RIS Discussion Paper # 365

Strengthening ASEAN–India Production and Services Networks: Evidences on GVC Participation and Pathways for Policy Reform

Wannaphong Durongkaveroj

RIS
Research and Information System for Developing Countries
विकासशील देशों की अनुसंधान एवं सूचना प्रणाली

DAKSHIN
Development and Knowledge Sharing Initiative
GLOBAL SOUTH CENTRE OF EXCELLENCE

AIC
ASEAN-India Centre at RIS

CMEC
Centre for Maritime Economy and Connectivity
समुद्री अर्थव्यवस्था व संयोजन केंद्र

FITM
Forum on Indian Traditional Medicine

RIS
Research and Information System for Developing Countries
विकासशील देशों की अनुसंधान एवं सूचना प्रणाली

RIS specialises in issues related to international economic development, trade, investment and technology. Through its following centres/forums, RIS promotes policy dialogue and coherence on regional and international economic issues.

The word "DAKSHIN" (दक्षिण) is of Sanskrit origin, meaning "South." The Hon'ble Prime Minister of India, Shri Narendra Modi, inaugurated DAKSHIN – Global South Centre of Excellence in November 2023. The initiative was inspired by the deliberations of Global South leaders during the Voice of the Global South Summits. DAKSHIN stands for Development and Knowledge Sharing Initiative. Hosted at the RIS, DAKSHIN has established linkages with leading think tanks and universities across the Global South and is building a dynamic network of scholars working on Global South issues.

AIC at RIS has been working to strengthen India's strategic partnership with ASEAN in its realisation of the ASEAN Community. AIC at RIS undertakes research, policy advocacy and regular networking activities with relevant organisations and think-tanks in India and ASEAN countries, with the aim of providing policy inputs, up-to-date information, data resources and sustained interaction, for strengthening ASEAN-India partnership.

CMEC
Centre for Maritime Economy and Connectivity
समुद्री अर्थव्यवस्था व संयोजन केंद्र

CMEC has been established at RIS under the aegis of the Ministry of Ports, Shipping and Waterways (MoPS&W), Government of India. CMEC is a collaboration between RIS and Indian Ports Association (IPA). It has been mandated to act as an advisory/technological arm of MoPSW to provide the analytical support on policies and their implementation.

FITM is a joint initiative by the Ministry of Ayush and RIS. It has been established with the objective of undertaking policy research on economy, intellectual property rights (IPRs) trade, sustainability and international cooperation in traditional medicines. FITM provides analytical support to the Ministry of Ayush on policy and strategy responses on emerging national and global developments.

Continued on back inner cover

Strengthening ASEAN–India Production and Services Networks: Evidences on GVC Participation and Pathways for Policy Reform

Wannaphong Durongkaveroj

RIS-DP # 365

November 2026

RIS Discussion Papers intend to disseminate preliminary findings of the research carried out within the framework of institute's work programme or related research. The feedback and comments may be directed to: Email: dgoffice@ris.org.in. RIS Discussion Papers are available at www.ris.org.in

Contents

1. Introduction 1

2. Analytical Framework 3

3. ASEAN-India Production and Services Networks 5

4. Strengthening India–ASEAN Production and Services Networks 13

5. Conclusion 21

References.....21

Reinforcing ASEAN-India Production and Services Networks

Wannaphong Durongkaveroj*

Abstract: This discussion paper examines the evolution and potential of ASEAN–India production and services networks through the lens of global value chain (GVC) integration. Drawing on trade data from 2000 to 2024, it analyses the extent and sectoral composition of bilateral GVC participation, highlighting manufacturing, transport, logistics, finance and telecommunications as key areas of integration. The findings indicate scope for deeper regional linkages, particularly through enhanced forward and backward participation. The chapter identifies key enablers, including improved logistics, an open trade and investment regime, labour market reforms and human capital development, to strengthen India's integration into regional production networks.

1. Introduction

Over the past few decades, international trade has been powered by global value chains (GVCs). GVCs are the inter-firm relationships among a set of firms engaged in 'global production sharing. GVCs open up opportunities for countries to participate in a finer international division of labor, to specialise in different slices (tasks) of the production process in line with their relative cost advantage. In a labor abundant economy, assembly activities within global production networks tend to be relatively more labor intensive (pro-poor) compared to conventional manufacturing (production from start to finish in just one country) of the given final product. Successful in integration of the manufacturing

* Wannaphong Durongkaveroj, Associate Professor, Faculty of Economics, Ramkhamhaeng University, Bangkok

sector into production networks (in particular, labor-intensive tasks) has played a key role in employment generation and poverty reduction in China and other high-performing East Asian countries (Antràs, 2016; Athukorala and Hill, 2026).

The purpose of this paper is to examine ASEAN-India production networks. ASEAN–India trade relations have evolved significantly over the past three decades. This has been driven by a gradual strengthening of institutional mechanisms for economic cooperation (De and Chirathivat, 2018). India became a sectoral dialogue partner of ASEAN in 1992 and was elevated to a full dialogue partner in 1995 (Zainal-Abidin, 1996). A major milestone was the first ASEAN–India Summit, held in Phnom Penh in 2002, which provided a platform for deepening economic and strategic engagement (Sen, Asher, and Rajan, 2004). This was followed by the Framework Agreement for establishing an ASEAN–India Free Trade Area (AIFTA) in 2003. These developments eventually led to the ASEAN–India Trade in Goods Agreement, which entered into force in 2010, and the ASEAN–India Trade in Services and Investment Agreement, which entered into force in 2015 (Arote et al., 2026). Recent development is the establishment of the ASEAI-India Comprehensive Strategic Partnership (CSP) aimed to enhance cooperation in several areas (e.g., maritime, security, and technology) (ASEAN Secretariat, 2026). These agreements offer an institutional foundation for expanding trade, investment, and production linkages between India and ASEAN.

