



Export Of Goods Related Services : Trend And Quantitative Analysis Using Revealed Comparative Advantage (RCA) Index

Author: Suravi Kar Roy

Designation: Faculty

Affiliation: Department Of Economics, Heramba Chandra College, Kolkata

Abstract: Global commercial services export comprises transport, travel, and goods-related services. Goods-related services include maintenance, repair, and manufacturing services. The paper analyzes goods-related services exports from 2005 to 2024, by utilizing secondary data from the WTO and demonstrating pictorial representations for comparison. The Revealed Comparative Advantage (RCA) Index indicates a country's export specialization, with values greater than one demonstrating a competitive advantage. Between 2012 and 2023, world exports of goods-related services grew significantly, led by China, South Asia with India and ASEAN countries also experiencing noticeable increases. Factors driving growth include digital transformation, logistics advancements, and the rise of India's IT sector. The upward trend in services exports indicates a transition towards high-value services across the region, with continued resilience in spite of facing the challenges like the COVID-19 pandemic. Exporting goods-related services is vital for India and its neighbouring countries as they can make transition from developing to developed economies. China, Bangladesh, Malaysia, Myanmar, Singapore, and the Philippines display a competitive edge in these exports, leveraging their integration into global value chains (GVCs), cheap-cost labor, improved logistics, and foreign direct investment (FDI). India, Indonesia, Mauritius, and Pakistan face challenges, including high logistical costs, regulatory complexities, and underdeveloped infrastructure, and as a result have revealed comparative advantage (RCA) below 1. Obstacles such as non-tariff measures, technical standards, and lengthy customs processes affect exports, particularly from India and South Asia. Recommended remedial measures include reducing the non-tariff barriers, improving infrastructure, and digitizing customs in order to facilitate trade.

Keywords: Export , Services ,Goods -Related ,RCA.

Introduction: Services exports are vital for India and other South Asian, ASEAN, and Chinese economies, having a major impact upon GDP growth, foreign exchange earnings, and employment generation. World commercial services exports include transport, travel, other commercial and goods-related services . Goods-related services, as defined by the WTO, include maintenance and repair services, manufacturing services on physical inputs owned by others, and transportation-related services. This represents an example of "servitization" of goods, merging manufacturing and services. Notably, manufacturing services involve

processing, assembly, and packing of goods for another entity, while maintenance services focus on restoring goods, with value recorded for the service itself. Transportation services include carriage and supporting logistics. These services are incorporated within the GATS framework, demonstrating their growing importance in the production and consumption of goods. Exporting goods-related services is essential for India, South Asia, China, and ASEAN to enhance foreign exchange, participate in Global Value Chains (GVCs), and transition of their economies from manufacturing to high-value services. India's emphasis on IT and business services supports goods exports across sectors like engineering and pharmaceuticals. ASEAN and China place a strong emphasis upon logistics and digital trade to support trade volume, while South Asia seeks to enhance service sectors related to goods, thereby adding value and overcoming logistics issues. Overall, these services boost competitiveness and attract foreign investment, supported by free trade agreements for sustainable regional growth.

Objectives of the paper:

1. To evaluate and make a comparative analysis of the performance of export of goods related services from India and neighbouring East Asian, South Asian and ASEAN countries for 2012 and 2023.
2. To delineate the picture of trend of export of goods related services from India and neighbouring countries during 2005 to 2024.
3. To empirically analyse the revealed comparative advantage in goods related services for India and few neighbouring East Asian, South Asian and ASEAN countries using the computation of Balassa RCA (Revealed Comparative Advantage) Index for the period 2005 to 2024.

Datasource And Methodology:

In this paper secondary data from datasource World Trade Organization for commercial services export (Millions of US \$) has been used extensively. Using data for 2005 to 2024 graphical analysis has been made using Bar charts, line graphs in order to portray the performance of goods related service export from India compared with few neighboring East Asian, South Asian and ASEAN countries and also in order to portray the trend of export of goods related services from these countries during this period. The RCA analysis has been done for export of goods related services for the period 2005 to 2024 for those countries to determine the advantage of a country in goods related services export. The Balassa Revealed Comparative Advantage Index has been calculated for all countries in this set. The Balassa Revealed Comparative Advantage (RCA) index is an index for measuring a country's export specialization in a specific service by comparing its share of that service's world exports to its share of total world trade. A value >1 indicates a revealed comparative advantage, while a value <1 indicates a disadvantage.

$$X_{ij} / X_{it}$$

Where, $RCA_{ij} = \frac{X_{ij} / X_{it}}{X_{wj} / X_{wt}}$, where X_{ij} is country i's export of service j,

$$X_{wj} / X_{wt}$$

X_{it} is country i's total service exports, X_{wj} is world exports of service j, and X_{wt} is total world service exports. Interpretation: If $RCA > 1$, the country is revealed to have a comparative advantage in that service sector (e.g., transport, travel services). MS EXCEL Software has been used extensively for empirical analysis of data and also in order to make pictorial presentations.

