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Participation of BRICS Countries in Global Value Chains (GVCs): Trends, Patterns and Prospects

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Participation of BRICS Countries in Global Value Chains (GVCs): Trends, Patterns and Prospects

Isha Chawla [*]

Abstract: *In a 'slowbalising' world with recurrent shocks, elevated trade tensions and economic uncertainties, global value chains (GVCs) are reshaping, and GVC-resilience is becoming as important as GVC-efficiency. Amidst continuing asymmetries in the distribution of GVC-related value-added, inclusivity is critical towards development-oriented trade and production integration. With BRICS members' GVC-related trade exhibiting more dynamism than the global average and their combined capabilities, BRICS is signalling shifting patterns of economic and geopolitical power. BRICS is well placed to provide increased collective policy response towards supply security, economic diversification, regional integration, economic upgrading, and local value addition amongst its economies. Using the OECD Trade-in-Value-Added (TiVA) data, and the ADB Multiregional Input-Output (MRIO) data, this paper evaluates comprehensive GVC indicators to argue that strengthening GVC integration and MNE-local firm linkages, deepening cooperation and policy dynamism within BRICS can improve the quality of GVC participation within and beyond BRICS, especially during evolving times of fragmentation and strategic coupling.*

Keywords: *BRICS, Trade in Value Added, Global Value Chains, Regional Value Chains, Resilience, Economic Upgrading, Foreign Direct Investment*

JEL Classification: *F13, F15, O19*

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1. Introduction

About 46.3% of global trade today occurs through Global Value Chains (GVCs) that involve internationally fragmented networks of production sharing.[1] The rise of GVCs has lowered the threshold for developing economies to benefit from gains from trade by linking through activities/tasks without building the entire value chain. The consequent benefits have however been highly unevenly distributed across (and within) countries. Moreover, in the post-2008 Global Financial Crisis period, the global economic system has been adversely affected by recurrent shocks due to pandemics, deepening trade rivalries, changes in trade policy, military conflicts, climate risks and natural disasters, logistics interruptions and interoperability constraints, concentration risks including predatory investments in critical sectors and non-transparent pricing. With the retreat of hyper-globalisation and trade interconnectedness, GVC growth has stagnated, accompanied by increasing supplier and market concentration, narrowing GVC-linked entry and upgrading opportunities for developing countries.

Rising economic protectionism in the West, marginalisation of multilateral, WTO rules-based trade negotiations, and erosion of market openness have exposed the vulnerabilities of trade and GVCs to supply chain disruptions. Geo-economic fragmentation[2] and geopolitical fragmentation[3] are further increasing the risk of massive or abrupt interruptions of well-established, consolidated supply chains causing reconfiguration of international trade relations, reshaping GVCs. Without deliberate policy action towards GVC resilience, these trends risk undermining GVC-led efficiency gains (productivity and growth, technology transfers and knowledge spillovers), making resilience as important as efficiency in international production.[4] A new international division of labour due to IR4.0 technologies, fast neutralising the labour cost advantage of developing economies (Kumar, 2023) is adding to the complexity of distribution of value-added along GVCs, and countries' evolving comparative advantage.

The post-pandemic, 'slowbalised' world with exacerbating geopolitical tensions and uncertainties[5] is also marked by a shift towards a multipolar world and the resurgence of the global South. This is signalled in the rise of BRICS, that today brings together eleven countries varying in their economic and geographic characteristics, namely, Brazil, China, Egypt, Ethiopia, India, Indonesia, Iran, Russia, Saudi Arabia, South Africa and United Arab Emirates, contributing nearly 40% of global GDP, representing 49% of the world's

1 WTO (2025).
2 PIB (2025).
3 Campos et al. (2023).
4 For instance, OECD (2025) argues for "agile, adaptable and aligned supply chains." That is, i) "they can react quickly to any change in demand or supply," ii) "they can adjust over time to structural changes and evolving strategies," and iii) are aligned with "the interests of all suppliers in the production network, as well as with a variety of stakeholders…"
5 See Kumar (2024).

population, and 28% of global trade.[6] UNCTAD (2026) characterises BRICS as "one of the world's most important economic cooperation platforms and a leading mechanism for advancing the global South cooperation." Despite abundant natural resources and growing collective trade capacities, BRICS members' share in GVC-related value added is however, about 21%, reflecting uneven distribution across the value chain. The economic scope and dynamism of the BRICS bloc is potentially even higher if the ten countries, namely, Belarus, Bolivia, Kazakhstan, Cuba, Malaysia, Nigeria, Thailand, Uganda, Uzbekistan, and Vietnam that have joined BRICS as partner countries are also included. Recognising BRICS members' expanding economic and geopolitical power, the Shared Understanding towards Resilient GVCs under BRICS 2026 Chairship of India aims to boost cooperation for GVC optimisation to capture the gains from trade, and development-oriented GVC resilience.[7]

In this paper, we evaluate comprehensive GVC indicators for BRICS countries using the OECD Trade in Value-Added (TiVA) database, 2025 edition,[8] based on the harmonised I-O tables of 80 economies (38 OECD, 42 non-OECD) plus a "Rest of the World (ROW)" aggregate representing developing economies not individually considered in non-OECD for the period 1995 to 2022 (henceforth OECD TiVA (2025 ed.)); and the Asian Development Bank's Multiregional Input-Output database for 62 economies and the rest of the world (ROW) for the year 2000, and the period 2007 to 2024 (henceforth ADB MRIO (2024)).[9] The rest of the paper is organised as follows. In the context of the rising global uncertainty and trade volatility, Section 2 presents recent trends and patterns in GVC-related trade at the global and BRICS countries level. Section 3 explores the trade structure, specialisation based on revealed comparative advantage (RCA), and the skewed distribution of value-added gains from GVC participation. Section 4 gives insights on intra-BRICS GVC-related trade. Section 5 focuses on economic upgrading in BRICS countries. Section 6 details on BRICS countries' FDI-GVC interactions and upgrading through quality FDI. Section 7 discusses regionalisation, regional value chains (RVCs), and export diversification. Section 8 concludes with policy reflections. The appendix provides additional figures and tables.

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[6] O'Neill (2001) highlighted the initial four BRICs' countries economic dynamism.