However, GVC-related trade differs from traditional trade because it takes place within global production networks rather than simple exchanges of final goods. GVCs reflect complex inter-firm relationships that take distinct forms depending on industry governance (Gereffi, 2015; Kano, Tsang, and Yeung, 2020). In buyer-driven GVC, typical of consumer goods industries with standardized technologies, such as apparel, footwear, and toys, the lead firms are international buyers, including large retailers and brand merchandisers. These production networks operate through arm's-length contractual relationships, enabling

local suppliers to participate without direct foreign equity investment. Producer-driven GVCs operate differently. They are more common in vertically integrated industries (e.g., electronics, electrical machinery, and automobiles), where multinational enterprises often act as lead firms. As a result, participation in producer-driven GVCs depends more on firms' ability to meet the technical, quality, delivery, and coordination requirements of lead firms.

In this sense, GVC-related trade extends beyond the traditional determinants of international trade, for example, geographic distance, market size, and income levels. These factors are still important, but GVC participation also depends on the capabilities of domestic firms and the broader business environment. Countries are more likely to become attractive locations for GVC activity when they offer reliable suppliers, trainable labour, efficient logistics, institutions, and policy conditions that are conducive to the development of long-term production relationships. Building on this discussion, the next section outlines the key factors that can shape the development of ASEAN–India production networks.

2. Analytical Framework

Since GVCs involve cross-border dispersion of different tasks/slices of the production processes within vertically integrated global industries, countries compete to attract specific tasks within regional and global production networks. A country's ability to participate in GVCs depends not only on cost competitiveness but also on a broader set of economic and institutional conditions that facilitate cross-border production sharing. Among others, three factors are particularly important: advancements in production technology, the decline of service link cost, and trade liberalisation policy (Athukorala, 2019; Durongkaveroj, 2023).

First, rapid advances in production technologies have made it possible to carry out production processes across several locations. Different stages of production can be undertaken in different countries according to their comparative advantages, rather than requiring the entire production process to be concentrated in a single country. GVCs

have been most pronounced in manufacturing because manufactured products can be decomposed into distinct tasks and components. Hence, they account for the majority of GVC-related trade.

Second, because GVC involves the fragmentation of production across different locations, effective coordination among production stages located across multiple locations is necessary. The cost associated with coordinating these activities is called "service link costs", which consist of transportation and communication costs. Communication costs include expenditure related to telephone services, the internet, and information exchange. Not only lower but also more reliable communication costs have made it profitable for firms to locate different stages of the production process across countries (Amador & Cabral, 2016; Baldwin, 2016). In addition, efficient logistics is also important because it enables the timely and reliable delivery of components/intermediate inputs between production sites. Although maritime transport is still the key mode of international freight, the declining cost of air transport has also contributed to the rapid expansion of GVCs.

Third, since GVCs involve products crossing borders multiple times during the production process, virtually zero or low tariff barriers are essential. Since the late 1980s, many developing countries have shifted from import substitution industrialisation (ISI) to export-oriented industrialisation (EOI) and implemented broad trade liberalisation reforms. Examples include China's *Reform and Opening-up* policy in 1978, India's economic reforms in 1991, and Vietnam's Doi Moi reforms initiated in 1986. A reduction in tariffs increases the profitability of cross-border production, especially in manufacturing industries where profit margins are relatively thin. Another key policy reform was the establishment of the World Trade Organization (WTO) in 1995, which strengthened the multilateral trading system and reduced trade barriers between developed and developing economies (Fernandes, Kee, and Winkler, 2022). Additionally, the WTO's Information Technology Agreement (ITA) further facilitated GVC integration because of the tariff-free trade of IT products.

Together, these technological, logistical, and policy developments have transformed the organisation of global production. GVCs have become the dominant form of international trade, especially in manufactured goods. Against this backdrop, the next section examines the evolving GVC relationship between India and ASEAN, highlighting the extent and sectoral pattern of their integration into global production networks.

3. ASEAN-India Production and Services Networks

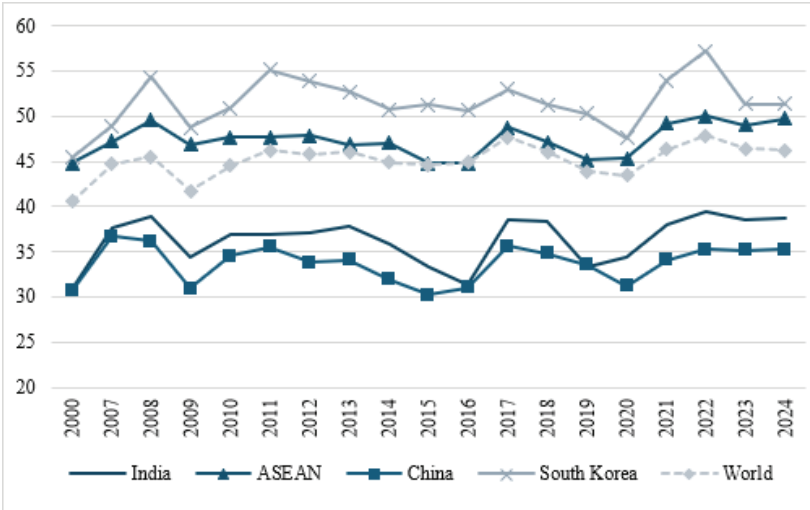
This section first assesses India's participation in global value chains (GVCs) relative to ASEAN and other major economies. It then examines the ASEAN-India production and services networks.

In order to properly measure GVC participation, this chapter follows the methodology introduced by Borin, Mancini, and Taglioni (2025). GVC-related trade is defined as the value of goods and services exports that cross more than one international border during the production process. It is expressed as a share of gross trade and is attributed to the exporting sector in which the value added originates. This measure comprises three forms of GVC participation: pure-forward GVC-related trade, two-sided GVC-related trade, and pure-backward GVC-related trade. The analysis draws on data from the Asian Development Bank's Multi-Regional Input–Output (MRIO) Database.