Discussion, Analysis and Results:

Performance Of India And Few Neighbouring Countries In Exporting Goods Related Services In 2012 and 2023:



Datasource:World Trade Organisation

Fig1.Export of Goods Related Services From India and Neighbouring Countries in 2012 and 2023.

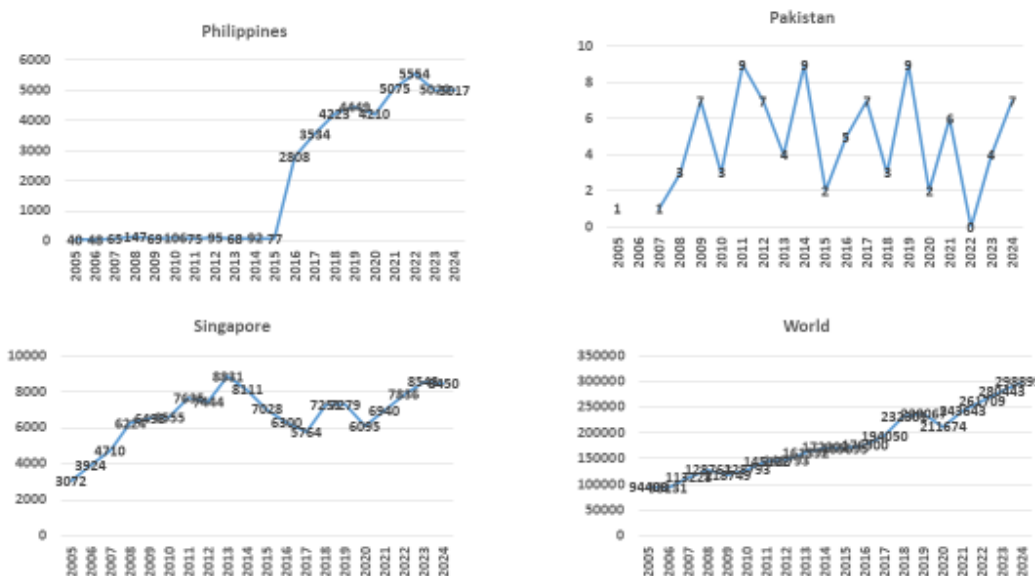
World export of goods related services have increased from 146793 million US\$ to 280443 million US\$ between 2012 and 2023. China hold the highest position in exporting goods related services in 2012 as well as 2023 followed by Singapore, Malaysia, Indonesia in 2012 . In 2023 the best performers had been China, Philippines, Singapore , India , Myanmar , Indonesia , so Philippines and Myanmar improved their position in exporting goods related services between these years.

Export of Goods Related Services (millions of US\$)



Datasource:World Trade Organisation

Export of Goods Related Services (millions of US\$)



Datasource:World Trade Organisation

An upward rising trend for export of goods related services is visible for all these countries in the set for the period 2005 to 2024. Between the period 2005 and 2024, exports of goods-related services from India, China, and ASEAN countries experienced substantial growth due to digital transformation and logistics advancements. China transitioned to a manufacturing-services hub, integrating high-value service components into its electronics and machinery exports, inspite of trade imbalances with India. India's goods-related services exports have experienced substantial growth, with its share of global commercial services exports increasing from 2% in 2005 to 4.3% by 2024. In the first quarter of FY25, exports rose to \$89 billion, boosted by the IT sector, business services, and the establishment of Global Capability Centres (GCCs). Important factors include a 10.09% growth in services exports and improvements in logistics performance, reflected in India’s rise in the World Bank's Logistics Performance Index from 44th in 2018 to 38th in 2023. In addition to this, trade related to global value chains increased from 35.1% in 2019 to 40.3% in 2022. Services-related exports in China, ASEAN, and South Asia have also experienced significant growth from 2005 to 2024, which was driven by global supply chain integration, digital transformation, and manufacturing outsourcing. In spite of the challenges posed by the COVID-19 pandemic, Asian trade demonstrated resilience, with services exports estimated to grow by 9% in 2024. India's leadership in South Asia has also highlighted the growth in various services sectors, which is supported by improved policy frameworks, supply chain demands, and advancements in digital technology.