[7] 'Building for Resilience, Innovation, Cooperation and Sustainability' reflects the shared vision of the group (BRICS India, 2026b).

[8] OECD TiVA database (2025 ed.). Data for BRICS members Ethiopia and Iran is not available.

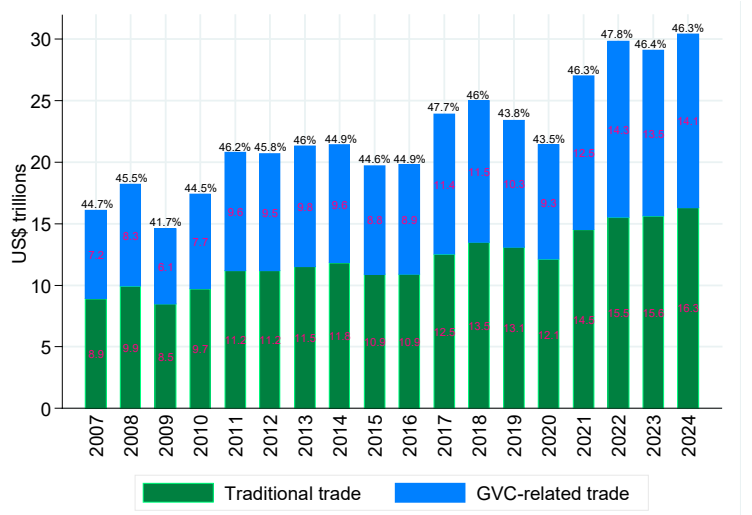
[9] Based on ADB multiregional input-output tables (ADB MRIOTs) using value-added trade accounting, gross exports decomposition framework of Borin and Mancini (2023). Data on 72 economies and ROW is available for 2017-2024. Data for BRICS members Ethiopia, Iran, and South Africa is not available.

2. Trends and patterns in GVC-related trade

2.1 A substantial proportion of global trade is GVC-related

Based on cost-efficiency and location considerations, GVCs have led to growth of intermediate products trade.[10] In the value-added trade accounting framework (Koopman et al., 2014; Borin and Mancini, 2023) gross exports are the sum of domestic value added (DVA) and foreign value-added (FVA). Unlike traditional (bilateral or direct), non-GVC trade that does not cross more than one border,[11] GVC-related (or indirect) trade is conceptualised as the sum of foreign value added (FVA) embodied as a share of gross exports (backward GVC) and domestic value added (DVA) in foreign exports as a share of gross exports (forward GVC), and involves at least two border crossings. Forward GVC, for instance, might involve Indonesia exporting copper ore that India uses for its exports of fabricated products, while backward GVC might involve Brazil importing Active Pharmaceutical Ingredients (APIs) from India for its exports of generic pharma products. Following the Borin and Mancini (2023) approach, the share of GVC-related trade in global trade is around 46.3% [counting at least two border crossings][12] (Figure 1).

Figure 1. GVC-related trade (share of total trade), global



Source: Based on ADB MRIO (2024) data.

[10] OECD (2020) notes that 70% of international trade is for production in GVCs.

[11] Exports of domestic value-added (DVA) that are ultimately absorbed abroad as final goods/intermediates that are locally completed without passing through third economies.

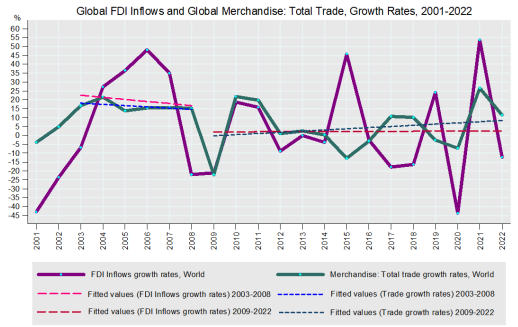
[12] Over 50% (Borin et al. 2026).

2.2 The retreat of hyper-globalisation has affected GVCs

"FDI has historically served as a primary channel for developing countries to increase their participation in GVCs. Through the attraction of FDI, they become part of international production networks governed by multinational enterprises through their foreign affiliates."[13]The pre-crisis period saw the expansion and consolidation of GVCs; post-crisis there has been a slowdown in global FDI (and GVCs) growth (Figure 2).[14] Also, recent years have been marked by the reallocation of FDI.[15]

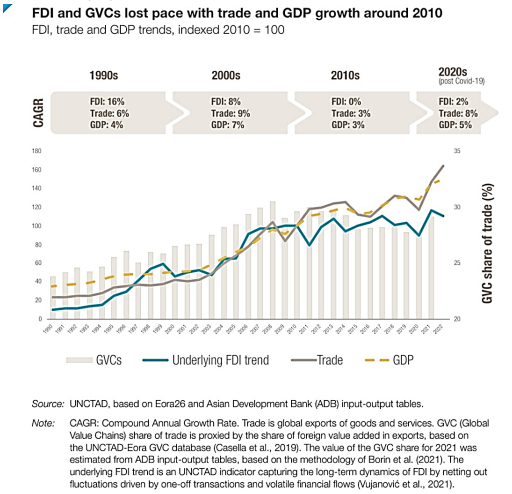
Figure 2. Globalisation, 'slowbalisation,' and GVCs

a. Global FDI inflows and global merchandise trade, growth rates, 2001-2022



Source: ISID (2025).

b. Global FDI, trade and GDP growth, and GVC share of trade (%)



Source: UNCTAD, based on Eora26 and Asian Development Bank (ADB) input-output tables.

Note: CAGR: Compound Annual Growth Rate. Trade is global exports of goods and services. GVC (Global Value Chains) share of trade is proxied by the share of foreign value added in exports, based on the UNCTAD-Eora GVC database (Casella et al., 2019). The value of the GVC share for 2021 was estimated from ADB input-output tables, based on the methodology of Borin et al. (2021). The underlying FDI trend is an UNCTAD indicator capturing the long-term dynamics of FDI by netting out fluctuations driven by one-off transactions and volatile financial flows (Vujanović et al., 2021).

Source: UNCTAD (2024, p.9).