Figure 1 compares India's participation in global value chains (GVCs), measured as the share of GVC-related trade in total trade, with ASEAN, China, South Korea, and the world average during 2000 to 2024.

As shown in Figure 1, India's participation in GVCs remains relatively low compared with ASEAN, South Korea, and the world average. In 2024, GVC-related trade accounted for 38.7 per cent of India's gross trade. The composition of GVC participation is balanced between pure forward linkages (16.1 per cent) and pure backward linkages (17.3 per cent), while two-sided GVC participation accounted for about 5.3 per cent. This suggests that India's integration into GVCs is driven by both

Figure 1: GVC Participation (GVC-related trade) from 2000 to 2024



Notes: ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.
Source: World Bank (2026)

upstream and downstream activities. In addition, although China and India show comparable GVC participation rates, India is more heavily integrated through backward linkages. This pattern is also documented by Chawla and Kumar (Chawla and Kumar, 2023) based on the OECD TiVA database.

In addition, the degree of GVC participation is higher in ASEAN than in India. On average, GVC-related trade accounted for more than 50 per cent of ASEAN's gross trade in 2024. However, GVC integration rates vary across ASEAN countries. Singapore saw the highest level of GVC participation (60.65 per cent), followed by Viet Nam (57.49 per cent), and Brunei (54.78 per cent). However, Indonesia (37.01 per cent), Lao PDR (45.20 per cent), and the Philippines (41.22 per cent) show relatively low levels of GVC integration.

Compared with India, ASEAN countries are integrated more through backward linkages. In 2024, Vietnam had the highest backward participation rate (40.94 per cent), followed by Singapore (35.52) and Cambodia (29.95 per cent). Vietnam also experienced the biggest increase in backward participation, rising from 20.71 per cent to 40.94 per cent from 2000 to 2020. By contrast, Malaysia's backward participation declined moderately from 32.69 per cent in 2000 to 25.25 per cent in 2024. Forward GVC participation is relatively high in Brunei (24.35 per cent), followed by Indonesia (20.08 per cent) and Lao PDR (19.28).

To better understand India–ASEAN production and services networks, Table 1 reports the share of India's exports to ASEAN that is related to GVCs across six broad sectors: agriculture, forestry and fishing; mining and quarrying; manufacturing; electricity, gas and water; construction; and services.

As shown in Table 1, 50.85 per cent of India-ASEAN gross bilateral trade was related to GVCs, indicating that about half of bilateral trade involved production processes crossing international borders at least once. This figure slightly increased from 47.70 per cent in 2000, suggesting that India-ASEAN production and services network has gradually deepened over time. More importantly, India's GVC participation is predominantly forward oriented. Of the 50.85 per cent of India–ASEAN GVC trade, 29.59 percentage points are accounted for by pure forward linkages, compared with 12.54 percentage points for pure backward linkages. India primarily supplies domestic value added to ASEAN that is later incorporated into products exported to other countries. India thus acts as an upstream supplier within ASEAN-India production network (Prakash, 2024).

Nevertheless, there is heterogeneity in India's GVC participation with ASEAN across sectors. Unsurprisingly, manufacturing has the highest level of GVC-related trade, with 59.20 per cent of gross bilateral trade embedded in GVCs in 2024, rose from 48.08 per cent in 2000. Of this, 24.77 percentage points are accounted for by pure forward linkages.

Table 1: GVC-Related Trade in India's Exports to ASEAN by Sector, 2000–2024

Sector	2000	2010	2015	2020	2021	2022	2023	2024
	(%)							
Agriculture, forestry and fishing	24.49	31.94	27.51	21.78	28.98	32.13	30.41	25.15
Construction	17.29	24.37	15.20	28.63	34.25	38.29	42.18	43.28
Electricity, gas and water	43.75	49.67	58.59	29.44	30.73	34.37	30.35	30.30
Manufacturing	48.08	59.61	55.19	55.48	57.54	60.11	55.97	59.20
Mining and quarrying	29.27	12.28	38.10	44.74	47.57	50.48	46.06	51.15
Services	59.74	60.26	57.62	58.58	48.74	48.20	49.26	46.18
Total	47.70	54.37	53.50	54.87	52.10	52.59	50.74	50.85

Notes: ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam

Source: World Bank (2026)

The mining and quarrying and services sectors also have relatively high GVC participation rates, at 51.15 per cent and 46.18 per cent, respectively. However, the composition of GVC participation differs across sectors. While manufacturing combines both forward and backward linkages, pure forward participation accounts for a larger share of GVC trade in mining and services than in manufacturing. This finding suggests that India's upstream position in ASEAN production networks extends beyond manufacturing to include significant contributions from the mining and services sectors.

Table 2 disaggregates manufacturing trade into thirteen industries and reveals substantial heterogeneity in the extent of GVC participation across sectors. Several patterns deserve attention. First, resource-based and intermediate-goods industries show the highest levels of GVC intensity. Coke, refined petroleum and nuclear fuel industry has the highest GVC participation rate. Its GVC trade share is greater than 70 per cent between 2000 and 2024. Also, basic metals and fabricated metal products, chemicals and chemical products, and electrical and optical equipment all have GVC participation rate exceeding 60 per cent in recent years.

Second, there exists a strong growth in GVC participation rates across many manufacturing sub-sectors. Examples include leather and footwear, transport equipment, wood products, and manufacturing n.e.c. and recycling. In the transport equipment industry, the share of GVC-related trade increased from 39.9 per cent in 2000 to 53.2 per cent in 2024, while leather and footwear rose from 52.7 per cent to 58.8 per cent over the same period, peaking at over 70 per cent in 2022.

Third, traditional consumer goods industries remain less integrated into regional value chains. Food, beverages and tobacco industry has the lowest GVC-related trade share among manufacturing industries, although it increased from 21.1 per cent in 2015 to 37.3 per cent in 2024. Likewise, textiles and textile products maintain a moderate level of GVC participation, fluctuating around 50 per cent throughout the period.

