	71.5406027	39.04091812
United Kingdom	30.93642309	38.96897381	31.24811831	26.13794184	28.78219458	26.97225021	20.39713094	14.00424303
United States	100	100	100	100	100	100	100	100
China	1.779502347	1.649470665	9.37351697	10.97739258	41.85505556	50.78487041	21.23280453	18.80134513
Japan	57.7901392	56.53335943	30.58321044	18.45820498	14.99141478	16.98873523	9.114297582	7.10424754

Source: *WITS data calculated, World Bank, World Bank,* https://wits.worldbank.org

India's export concentration trend is shown in Figure 5. China's export performance has improved dramatically, from 1.78 in 1988 to 18.80 in 2022, showcasing its emergence as a major export powerhouse export to Japan trend has declined over the years, from 57.79 in 1988 to 7.10

in 2022, indicating challenges in India’s export sector. The UK's export performance has also declined, from 30.94 in 1988 to 14.00 in 2022.

The export index reveals interesting trends among various countries. The United Arab Emirates (UAE) has shown significant growth, with its index value increasing from 11.40 in 1988 to 39.04 in 2022. Export to China’s growth is particularly noteworthy, with its index value surging from 1.78 in 1988 to 18.80 in 2022. In contrast, Japan's export sector has declined substantially, with its index value dropping from 57.79 in 1988 to 7.10 in 2022. The United Kingdom (UK) has also experienced a decline, with its index value falling from 30.94 in 1988 to 14.00 in 2022. These trends suggest that while some countries have made significant strides in expanding their export sectors, others face challenges in maintaining their competitiveness in the global market.