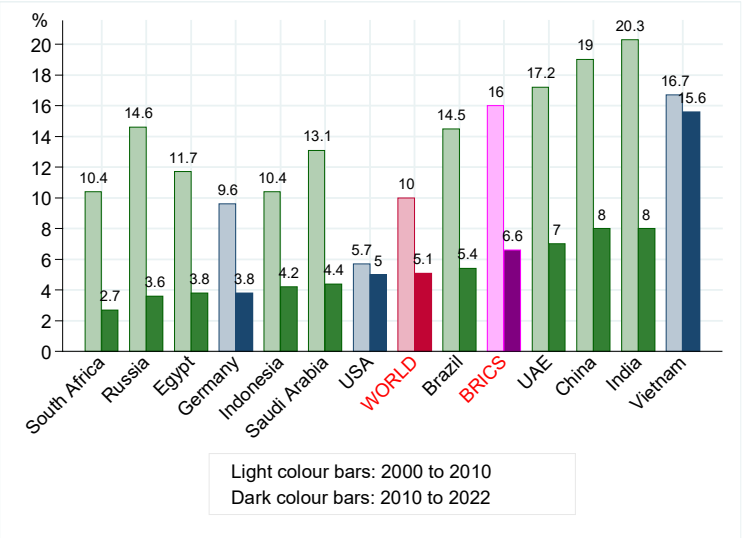
2.3 Growth of GVC integration, BRICS and world

GVC growth has declined post-crisis. BRICS group's GVC-related trade showed relatively greater dynamism than the global average. Average annual growth rates have come down from 10% in 2000-2010 to 5.1% in 2010-2022 for the world, and from 16% to 6.6% for BRICS members (Figure 3).

[13] UNCTAD (2024, p.41).
[14] UNCTAD (2013).
[15] Avendano et al. (2025).

Figure 3. GVC-related trade, BRICS, world, and selected countries

Average annual growth rates, 2010-2022 versus 2000-2010



Source: Based on OECD TiVA data (2025 ed.).

2.4 GVC-related trade volatility has however increased, especially post-Covid

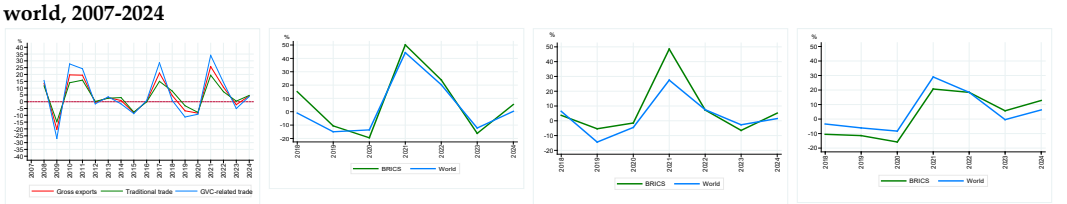
While global trade, including GVC-related trade rebounded post-crisis and pandemic related declines,[16] growth in GVC-related trade (especially in commodity driven sectors) exhibited greater volatility compared with traditional trade, being more affected by escalating trade wars, geopolitical tensions, trade policy changes, and disruptions in supply chains (Figures 4.a and 4.b). Figure 4.c indicates high volatility of GVC-related trade of BRICS countries, indicating that resilience of GVCs is an important challenge.

Figure 4. GVC-related trade volatility, BRICS and world

a. Gross exports, traditional trade, GVC-related trade growth, world, 2007-2024

b. GVC-related trade growth, by broad sector, BRICS and world, 2018-24

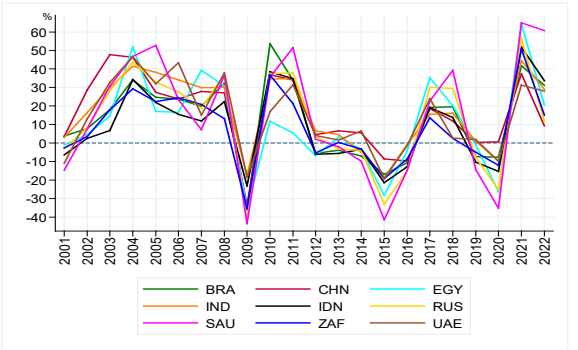
i. Commodity driven ***ii. Industrial production*** ***iii. Services***



Source: Based on ADB MRIO (2024) data.

[16] See Helpman (2025), WTO (2025).

c. GVC-related trade growth, BRICS, 2001-2022



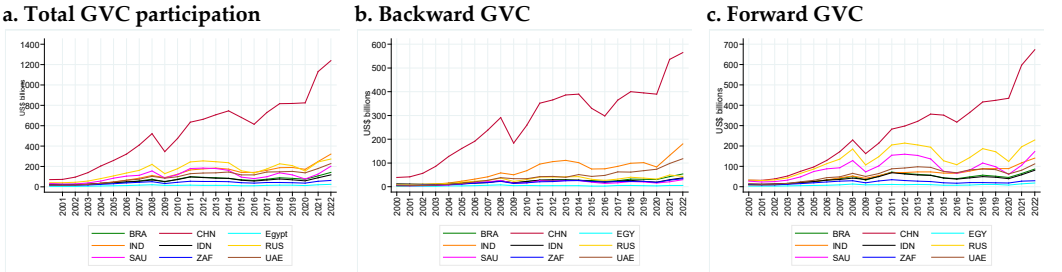
Note: Brazil (BRA), Russia (RUS), India (IND), China (CHN), South Africa (ZAF), Egypt (EGY), Indonesia (IDN), United Arab Emirates (UAE), and Saudi Arabia (SAU).
Source: Based on OECD TiVA data (2025 ed.).

2.4 Considerable heterogeneity in GVC participation of BRICS countries

There is substantial heterogeneity in BRICS countries' total GVC participation, as well as in backward and forward integration. China emerged as the dominant GVC player overall, as well as in both backward and forward integration. India shows higher backward GVC integration, while Russia is more forward-oriented (Figure 5). On aggregate, BRICS countries sell more domestic input to other countries' exports than they source foreign input for their own exports.

Figure 5. GVC participation in gross exports (US$ billion), BRICS

a. Total GVC participation **b. Backward GVC** **c. Forward GVC**



Source: Based on OECD TiVA data (2025 ed.).