Table 2: Share of GVC-Related Trade in India's Manufacturing Exports to ASEAN by Industry, 2000–2024

Sector	2000	2010	2015	2020	2021	2022	2023	2024
	(%)							
Food, beverages and tobacco	31.76	25.85	21.13	21.95	28.59	31.46	30.49	37.33
Textiles and textile products	48.87	44.18	38.71	49.52	58.87	51.89	52.70	52.26
Leather, leather products and footwear	52.72	37.18	40.71	61.01	65.73	70.87	61.62	58.83
Wood and products of wood and cork	34.42	27.30	31.15	40.44	44.45	47.15	44.29	50.46
Pulp, paper, paper products, printing, and publishing	45.16	56.90	52.24	58.42	65.99	72.39	55.13	56.86
Coke, refined petroleum and nuclear fuel	72.93	85.76	74.87	74.72	71.72	73.22	67.43	73.12
Chemicals and chemical products	59.81	61.16	54.50	55.98	62.06	68.26	65.11	68.50
Rubber and plastics	55.62	52.47	45.48	47.75	51.22	54.61	56.45	57.25
Other nonmetallic minerals	58.53	50.23	44.31	31.25	40.55	45.23	46.27	49.28
Basic metals and fabricated metal	55.27	57.47	51.78	69.45	70.09	72.77	71.02	72.31
Machinery, nec	50.93	49.00	43.09	41.60	49.72	50.45	49.38	48.65
Electrical and optical equipment	58.08	40.83	48.74	59.35	67.55	65.50	67.99	59.14
Transport equipment	39.88	32.75	32.23	42.06	52.21	57.01	45.31	53.22
Manufacturing nec, recycling	24.45	40.81	30.79	51.03	65.06	61.29	68.96	64.39

Notes: ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam

Source: World Bank (2026)

Finally, some industries exhibit relatively stable levels of GVC participation over time. Machinery and equipment, rubber and plastics, and pulp and paper products generally remain within the range of 45–60 per cent, suggesting a persistent but not rapidly expanding degree of integration into regional production networks.

Overall, the results indicate that India–ASEAN manufacturing value chains are particularly concentrated in energy-related products, intermediate goods, chemicals, metals, and technology-intensive industries. At the same time, rising GVC intensity in transport equipment, leather products, and several other industries suggests that bilateral production linkages have become increasingly diversified over time.

While manufacturing activities constitute the core of cross-border production networks, the functioning of modern value chains increasingly depends on a wide range of supporting services. Production fragmentation requires transportation, logistics, distribution, finance, telecommunications, and business services to coordinate production stages located across different countries. This is known as "servicification" (Miroudot, 2017; Reddy, Sasidharan, and Thangavelu, 2023). As a result, the expansion of manufacturing GVCs is often accompanied by deeper integration of services into cross-border value chains. It is necessary to examine the sectoral composition of services-related GVC trade to provide additional insights into the mechanisms through which India and ASEAN are connected within regional production networks.

Table 3 presents the share of GVC-related trade in India's services exports to ASEAN across sixteen service industries. The results reveal considerable variation in the degree of GVC participation across sectors and overtime.

First, transport and trade-related services show the highest levels of GVC intensity throughout the sample period. Water transport, air transport, wholesale trade, and supporting transport activities consistently record some of the highest GVC-related trade shares. In particular, supporting and auxiliary transport activities, including travel agency

Table 3: Share of GVC-Related Trade in India's Services Exports to ASEAN, 2000–2024

	2000	2010	2015	2020	2021	2022	2023	2024
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of fuel	35.68	49.70	15.44	37.83	32.85	25.03	27.10	30.54
Wholesale trade and commission trade, except of motor vehicles and motorcycles	77.73	85.29	79.51	31.92	44.74	36.90	45.95	46.86
Retail trade, except of motor vehicles and motorcycles; repair of household goods	44.14	29.90	22.05	29.20	36.51	31.47	28.44	28.13
Hotels and restaurants	44.31	N/A	32.23	53.08	60.37	52.35	58.35	47.81
Inland transport	29.34	34.15	28.87	51.51	48.66	49.94	61.70	66.66
Water transport	63.24	68.78	84.06	76.82	81.03	82.68	78.25	77.80
Air transport	40.11	52.59	51.13	62.28	74.48	67.65	66.15	75.93
Other supporting and auxiliary transport activities; activities of travel agencies	89.75	91.23	88.31	80.12	85.18	75.79	69.23	74.50
Post and telecommunications	24.32	43.80	38.36	43.38	47.68	45.50	55.67	54.94
Financial intermediation	46.85	56.64	55.92	60.86	58.63	66.14	59.78	57.46
Real estate activities	3.19	4.35	3.82	25.27	44.24	39.55	70.25	47.07
Renting of M&Eq and other business activities	67.71	73.48	61.24	62.49	41.27	42.51	45.72	41.89
Public administration and defense; compulsory social security	0.65	0.35	0.27	17.42	20.06	27.85	25.05	23.09
Education	5.91	5.03	3.07	12.80	19.31	30.65	24.52	20.74
Health and social work	33.67	38.39	24.33	18.01	21.03	25.31	27.32	28.83
Other community, social, and personal services	31.16	21.79	24.29	26.00	29.29	19.12	25.19	24.37

Notes: ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam

Source: World Bank (2026)

services, maintained exceptionally high levels of GVC participation, exceeding 70 per cent throughout the period and reaching more than 90 per cent in the early 2000s. Likewise, water transport recorded GVC-related trade shares above 75 per cent in recent years. These findings are consistent with the central role of logistics, distribution, and transportation services in facilitating cross-border production networks.