Analysis of Revealed Comparative Advantage Of Goods Related Services Of India And Neighbouring Countries:

Table 1 Revealed Comparative Advantage Of Goods Related Services Of India And Neighbouring Countries:

YEA R	Banglad esh	China	India	Indone sia	Malay sia	Maurit ius	Myan mar	Pakist an	Philippi nes	Singap ore
2005	9.607966	4.775049	NA	0.157094	0.247851	NA	2.591961	0.013786	0.129934	1.891827
2006	11.09932	4.942432	NA	0.183447	0.333966	NA	4.066175	NA	0.138742	2.158991
2007	10.40428	4.661328	NA	0.192015	0.233791	NA	3.121943	0.014426	0.151748	2.025464
2008	5.767234	4.484744	NA	0.323323	0.295071	NA	5.144985	0.037248	0.351888	2.187488
2009	0.689622	4.587761	NA	0.172148	0.26209	NA	7.706257	0.08422	0.148658	2.441115
2010	0.912598	4.333005	NA	0.121338	2.457331	NA	5.246799	0.031203	0.181851	1.995983
2011	0.858144	4.03214	NA	1.648097	2.29624	NA	5.736788	0.079255	0.121022	1.953601
2012	1.056159	3.984195	0.028681	0.687577	2.191437	NA	5.300477	0.067798	0.144381	1.789303
2013	1.143822	3.40126	0.051607	0.75054	1.916496	NA	12.368	0.036379	0.08775	1.875336
2014	1.369373	2.979072	0.074172	0.694726	2.021166	NA	1.733693	0.076849	0.109498	1.603002
2015	1.247142	3.254947	0.061291	0.871884	2.140677	NA	2.314432	0.017032	0.078087	1.35389
2016	0.944687	3.266105	0.049378	0.965873	2.135797	NA	3.330081	0.038987	2.587887	1.183168
2017	0.981135	3.031473	0.051733	0.60768	2.257589	0.018962	3.468063	0.044505	2.903686	0.944093
2018	0.779651	2.847796	0.057366	0.543382	2.242759	0.013226	7.340111	0.016831	2.898352	0.898467
2019	1.269776	2.799231	0.054553	0.642451	2.222776	0.013632	7.234107	0.051318	2.863707	0.859258
2020	2.495922	2.23659	0.049705	1.364864	3.903358	0.022384	9.095576	0.01123	3.281965	0.695855
2021	2.984732	1.84993	0.069417	1.712432	5.164588	0.011544	16.19353	0.02827	3.929403	0.633878
2022	3.24811	1.933528	0.144787	1.372899	4.437663	0.014952	20.54711	0	3.786343	0.647158
2023	2.95415	2.059785	0.13731	0.987753	3.112993	0.013907	19.28091	0.018091	2.951246	0.677921

China, Bangladesh, Malaysia(since 2010),Myanmar, Singapore(till 2016), Philippines (2016 onwards) reveals to have a competitive edge in exporting of goods related services. These countries have gained a competitive edge in goods-related services such as improving logistics, repair, and engineering through integration into global value chains (GVCs), using low-cost labor, enhancement of logistics infrastructure, and foreign direct investment (FDI). China, with its massive manufacturing scale, leads the way, while ASEAN nations like Malaysia and the Philippines have responded with specialized industrial and trade

services. Important factors include deep integration into GVCs, abundance of competitive labor forces, proactive Foreign Direct Investment policies, a structural shift towards high-value services, and strategic upgrades to trade and logistics infrastructure. Important reasons behind this comparative advantage to be mentioned include China's reliance on labor and infrastructure, Bangladesh's growth in the ready-made garment sector, Malaysia's focus on high-tech manufacturing, Myanmar emerging as a low-cost hub, Singapore's role as a logistics and trade hub, and Philippines' expansion through business process outsourcing. But India, Indonesia, Mauritius, Pakistan does not have a RCA greater than 1 signifying the fact that these countries do not have any competitive edge in exporting goods related services. India, Indonesia, and Pakistan encounter significant obstacles in exporting goods-related services due to high logistical costs, complex regulatory processes, inadequate infrastructure, and limited integration into Global Value Chains. Important limitations include lack of adequate transportation and high energy costs, cumbersome bureaucratic procedures, heavy reliance on low-value sectors like textiles, high tariffs on intermediate goods, and non-tariff barriers in major markets. Additionally, geopolitical issues, further complicate the trade efforts.

Barriers faced in exporting goods related services:

Exporting goods-related services from India, South Asia, China and ASEAN is difficult because of non-tariff barriers (NTBs), such as strict technical standards, lengthy inspection timings, and complicated licensing. Indian exporters face regulatory obstacles despite Free Trade Agreements, while South Asian nations struggle with inadequate infrastructure and China contends with trade restrictions linked to overcapacity fears. Key barriers include stringent Technical Barriers to Trade (TBT), Sanitary and Phytosanitary (SPS) measures, drawn-down customs procedures, and logistical inefficiencies. Additionally, protectionist measures and an inverted duty structure further disadvantage exporters, with substantial negative impacts on sectors like pharmaceuticals and automobiles.