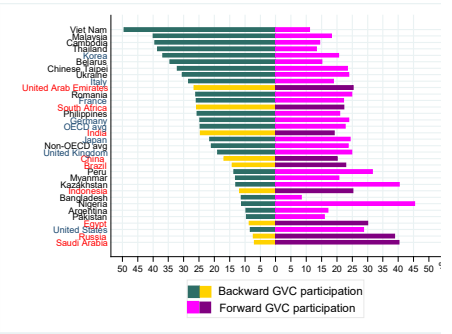
In 2022, UAE, South Africa, and Saudi Arabia show the highest GVC participation rates (48-53% of their exports are either sourced or sold in GVC linkages), while Brazil, China, and Indonesia have amongst the lowest (37-39%), though China's absolute GVC participation in absolute terms is the highest. Backward GVC ranged from 6.9-26.7% while forward GVC ranged from 19-40% (Figure 6.a). Over 2010 to 2022, total GVC participation *rates* of South Africa, Egypt, and India show relatively higher increase (Figure 6.b). China's absolute GVC content (US$) rose the highest, next, that of India (Figure 6.c). Higher backward (value-importing) linkages can have scale and productivity effects from producing for the world market (Veeramani, 2026), though a number of uncertainties and

complexities can make the transition towards forward (value-exporting) linkages non-linear (Stojčić and Matić, 2024).

Figure 6. GVC participation, BRICS and selected countries

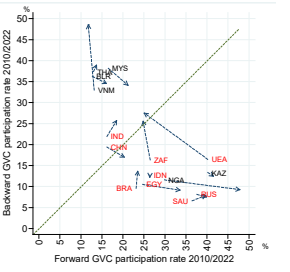
a. GVC participation, (%) of gross exports

2022



Note: Weighted averages for OECD and non-OECD in the display.
Source: Based on OECD TiVA data (2025 ed.).

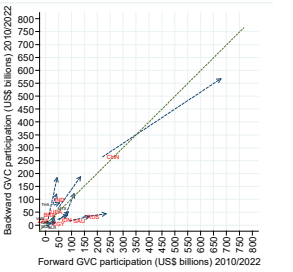
2022 versus 2010



Note: BRICS countries shown in red. For country code, see Appendix Table A.1.

b. GVC participation, US$ billion

2022 versus 2010



2.6 GVC production lengths are getting shorter for China[17]

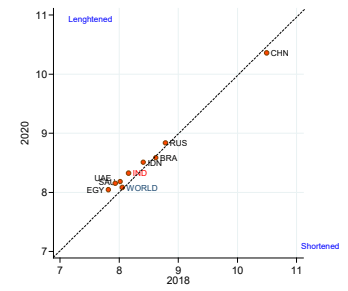
While GVC production lengths for most BRICS members lengthened during 2018/20 and 2020/22, indicating diversification/logistical disruptions,[18]even though China participates in relatively long value chains, its GVC production lengths are getting shorter over time (Figure 7). Also, considerable volatility in the overall GVC position index (ratio of forward to backward GVC production lengths) has implications for the regional division of labour and value capture, as has China's movement into the upstream links of value chains (R&D activities). While some BRICS countries are located upstream due to their large natural resource (commodity based) exports, others are located relatively downstream, facing fierce cost competition in most manufacturing sectors.

[17] Total number of production stages that lie within the GVC segment (backward and forward), excluding stages that take place within domestic and traditional trade value chains (Wang et al., 2017).

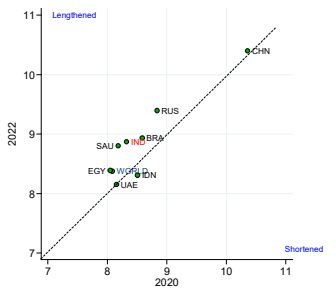
[18] WTO (2025).

Figure 7. GVC production length, BRICS

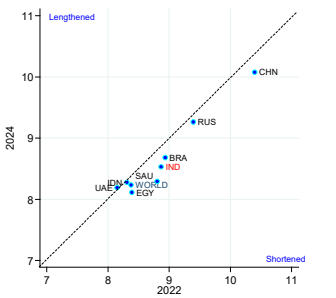
a. 2018/2020



b. 2020/2022



c. 2022/2024



Source: Based on ADB MRIO (2024) data.

3. Trade and distribution in BRICS countries

3.1 Trade structure, revealed comparative advantage (RCA), and concentration

Trade structures of BRICS countries are getting concentrated. GVC trade in raw materials and agricultural products (commodity sectors) is subject to high price volatility/risk (Roy, 2020), while low-technology goods face downward price pressure and strong competition in labour costs (Meng et al., 2020), subject to the 'captive' mode of GVC governance (Gereffi et al., 2005) with less-prevalent upgrading opportunities from buyers. Reflecting BRICS countries' economic and institutional heterogeneity, some countries engage in advanced manufacturing, others are into lower manufacturing and value-added tasks/commodities, while others are into services.[19][20]BRICS countries' participation in technology and innovation intensive GVC functions generally remains low.[21]

Appendix Figure A.1 indicates that comparing across the *primary* sectors, a revealed comparative advantage (RCA)[22][23] is indicated for BRICS members Brazil, Egypt, India, and

[19] Egypt's participation in GVCs "remains anchored in the export of primary commodities that are processed elsewhere" (UNECA, 2021, p. 45). Also, "The textile industry is highly integrated into GVCs, and local firms have invested in signalling their quality to capture growing market share" (p.46).

[20] Callegari et al. (2018, p.20) argue that "Brazil imports high value-added, technological goods in general, but has a relatively intense forward participation as a low value-added, primary product supplier, a "trap" wherein it is "struggling to occupy a more technologically oriented place in GVCs."

[21] See de Sousa Filho et al. (2024).

[22] A country is indicated to have a Revealed Comparative Advantage (RCA) or relative international competitiveness in a given product when its ratio of exports of the product to its total exports of all products exceeds the same ratio for the world as a whole (Balassa, 1965).