Second, several modern service industries have relatively strong integration into GVCs. Financial intermediation maintained GVC-related trade shares of around 55–66 per cent throughout the sample period, while post and telecommunications increased steadily from 24.3 per cent in 2000 to 54.9 per cent in 2024. The increasing GVC intensity of telecommunications services may reflect the growing importance of digital connectivity and business support services in regional production networks (Kalash, Desai, and Shah, 2026).

Third, some service sectors experienced particularly rapid growth in GVC participation after 2020. Inland transport increased from 29.3 per cent in 2000 to 66.7 per cent in 2024, while real estate activities rose sharply from negligible levels in the early 2000s to 47.1 per cent in 2024, reaching a peak of 70.3 per cent in 2023. Education and public administration services also recorded noticeable increases, although their overall levels remained below those observed in transport and business-related services.

Overall, the findings suggest India–ASEAN services network is concentrated in transport, logistics, trade facilitation, finance, and communication services—sectors India seems to have comparative advantage in.

4. Strengthening India–ASEAN Production and Services Networks

There are several policy tools to boost India-ASEAN production and services network.

4.1 Required Preconditions for Successful Participation in GVCs

Since India's participation in GVCs is relatively low compared with ASEAN, it is necessary for India to create an environment conductive to deeper GVC participation. The first issue is related to labour costs. Relative labour cost is one of the most important determinants of GVC participation, especially for developing countries. In the early stages of international fragmentation of production, labour cost advantages allowed MNEs to relocate labour-intensive tasks to countries with lower production costs. As shown in Table 4, India's manufacturing wage is relatively low compared with those in many ASEAN countries. Together with its large pool of workers, this clearly provides India with a good starting point to participate deeper into global production networks.

Table 4: Average Wages in Manufacturing 2024 (US$/month)

Country	Average wage in manufacturing (US$/Month)
Indonesia	350
Vietnam	342
Thailand	431
Malaysia	797
Philippines	555
Singapore	5,016
Cambodia	232
India	96.36

Note: Indian manufacturing wages are obtained from Singh (2024). The average daily earnings of India's factory workers are INR 307.
Sources: ASEAN Secretariat (2024) and Singh (2024)

However, relative labour cost and a large pool of workers may not be sufficient to attract MNEs. Before locating labour-intensive tasks, such as final assembly, in a particular country, MNEs need to consider whether local workers are able to perform those tasks. In this regard, the

availability of trainable low- to medium-skilled workers is an important factor for GVC participation. In 2023, the share of India's population aged 25 and above with at least completed primary education was 68.13 per cent, lower than in Thailand and Viet Nam. This is therefore an area where India needs further development. Although education does not directly translate into skills, it at least indicates the potential for training and knowledge transfer.

Labour market conditions also relate to labour market rigidity. India's labour market is often viewed as rigid, which may discourage large firms from making new hires because laying off workers can be difficult (Saha, 2015). In other words, hiring and retrenchment remain relatively less flexible. A recent step in this direction is India's 2025 labour law reform, which aims to modernise outdated laws, protect workers rights, give employers more room to adjust their workforce, and create labour regulations that better fit the needs of modern manufacturing (Jha & Mitra, 2026). Key areas for further improvement include stronger social protection, more credible enforcement, and skills development.

4.2 Reduction in Service Link Csosts

It is important for developing countries, India included, to reduce service link costs in order to participate more in global production networks. Even though there is no single indicator that fully captures service link costs, two commonly used measures are the Ease of Doing Business index and the Logistics Performance Index.

Table 5 reports the World Bank's East of Doing Business rankings for India and ASEAN countries. Overall, India ranked 63rd out of 190 economies, behind only Singapore, Malaysia, and Thailand among the countries shown. Across the dimensions of the index, India performs relatively well in several areas, including protecting minority investors, getting electricity, getting credit, and dealing with construction permits. However, India still needs substantial improvement in enforcing contracts, starting a business, and registering property.

Table 5: World Bank's 2020 East of Doing Business (Rankings)

Economy	Global Rank	Starting a business	Dealing with construction permits	Getting electricity	Registering property	Getting credit	Protecting minority investors	Paying taxes	Trading across borders	Enforcing contracts	Resolving insolvency
Singapore	2	4	5	19	21	37	3	7	47	1	27
Malaysia	12	126	2	4	33	37	2	80	49	35	40
Thailand	21	47	34	6	67	48	3	68	62	37	24
India	63	136	27	22	154	25	13	115	68	163	52
Brunei Darussalam	66	16	54	31	144	1	128	90	149	66	59
Vietnam	70	115	25	27	64	25	97	109	104	68	122
Indonesia	73	140	110	33	106	48	37	81	116	139	38
Philippines	95	171	85	32	120	132	72	95	113	152	65
Cambodia	144	187	178	146	129	25	128	138	118	182	82
Lao PDR	154	181	99	144	88	80	179	157	78	161	168
Myanmar	165	70	46	148	125	181	176	129	168	187	164

Source: World Bank (2020)

The next indicator for measuring service link costs is the Logistics Performance Index (LPI). The LPI is a comprehensive measure of logistics performance based on six dimensions: customs efficiency, quality of trade and transport infrastructure, ease of arranging international shipments, competence and quality of logistics services, ability to track and trace consignments, and timeliness of shipments in reaching their destination (World Bank, 2023). Together, these indicators capture the efficiency with which firms can organise and manage cross-border production and distribution networks. Therefore, a higher LPI score indicates lower service-link costs and a more favourable environment for participation in regional and global value chains.

Compared with ASEAN countries, India's position in the LPI shows a similar pattern to the Ease of Doing Business index. India ranks only behind Singapore, Thailand, and Malaysia. As shown in Table 6, India's overall LPI score increased from 3.07 in 2007 to 3.40 in 2023. This suggests an improvement in logistics performance over time. India performs relatively well in the timeliness of shipments, the ease of arranging competitively priced international shipments, and the competence and quality of logistics services. However, the quality of trade- and transport-related infrastructure remains an important area for further improvement.