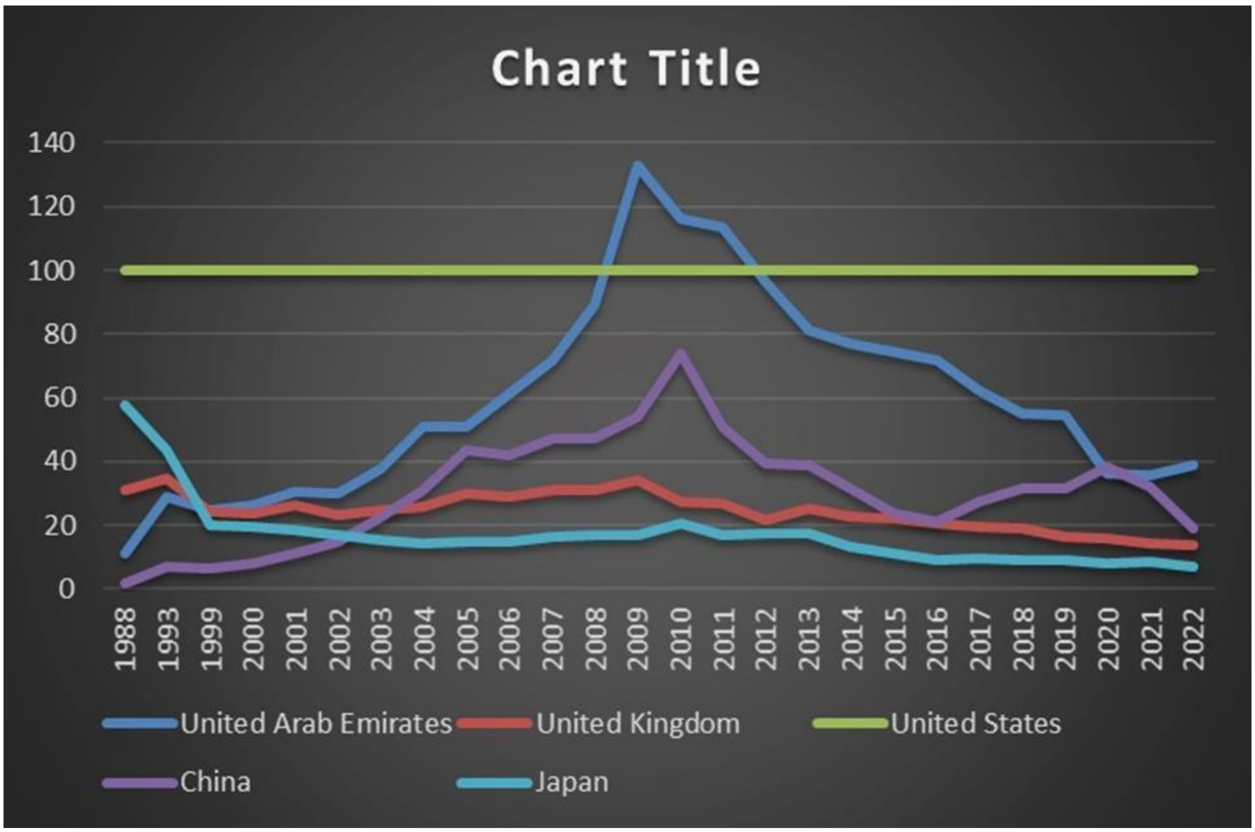

Figure 5: Export Concentration Index

8. Summary:

India's export trends to major economies like the United States, United Kingdom, Japan, and China highlight both opportunities and challenges. Key exports include IT services, pharmaceuticals, textiles, machinery, and raw materials. Opportunities lie in growing demand for Indian goods, trade agreements like FTAs, and initiatives like the Production Linked Incentive (PLI) scheme, which boost high-value manufacturing. However, challenges such as infrastructure gaps, regulatory barriers, global competition, and geopolitical tensions persist. To sustain growth, India must invest in better logistics, diversify its export portfolio, and strengthen trade relations to secure its position in global markets.

Prospects appear promising, driven by factors such as growing global demand for Indian goods, expanding trade agreements like FTAs, and initiatives like the Production Linked Incentive (PLI) scheme to boost high-value manufacturing. Emerging sectors like renewable energy, digital services, and sustainable products offer significant opportunities for growth. However, challenges such as infrastructure gaps, regulatory barriers, global competition, and geopolitical tensions need to be addressed. By improving logistics, enhancing product quality, and fostering innovation, India can position itself as a leading global exporter in the coming years.

Key components of the research paper for government suggestions to enhance the export extensity ratio and diversify the concentration ratio. To boost India's exports and export intensity, a multifaceted strategy is essential. Trade agreements with major economies, such as the EU and the US, can reduce trade barriers and open new markets. Expanding the export basket to include high-value products like electronics, pharmaceuticals, and renewable energy components is critical. Simultaneously, diversifying export markets to regions like Africa and Latin America will reduce dependency on traditional markets. Support for MSMEs, which contribute significantly to exports, is vital through easier credit access and reduced compliance burdens. Enhancing infrastructure, such as modernizing ports and improving logistics connectivity, will lower costs and improve efficiency. Investments in research and development, particularly in technology-driven sectors, can foster innovation and competitiveness. Compliance with international quality standards and promoting "Brand India" globally will strengthen India's reputation in global markets. Key sectors like agriculture, textiles, and electronics require targeted support to capture emerging opportunities. Additionally, empowering exporters through skill development, awareness programs, and better access to export financing will create a robust export ecosystem. By leveraging global trends, such as the demand for sustainable products and realigning supply chains, India can establish itself as a preferred global supplier, increasing its share in international trade and ensuring sustained economic growth.

References:

1. Balassa, B. (1965). Trade liberalisation and "revealed" comparative advantage[1]. *The Manchester School*, *33*, 99-123. https://doi.org/10.1111/j.1467-9957.1965.tb00050.x
2. Dhiman, R. (2020). *The textile industry and exports in post-liberalization India*. Routledge India. https://doi.org/10.4324/9781003050292
3. DM, M., Gunadal, N. M., HC, H., Geetha, I., Sri, K. K., Haripriya, S., & Hanumanthappa, R. (2024). A Comprehensive Analysis of Export Performance and Trade Competitiveness of Millets from India. *Journal of Scientific Research and Reports*, *30*, 43-55. https://doi.org/10.9734/jsrr/2024/v30i51920
4. Finger, J. M., & Kreinin, M. E. (1979). A measure of 'export similarity' and its possible uses. *The Economic Journal*, *89*, 905-912. https://doi.org/10.2307/2231506
5. OECD. (2007). *OECD Economic Surveys: Ukraine 2007*, OECD Publishing, Paris, 117 p. https://doi.org/10.1787/eco_surveys-ukr-2007-graph3_7-en
6. Herfindahl, O. C. (1950). Concentration in the US steel industry. *Unpublished PhD. Dissertation*, Columbia University.
7. Krugman, P. (1980). Scale economies, product differentiation, and the pattern of trade. *American Economic Review*, *70*, 950-959.

8. Kumar, N. (2002). *Globalization and the Quality of Foreign Direct Investment*. Oxford University Press.
9. Li, M. (2024). A Study of the Prospects and Opportunities for India's Development in a Competitive Environment between the US and China: Based on International Trade. *International Journal of Global Economics and Management*, *3*, 364-370. https://doi.org/10.62051/ijgem.v3n1.43
10. Panagariya, A. (2010). *India: The emerging giant*. Oxford University Press.