[23] For a better indication of trade specialisation and value capture, we use GVC-adjusted RCA based on value-added exports (VAX) instead of RCA indices based on gross exports (that includes foreign value added). VAX refers to exports of domestic value-added (DVA) that are (i)

Contd…

Indonesia in agriculture; and Saudi Arabi, Russia, UAE, Brazil, Indonesia, and Egypt in mining. In *low-technology manufacturing*, Brazil, Indonesia, and Egypt have a comparative advantage in food, beverages, and tobacco; China, India, and Egypt in textiles and textile products; China, Indonesia, Brazil, and India in leather, leather products, and footwear; and China in manufacturing, n.e.c. In *medium-to-high-technology manufacturing*, Saudi Arabia, India, and Indonesia have an advantage in chemicals and chemical products; and China in machinery, n.e.c., and in electrical and optical equipment. These patterns suggest that generally, BRICS countries are mostly dynamic in primary/low-technology traditional industries, while China has an advantage in the global supply chains of more technologically intensive "network products," as well.[24] Moreover, Kumar (2025, pp.2-3) highlights that, "In green sunrise sectors, China's domination is even more complete, with over 80% of all stages of solar photovoltaic (PV) panel manufacturing, 76% of lithium-ion batteries, 60% of global wind turbine capacity, and 62% of global electric vehicle (EV) production." China has emerged as the most important source of imports and exports for BRICS countries (Table 1), more notably, in their import dependence.

Table 1. Trade structure: by sector, export destination, and import origin, BRICS, 2024

Country	Share of world market by sector (%) Top 3			Top 3 Export destination (%)			Top 3 Import origin (%)		
Brazil	Agriculture 6.1	Minerals 3.2	Metals 1.2	China 28.3	USA 10.8	Argentina 4.3	China 26.4	USA 18.7	Germany 5.3
China	Textiles 35.6	Electronics 27.9	Machinery 21.4	USA 13.4	Hong Kong 8.4	Vietnam 4.7	Taiwan 8.4	South Korea 7.3	USA 6.9
Egypt	Stone 0.4	Agriculture 0.4	Textiles 0.4	Turkey 8.5	Saudi Arabia 7.9	UAE 7.4	China 18.4	USA 7.1	Saudi Arabia 6.9
Ethiopia	Agriculture 0.08	Textiles 0.03	Minerals 0.0	USA 14.6	China 12.2	Saudi Arabia 11.8	China 39.7	USA 12.9	France 9.5
India	Stone 3.2	Textiles 3.1	Services 2.5	USA 17.7	UAE 8.9	China 3.8	China 19.2	Russia 8.9	UAE 7.6
Indonesia	Metals 2.9	Agriculture 2.6	Minerals 2.2	China 22.5	USA 9.2	India 7.6	China 34.2	Singapore 11.5	Japan 5.8
Iran	Metals 0.2	Chemicals 0.1	Agriculture 0.1	China 30.9	Turkiye 20.3	Pakistan 9.9	China 39.1	Turkiye 14.1	Brazil 13.1
Russia	Minerals 7.3	Metals 1.9	Stone 1.6	China 34.9	India 15.9	Turkey 10.8	China 56.6	Kazakhstan 4.7	Turkiye 4.2
Saudi Arabia	Minerals 4.8	Chemicals 1.1	Vehicles 0.5	China 17.8	India 10.5	Korea 10.1	China 25.2	USA 6.7	UAE 6.3
South Africa	Stone 3.7	Minerals 0.9	Metals 0.8	China 16.9	USA 9.2	UK 7.7	China 22.6	Germany 9.7	India 8.4
UAE	Stone 5.9	Minerals 5.1	Metals 1.03	India 18.1	Japan 11.6	China 11.4	China 20.1	India 11.4	USA 8.3

Note: Trade linkages within BRICS are highlighted.

Source: Based on Harvard Growth Lab (2024).

absorbed by the direct importer as final goods/intermediates, and (ii) re-exported by the direct importer and eventually absorbed abroad. A value of 1 is the threshold for comparative advantage.

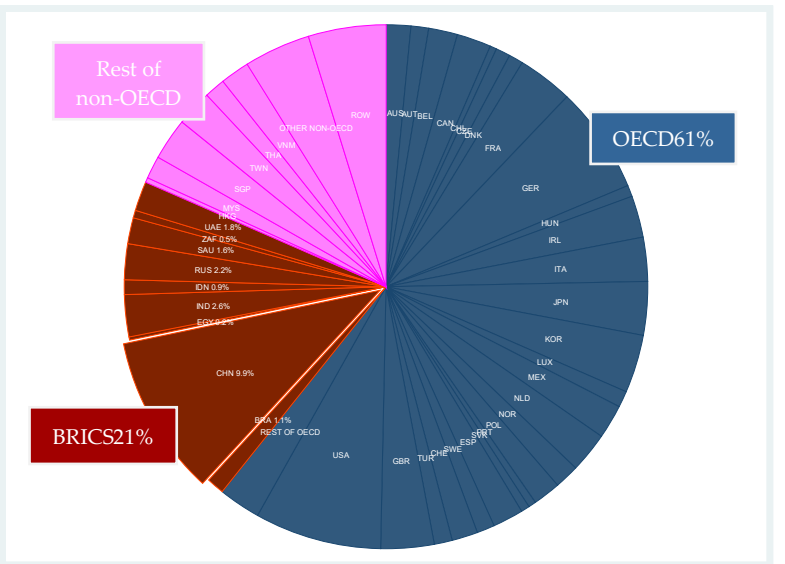
[24] While moving up the value chain, China is gradually withdrawing final assembly place, especially in labour-intensive manufacturing (see Veeramani, 2026), with further implications for the distribution of value-added along GVCs. UNCTAD (2026) identifies China with successful industrial upgrading and India with moderate progress in industrial upgrading.

Moreover, potential trade tensions are reflected in, for Instance, India's biggest and growing trade deficits with BRICS partners, most notably China "especially in labor-intensive consumer goods like garments and leather goods, electronics, auto components, and power equipment, including solar PV cells and batteries" (ISID, 2025). For the pharmaceutical sector, see Joseph and Kumar (2026). Likewise, with Russia for crude, and Brazil for raw materials and agricultural commodities, both located upstream in value chains (Appendix Figure A.2).