4.3 Open Trade and Investment Regime

Successful participation in GVCs requires an open trade and investment regime. According to Sachs and Warner (1995), India has been classified as an "open" economy only since 1994, following the launch of its trade liberalisation programme. In contrast, Malaysia, Singapore, and Thailand are classified as economies that have been always open. These countries also outperform India in the East of Doing Business Index and the Logistics Performance Index (LPI), indicating that these three countries in Southeast Asia have business environment that is more conductive to GVC participation.

Another commonly used indicator to measure openness to trade is the trade-to-GDP ratio. According to the World Bank (2026), India's

Table 6: India's LPI Score

Indicators	2007	2010	2012	2014	2016	2018	2023
Logistics performance index	3.07	3.12	3.08	3.08	3.42	3.18	3.40
Ability to track and trace consignments	3.03	3.14	3.09	3.11	3.52	3.32	3.40
Competence and quality of logistics services	3.27	3.16	3.14	3.03	3.39	3.13	3.50
Ease of arranging competitively priced international shipments	3.08	3.13	2.98	3.20	3.36	3.21	3.50
Frequency with which shipments reach consignee within scheduled or expected time	3.47	3.61	3.58	3.51	3.74	3.50	3.60
Quality of trade- and transport-related infrastructure	2.90	2.91	2.87	2.88	3.34	2.91	3.20

Source: World Bank (2023)

trade-to-GDP ratio in 2025 is about 46 per cent. While this is substantially higher than its level in the 1990s, it is still lower than that of every ASEAN economy except Indonesia. By comparison, Singapore, Viet Nam, Thailand, Malaysia, and Cambodia all have trade-to-GDP ratios greater than 100 per cent.

An open trade regime is crucial for GVC participation because production and services networks involve cross-border movement of goods and services. The lower the barriers and costs associated with these cross-border transactions, the more competitive firms become in the world market. Therefore, India needs to further liberalise its trade regime to strengthen its ability to integrate into production and services networks.

Another area for improvement is to liberalise investment regime. At the early stage of GVC participation, attracting more multinational enterprises (MNEs) is crucial because MNEs possess technology and production techniques that may not be available at home. FDI can also bring capital, technology, management know-how, and production standards, which can eventually strengthen domestic capabilities. For India, attracting export-oriented FDI in manufacturing would increase the likelihood that intermediate inputs made in India are used in production undertaken in ASEAN. This will increase India's GVC forward participation with ASEAN. When it comes to FDI, the investment climate is very important. This depends on several factors, for example, the regulatory framework, political stability, free trade conditions, and high-quality infrastructure. Red tape and bureaucratic procedures are man-made so they should be, and can be, abolished by man.

At the same time, India can strengthen backward linkages by using intermediate inputs made in ASEAN. India may serve as the final assembler of some products, which fits well with its technology and labour pool. However, this will depend on whether production activities in ASEAN have already matured, as ASEAN countries are also highly competitive in these stages of GVC participation.

4.4 Human Capital Development

At the early stage, countries can join global production network based on their comparative advantage. This explains why many developing countries participate in GVCs by undertaking labour-intensive tasks because trainable, middle-skilled labour is relatively abundant. Low labour costs may initially attract labour-intensive production activities, but whether countries can move into higher value-added segment of GVCs depends on the availability of skilled workers, technicians, engineers, and managers who can support more sophisticated production processes. Countries that aim to carry out a more sophisticated task within global production network therefore need to invest continuously in workforce development and technical education.

For India, entering GVCs through labour-intensive tasks may be a realistic starting point. However, there is also an important question about the future. India needs a longer-term plan to capture the benefits of higher value-added tasks. The electronics sector is a useful example. At the initial stage, India may focus on assembly by importing components from other countries, assembling them into final products, and then exporting them. This is similar to the current policy discussion in Thailand and Malaysia, where countries are seeking to move to higher stages of production. To do so, India needs to develop capabilities in tasks that require greater precision, stronger supervisory manpower, and domestic know-how. This requires broader industrial development as well as sustained investment in education and skills.

Current indicators show substantial variation in human capital development across India and ASEAN economies. For example, the tertiary education enrolment rate in India increased sharply from 10 per cent in 2000 to 34 per cent in 2025 (World Bank, 2026). However, there exists a large gap in educational outcomes between India and several ASEAN countries. Tertiary enrolment rates reached 97 per cent in Singapore, 49 per cent in Thailand, 45 per cent in Indonesia, 38 per cent in Vietnam, and 21 per cent in Cambodia. Another useful indicator is labour productivity. Measured by output per hour worked, labour productivity in India stood at US$8.1 per hour in 2015, compared with

US$19 in Thailand, US$14.3 in Indonesia, US$29.7 in Malaysia, and US$11 in Vietnam (Our World in Data, 2023).

These differences in tertiary education and labour productivity raise an important question about India's ability to move into higher value-added activities within GVCs. If India cannot strengthen its human capital and productivity base, its prospects in GVCs may remain limited to lower value-added tasks.

5. Conclusion

This study examines the background, evolution, and prospects of ASEAN-India production and services networks. The analysis is based on GVC-related trade between 2000 and 2024. The findings show that India's GVC participation is low compared to other major exporting countries in the region. Also, there is a moderate increase in the extent to which India's trade with ASEAN is embedded in regional value chains. Manufacturing and services emerge as the most GVC-intensive sectors but there are heterogeneities across sub sectors. Within manufacturing, industries such as refined petroleum products, chemicals, basic metals, electrical equipment, and transport equipment exhibit high levels of GVC participation. In the services sector, GVC-related trade is concentrated in transport, logistics, wholesale trade, finance, and telecommunications. The analysis further suggests that deeper integration into regional production and services networks depends on several factors. Manufacturing wage and a sheer size of workforce offer India a good starting point for deeper GVC participation. However, area for improvement for India includes labour market conditions, business environment, and human capital.