Remedial measures:

Remedial measures with the objectives of enhancing goods-related services exports from India, South Asia, China, and ASEAN focus on reduction of Non-Tariff Barriers (NTBs), improving the digital and physical connectivity, harmonizing standards, and upgrading of infrastructure. Important strategies include digitizing customs, strengthening Mutual Recognition Agreements (MRAs), streamlining Rules of Origin (RoO), and investing in cold chain logistics. Specific recommendations involve establishing accredited testing facilities at borders, publishing technical regulations for exporters, updating port facilities, improving cross-border transit, developing regional e-commerce platforms, leveraging Free Trade Agreements (FTAs), and emphasising skill upgrades in India. Immediate actions may include the digitization of customs documentation, while medium to long-term goals prioritise investment in smart infrastructure and thorough standard harmonization.

Conclusion:

Exporting goods-related services, including logistics, engineering, design, and maintenance, has been crucial for the transition of India, South Asia and ASEAN countries from developing to developed economies. This sector promotes industrial efficiency, enables high-value integration into global value chains, and generates high-skilled jobs, thereby fostering economic resilience and raises Gross Domestic Product. Significant trends include India leveraging its capabilities in electronics and pharmaceuticals to diversify its service exports, China focusing on high-value, technology-driven services crucial for maintaining global trade leadership, and ASEAN's emphasis on regional integration through trade agreements. Additionally, improving service exports in South Asia diversifies economic structures and improves industrial efficiency. In general, this transition leads to economic diversification, resilience, high-paying creation of jobs, and productivity increases, further facilitating integration into global value chains. Exporting goods-related services is essential for India to realise its dream of becoming a developed nation, "Viksit Bharat" by 2047.

References:

1. Bagchi, S. (2025), Can India's Export of Services Build Economic Partnerships in South Asia? *Geoeconomics in South Asian Environment*, pp. 201-226 (2025), Chapter 11.
2. Wignaraja, G. (2023), *The Great Supply Chain Shift from China to South Asia?* Indian Council On Global Relations, Paper No.34, July 2023 ,
3. Ray, S., Thakur, V. (2024), *Regional value chains: Opportunities for India and ASEAN?* APRIL 2024, ICRIER, Working Paper no.420.
4. Nasira, S., Kalirajanb., K. (2014), *Modern Services Export Performances among Emerging and Developed Asian Economies*, ADB Working Paper Series on Regional Economic Integration No. 143 , November 2014.
5. Sinha, R., Sareen, N. (2020), *India's Limited Trade Connectivity With South Asia*, Brookings India, Sambandh, Regional Connectivity Initiative, Policy Brief , May 2020 .
6. Dawani, C., Pareek, D. (2024), *Analysing India's Export Competitiveness in ASEAN Economies: Insights from Viner's Trade Creation Model*, *Journal Of Asian Economic Integration*, Volume 6, Issue 1. February 25, 2024.
7. Paul, A., Nayak, S. K. (2025), *Analysing Intra-industry Trade and Revealed Comparative Advantage in Services: A Study of India's Services Sector*, *The Indian Economic Journal*, September 5, 2025.
8. Ahuja, R. (2020), *Revealed Comparative Advantage: A Study of India and ASEAN economies*, Rashmi Ahuja August, 2020, LBSIM Working Paper, WP 18, August 2020.
9. *Exports Of Services And Offshore Outsourcing :An Empirical Investigation In The Indian Context*, Export –Import Bank Of India, Occasional Paper No.156 , Export-Import Bank of India July 2012.
10. Saini, S. R. (2021), *India-ASEAN Trade through Reveled Comparative Advantage* S.R. Saini Research Scholar, Department of Economics, , *JETIR* March 2021, Volume 8, Issue 3.
11. Palit A., Nawani, S. (2009), *India-China Trade: Explaining the Imbalance* , ISAS Working Paper No. 95 , 26 October 2009 , Institute of South Asian Studies, National University Of Singapore.
12. Batra, A., Khan, Z. (2005), *Revealed Comparative Advantage: An Analysis For India and China*, Amita Batra Zeba Khan, ICRIER.
13. *Trade Watch April-June (Q1) FY25*, NITI AYOOG.
14. Ismail, S. & Ahmed, S. (2022) , *Static and dynamic RCA analysis of India and China in world economy*, *International Studies of Economics*, John Wiley & Sons, vol. 17(2), pages 228-260, July.
15. Raghuramapatruni, R., Chaitanya, R. S. (2023), *An Empirical Analysis on International Trade between India and the ASEAN*, 24 Jul 2023, *IIFT International Business and Management Review Journal*.
16. De, P. (2011), *ASEAN-India Connectivity: An Indian Perspective* , *Research and Information System for Developing Countries (RIS)*, India. December 2011.
17. Ray, S., Thakur, V. (2024), *Regional Value Chains: Opportunities For India And ASEAN?* April 2024, WTO Working Paper 420.