3.2. Skewed distribution of benefits from production fragmentation

The aggregate benefits from GVC-integration may mask the variety of asymmetric effects amongst participating countries.[25] Figure 8 indicates that the distribution of gains from GVC participation have been highly asymmetric, dominated by OECD countries (61%). BRICS Countries account for 21% of GVC-related value-added; within BRICS, too, the distribution is highly uneven. China commands 9.9% of global and 48% of BRICS, while the shares of other members are: India (2.6%), Russia (2.2%), UAE (1.8%), Saudi Arabia (1.6%), Brazil (1.1%), Indonesia (0.9%), and South Africa (0.5%), and Egypt (0.2%).

Figure 8. Share in total global value-added created within GVCs (%), world, 2022



Note: For country codes, see Appendix Table A.1.
Source: Based on OECD TiVA data (2025 ed.).

Moreover, FDI is increasingly moving towards higher-value and more knowledge-intensive segments of the value chains (concept/R&D/management, high-level support

[25] Also see Banga (2014), Chawla and Kumar (2023).

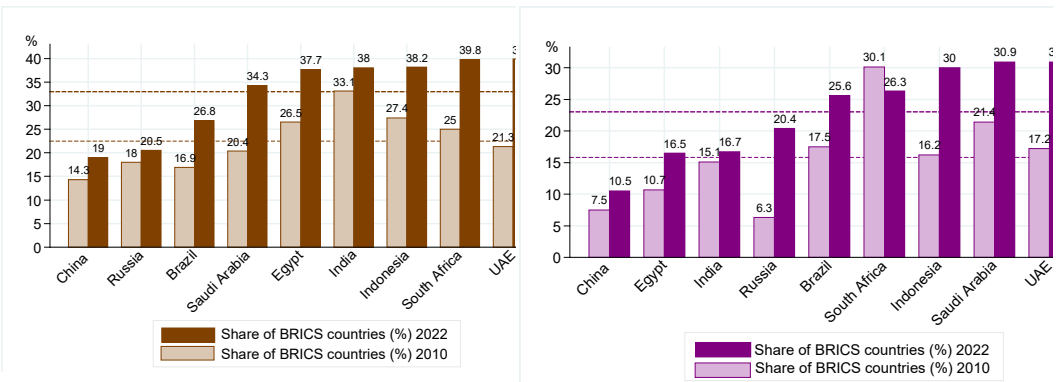
functions, and marketing) in the "smile curve," away from manufacturing+, with implications for the loci of global value creation.[26]

4. Intra-BRICS GVC-linkages

UNCTAD (2026) reports that intra-BRICS *trade* increased 13-fold between 2003 and 2024 (on export side) and has evolved in structure, though in scale, it accounted for about 5% of world trade or 20% of South-South trade. Intra-BRICS *GVC linkages* are growing, and data indicates that it is possible to build synergies within BRICS members. Between 2010 and 2022, intra-BRICS backward GVC linkages increased for all countries in the group while intra-BRICS forward GVC linkages increased for nearly all countries in the group. There is scope to increase intra-BRICS trade, in both, backward GVC linkages (intra-BRICS average: 33% in 2022) and forward GVC linkages (intra-BRICS average: 23% in 2022).[27] Further, intra-BRICS backward GVC linkages of China, Russia, and Brazil were below the BRICS average, while those of China, Egypt, India, and Russia were below the intra-BRICS forward GVC average (Figure 9).

Figure 9. Intra-BRICS GVC linkages, 2022 versus 2010

a. Backward GVC **b. Forward GVC**



Source: Based on OECD TiVA data (2025 ed.).

Within BRICS, GVC linkages were centred, in particular, around China. In 2022, China's (India's) average share in intra-BRICS backward GVC linkages was 40% (10%) and in forward GVC linkages 44% (23.5%). In within-BRICS sourcing of intermediates for exports, Russia, Brazil, Indonesia were more inclined towards China, while in within-BRICS supplying of domestic value-added for other countries' exports, Brazil, Indonesia, South Africa, and Russia were more inclined towards China. Between 2010 and 2022, Brazil's

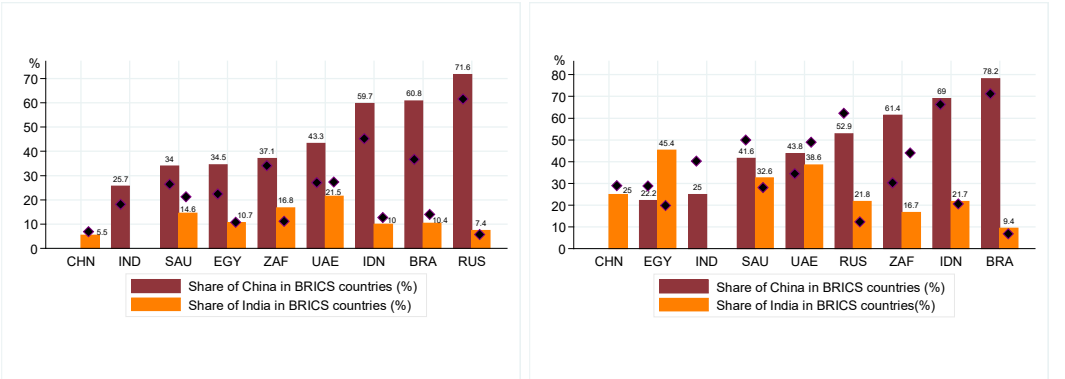
[26] See UNCTAD (2024, p.16).

[27] In comparison, for the Regional Comprehensive Economic Partnership (RCEP) region, for instance, Chawla (2025) notes strong intra-regional value chain trade. For 2020, intra-RCEP average backward GVC linkages were 52.3%, while forward GVC linkages were 60.1%.

inclination towards China increased the most in backward GVC; while that of India, Egypt, Saudi Arabia, and Russia fell in forward GVC (Figure 10).

Figure 10. China and India in intra-BRICS GVC linkages, 2022

a. Backward GVC **b. Forward GVC**



Source: Based on OECD TiVA data (2025 ed.).