References

Amador, J., & Cabral, S. (2016). Global value chains: A survey of drivers and measures. *Journal of Economic Surveys, 30*(2), 278–301. https://doi.org/10.1111/joes.12097

Antràs, P. (2016). *Global production: Firms, contracts, and trade structure.* Princeton, NJ: Princeton University Press.

Arote, P., Sagara, H., Chakradhar, J., Desai, G., Pravin, J., & Bandhu, D. (2026). The impact of India-ASEAN free trade agreement on trade flows: An application of augmented gravity model. *PLOS ONE, 21*(6), e0350036. https://doi.org/10.1371/journal.pone.0350036

ASEAN Secretariate. (2024). Southeast Asia Manufacturing Tracker: Key Insights and Trends. Retrieved from https://www.aseanbriefing.com/news/southeast-asia-manufacturing-tracker/

ASEAN Secretariat. (2026). *ASEAN and India reinforce Comprehensive Strategic Partnership priorities*. ASEAN. Retrieved from https://asean.org/the-26th-meeting-of-asean-india-joint-cooperation-committee-convenes-at-asean-headquarters-asean-secretariat/

Athukorala, P.-C. (2019), Joining Global Production Networks: Experience and Prospects of India. *Asian Economic Policy Review, 14*, 123-143. https://doi.org/10.1111/aepr.12248

Athukorala, P.-C., & Hill, H. (2026). *Revising Globalization: Southeast Asia in the Global Factory.* Cambridge Elements Development Economics. Cambridge: Cambridge University Press.

Baldwin, R. E. (2016). *The great convergence: Information technology and the new globalization*. Harvard University Press.

Borin, A., Mancini, M., and Taglioni, D. (2025). Economic Consequences of Trade and Global Value Chain Integration: A Measurement Perspective. *The World Bank Economic Review*. https://doi.org/10.1093/wber/lhaf017

Chawla, I., & Kumar, N. (2023). FDI, international trade and global value chains (GVCs) India's GVC participation, position and value capture. *Asia and the Global Economy, 3*(2), 100071. https://doi.org/10.1016/j.aglobe.2023.100071

De, P., & Chirathivat, S. (2018). *Celebrating the third decade and beyond: New challenges to ASEAN-India economic partnership*. Routledge. https://doi.org/10.4324/9781351013598

Durongkaveroj, W. (2023). Emphasis on domestic value added in export in the era of global value chain: evidence from Thailand. *Journal of Industrial and Business Economics, 50,* 703–729. https://doi.org/10.1007/s40812-022-00239-9

Fernandes, A. M., Kee, H. L., & Winkler, D. (2022). Determinants of global value chain participation: Cross-country evidence. *The World Bank Economic Review, 36*(2), 329–360. https://doi.org/10.1093/wber/lhab017

Gereffi, G. (2015). Global value chains in a post-Washington Consensus world. In J. Neilson, B. Pritchard, & H. W.-C. Yeung (Eds.), *Global value chains and global production networks: Changes in the international political economy* (pp. 9–37). Routledge. https://doi.org/10.4324/9781315725321-2 .

Jha, P., & Mitra, D. (2026, February 26). *India's labour reforms need stronger social protection and rapid upskilling*. East Asia Forum. https://doi.org/10.59425/eabc.1772100000

Kalash, S. Y., Desai, V., & Shah, K. M. (2026, February 9). *India's industrial evolution and global value chains: From autarky to aspiration* (Policy Brief No. 223). Centre for International Governance Innovation. https://www.cigionline.org/publications/indias-industrial-evolution-and-global-value-chains-from-autarky-to-aspiration/

Kano, L., Tsang, E. W. K., & Yeung, H. W.-C. (2020). Global value chains: A review of the multi-disciplinary literature. *Journal of International Business Studies, 51*, 577–622. https://doi.org/10.1057/s41267-020-00304-2

Miroudot, S. (2017). The servicification of global value chains: Evidence and policy implications, UNCTAD Multi-year Expert Meeting on Trade, Services and Development, Geneva, 18–20 July, 2017. https://unctad.org/system/files/non-official-document/c1mem5_2017_124_S3_Miroudot_2.pdf

Our World in Data. (2023). Productivity: Output per Hour Worked, 2023. Retrieved from https://ourworldindata.org/grapher/labor-productivity-per-hour-pennworldtable#faqs

Prakash, A. (2024). GVC mapping for ASEAN and India: Trade prospects in the current economy and goods of the future. ERIA Research Project Report FY2024 No. 24. Retrieved from https://www.eria.org/uploads/GVC-Mapping-for-ASEAN-and-India.pdf

Reddy, K., Sasidharan, S., & Thangavelu, S. (2023). Does servicification of manufacturing increase the GVC activities of firms? Case of India. *The World Economy*, 00, 00–00. https://doi.org/10.1111/twec.13318

Sachs, J. D., & Warner, A. M. (1995). Economic reform and the process of global integration. *Brookings Papers on Economic Activity, 1995*(1), 1–118. https://doi.org/10.2307/2534573

Saha B. (2015). From rigidity to flexibility. In: Ramaswamy KV, ed. *Labour, Employment and Economic Growth in India* (pp. 221-238). Cambridge University Press.

Sen, R., Asher, M. G., & Rajan, R. S. (2004). ASEAN-India economic relations: Current status and future prospects. *Economic and Political Weekly, 39*(29), 3297–3308. https://www.jstor.org/stable/4415291

Singh, K. (2024). How much do India's factory workers earn on average?. Retrieved from https://ceda.ashoka.edu.in/how-much-do-indias-factory-workers-earn-on-average/

World Bank. (2020). Ease of Doing Business Rankings. Retrieved from https://archive.doingbusiness.org/en/rankings

World Bank. (2023). Logistics Performance Indicators 2.0. Retrieved from https://data360.worldbank.org/en/dataset/WB_LPI

World Bank. (2026). World Development Indicators. Retrieved from https://databank.worldbank.org/source/world-development-indicators

Zainal-Abidin, M. (1996). Institutional mechanism for ASEAN-India cooperation: Trends and prospects. *Journal of Asian Economics, 7*(4), 723–741. https://doi.org/10.1016/S1049-0078(96)90064-0

About the Author



Dr. Wannaphong Durongkaveroj is an Associate Professor at the Faculty of Economics, Ramkhamhaeng University, Bangkok, Thailand, and a Visiting Fellow at the ISEAS–Yusof Ishak Institute. He earned his PhD in Economics from the Australian National University in 2020. His research focuses on international trade, global value chains, poverty, and income inequality. He has served as a consultant to the Asian Development Bank (ADB), Thailand's Ministry of Commerce, and Nikkei Research (Thailand). Since 2022, he has been a Research Fellow at the Global Labor Organization. He also serves as an Associate Editor for several academic journals and has held the position of Associate Dean for Academic Affairs and Research.

Acknowledgements

Author is grateful for the comments and suggestions received from reviewers for finalising the Discussion Paper. Thanks are also due to the publication team at RIS comprising Mr. Sachin Singhal and Mr. Sanjeev Karna for arranging the production of this Discussion Paper. Views are author's own. Usual disclaimers apply.

RIS Discussion Papers

Available at: http://www.ris.org.in/dicussion-paper

DP#364-2026	*Deepening Value Chains: Strategies for FTAs and ASEAN–India GVC Integration in an Era of Overlapping Trade Architectures* by Rahul Sen and Sadhana Srivastava
DP#363-2026	*Evaluating India-ASEAN Trade: Progress, Challenges and Way Forward* by Prabir De, Pankaj Vashisht and Prateek Sharma
DP#362-2026	*India–ASEAN Relations in a Changing Geopolitical Landscape: From Strategic Convergence to Security Cooperation* by Sanjay Pulipaka and Sayantan Ghosal
DP#361-2026	*India–ASEAN Maritime Security Framework: Normative Frameworks and Institutional Convergence* by Sarabjeet S Parmar and Sinderpal Singh
DP#360-2026	*India's Development Cooperation with ASEAN under the Framework of the Global Development Compact* by Sushil Kumar and Riddhi Lakhiani
DP#359-2026	*India–ASEAN Trade in Services: Trends, AITISA Assessment and a Reform Agenda* by Prabir De, Krithika Manoj and Krishna Bhattacharya
DP#358-2026	*From National Strategy to Regional Partnership: India's Blue Economy Programme and ASEAN–India Cooperation* by Pankhuri Gaur
DP#357-2026	*ASEAN–India Cooperation for Sustainable Development: SDG Progress, Institutional Mechanisms and Emerging Areas of Cooperation* by Sabyasachi Saha and Tushti Tanwar
DP#356-2026	*Navigating Global Uncertainty: ASEAN–India Partnership and Strategic Priorities* by Vo Xuan Vinh
DP#355-2026	*Beyond Infrastructure: Digital Nomadism, Brain Circulation and the Future of India–Southeast Asia Connectivity* by Joefe B. Santarita
DP#354-2026	*From Tariffs to Trust: Regulatory Compatibility and Quality Infrastructure in ASEAN–India Trade in Goods* by Anil Jauhri and Om Stutee
DP#353-2026	*Digital and AI-Led Transformation in India and ASEAN: Sectoral Evidences and Development Impacts by Sineenat Sermcheep* by Amit Kumar, Sneha Sinha, and Alaknanda Mishra

BEF aims to serve as a dedicated platform for fostering dialogue on promoting the concept in the Indian Ocean and other regions. The forum focuses on conducting studies on the potential, prospects and challenges of blue economy; providing regular inputs to practitioners in the government and the private sectors; and promoting advocacy for its smooth adoption in national economic policies.

FIDC, has been engaged in exploring nuances of India's development cooperation programme, keeping in view the wider perspective of South-South Cooperation in the backdrop of international development cooperation scenario. It is a tripartite initiative of the Development Partnership Administration (DPA) of the Ministry of External Affairs, Government of India, academia and civil society organisations.

Forum for Indian Science Diplomacy

FISD aims to harness the full potential and synergy between science and technology, diplomacy, foreign policy and development cooperation in order to meet India's development and security needs. It is also engaged in strengthening India's engagement with the international system and on key global issues involving science and technology.

As part of its work programme, RIS has been deeply involved in strengthening economic integration in the South Asia region. In this context, the role of the South Asia Centre for Policy Studies (SACEPS) is very important. SACEPS is a network organisation engaged in addressing regional issues of common concerns in South Asia.

Knowledge generated endogenously among the Southern partners can help in consolidation of stronger common issues at different global policy fora. The purpose of NeST is to provide a global platform for Southern Think-Tanks for collaboratively generating, systematising, consolidating and sharing knowledge on SSC approaches for international development.

RIS A Think-Tank of Developing Countries

Research and Information System for Developing Countries (RIS) is a New Delhi-based autonomous policy research institute that specialises in issues related to international economic development, trade, investment and technology. RIS is envisioned as a forum for fostering effective policy dialogue and capacity-building among developing countries on global and regional economic issues.

The focus of the work programme of RIS is to promote South-South Cooperation and collaborate with developing countries in multilateral negotiations in various forums. RIS is engaged across inter-governmental processes of several regional economic cooperation initiatives. Through its intensive network of think tanks, RIS seeks to strengthen policy coherence on international economic issues and the development partnership canvas.

For more information about RIS and its work programme, please visit its website: www.ris.org.in

Research shaping the development agenda

RIS
Research and Information System for Developing Countries
विकासशील देशों की अनुसंधान एवं सूचना प्रणाली

Core IV-B, Fourth Floor, India Habitat Centre
Lodhi Road, New Delhi-110 003 India., Tel. 91-11-24682177-80
Fax: 91-11-24682173-74, Email: dgoffice@ris.org.in
Website: http://www.ris.org.in

/risindia @RIS_NewDelhi YouTube /RISNewDelhi