Further, intra-BRICS relative capabilities gap in intermediate products and final products exports has increased. While BRICS countries' share in global exports of intermediate products was about 23.6% in 2022, the combined relative capability of other BRICS countries, vis-à-vis China fell from about 65% in 2010 to 55% in 2022 (and in gross exports of final products, reflecting traditional trade, from 40.4% to 36.5%).[28]

5. Economic upgrading (value capture) in GVCs

Kummritz et al. (2017) argue that economic upgrading or moving up the value chain, viewed as a strategy for preserving a country's GVC participation can be captured through domestic value-added in gross exports,[29] that combines gains for both firms (profits) and workers (employment and compensation), and factor-productivity improvements related to promoting local value added. Rising DVA in gross exports highlights the economic contribution of a country's own production processes and resources, more robust domestic industrial capabilities, and value creation within the country. This is facilitated by backward GVC linkages through increased availability and quality of inputs, and knowledge spillovers in downstream sectors, and forward GVC linkages through a direct-demand increasing effect for more or better inputs from upstream sectors. Figure 11 indicates economic upgrading in BRICS countries' GVC participation, though there is considerable heterogeneity across countries. As a global-scale manufacturer, China has surpassed all other BRICS countries (in absolute and in average growth rate). At the next level, India has shown some dynamism. Share of other BRICS countries (other than China)

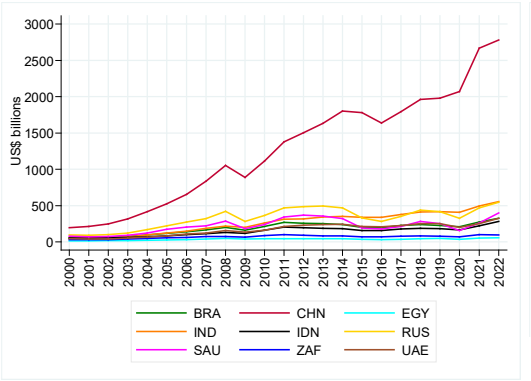
[28] See Appendix Figure A.3.

[29] Taken to cover upgrading as in Humphrey and Schmitz (2002).

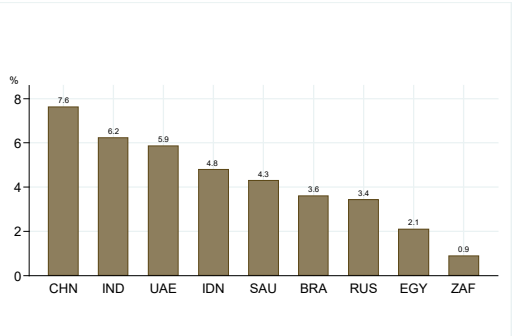
in BRICS aggregate declined from 68% in 2000 to 48% in 2022, also indicating a decline in their relative capabilities.

Figure 11. Economic upgrading in GVCs, BRICS

a. DVA in gross exports (US$ billion)



b. Annual average growth rate of DVA in gross exports, 2010 to 2022

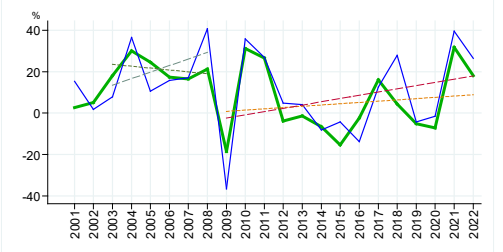


Source: Based on OECD TiVA data (2025 ed.).

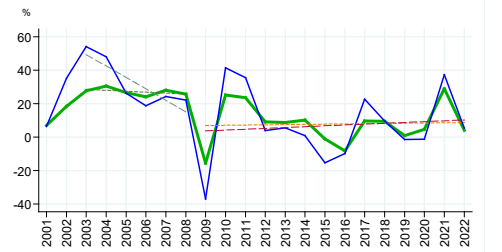
Though a positive (complementary) relationship is indicated between backward GVC linkages (annual growth in volume of FVA in gross exports) and economic upgrading (annual growth in DVA in gross exports) in all BRICS countries in the post-crisis period, trend growth rates declined in comparison with the earlier period. Also indicated is heterogeneity amongst BRICS countries in trend backward GVC linkages and economic upgrading. Brazil, for instance, shows a more dynamic relationship than Russia (Figure 12).

Figure 12. Economic upgrading through backward GVC linkages, BRICS

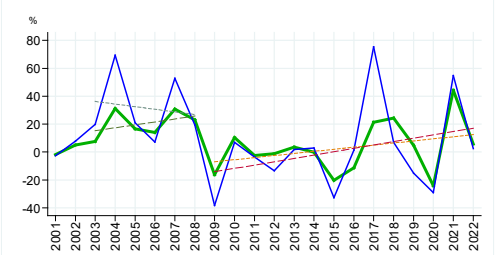
Brazil



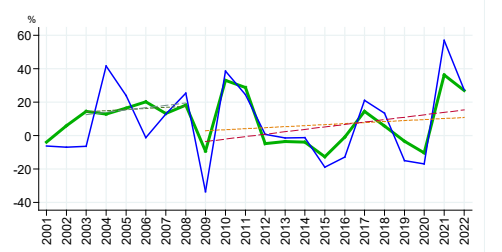
China



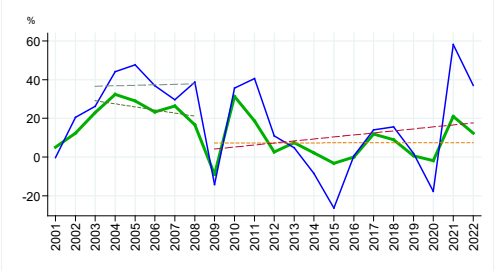
Egypt



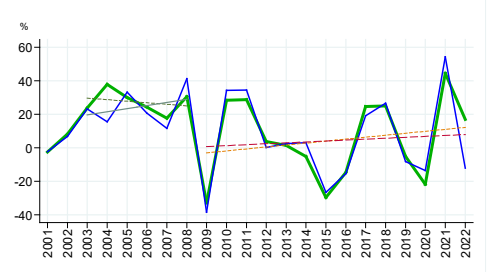
Indonesia



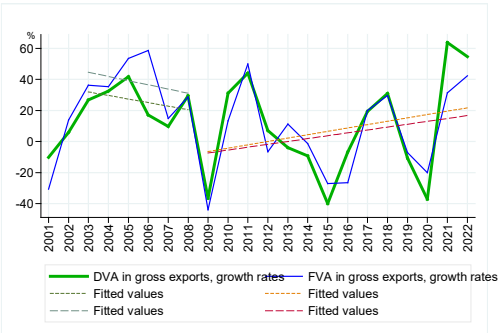
India



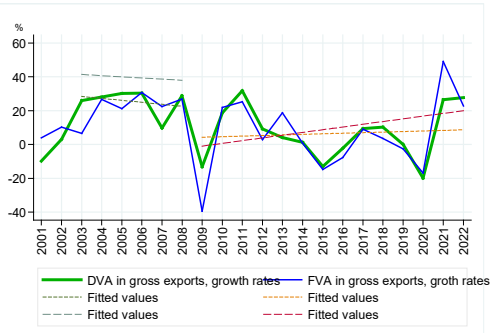
Russia



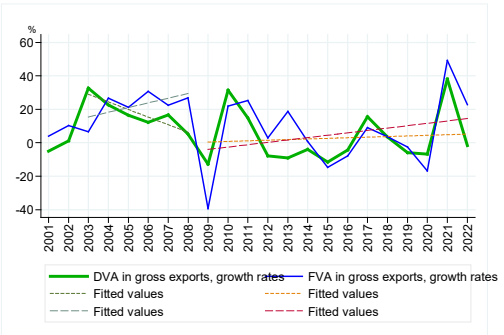
Saudi Arabia



UAE



South Africa



Source: Based on OECD TiVA data (2025 ed.).

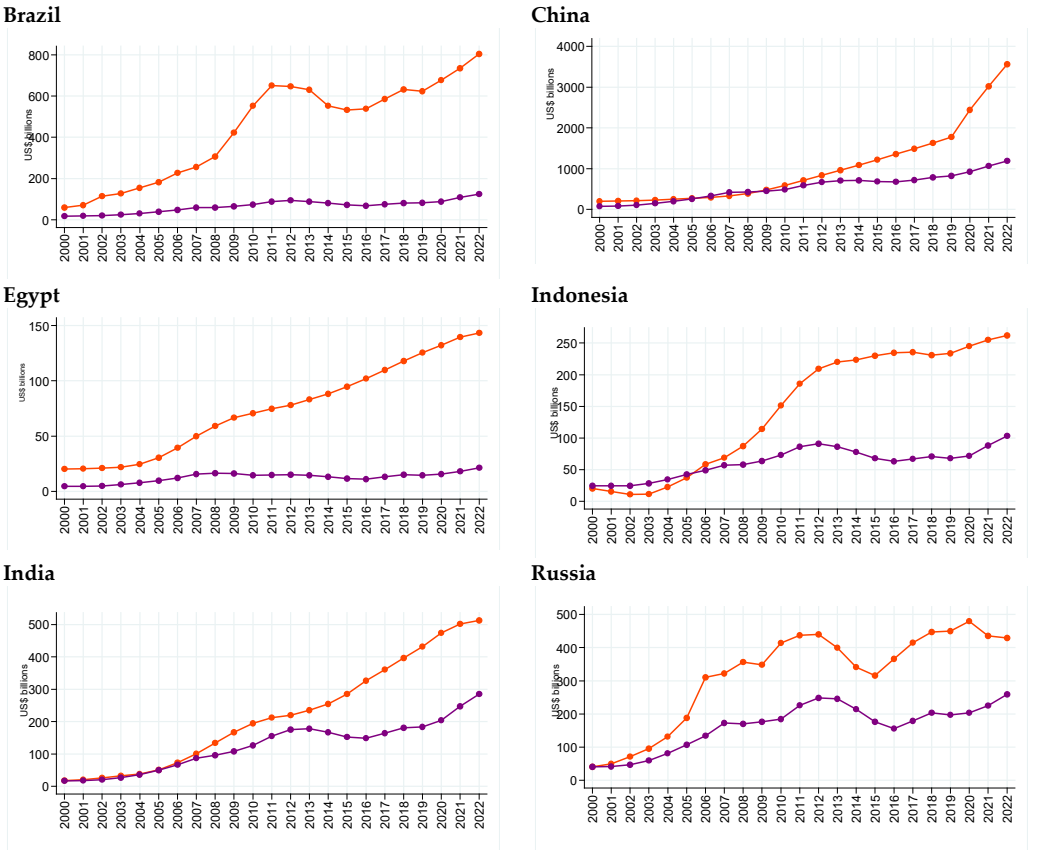
6. FDI, GVC participation, and upgrading through quality FDI

GVCs are led by multinational enterprises (MNEs).[30] Efficiency-seeking FDI is often associated with export growth through integration into MNEs' global production networks and economic upgradation. Learning from MNEs includes developing production capabilities and acquiring foreign market knowledge. A restrictive FDI environment that limits the incentives for GVC lead firms is associated with lower GVC participation.[31] MNE investment decisions are critical for resilient supply chains. Since 2001, as for many other developing countries, BRICS members became major recipients of

[30] See, for instance, Qiang et al. (2021).
[31] See, for instance, Chawla and Kumar (2023).

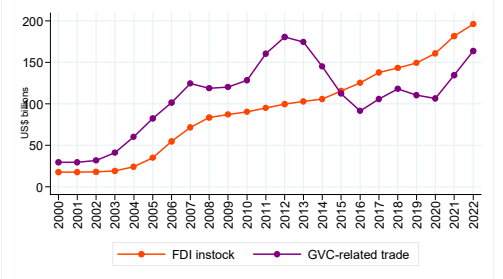
FDI.[32] As noted in Section 2 above, this was accompanied by increasing participation in global production fragmentation. Figure 13 indicates that during 2000-2022, the trajectory of FDI instock was above that of GVC-related trade; except in Saudi Arabia and UAE, though recent years indicate a converging trend. Despite rising FDI inflows in all BRICS, GVC-related trade is more dynamic in China, India, and UAE vis-à-vis Brazil, Egypt, and South Africa; while Saudi Arabia and Russia exhibit more fluctuations. In 2021-2024, India, Saudi Arabia, and Egypt display greater dynamism than other BRICS countries in leveraging FDI for GVC participation (Figure 14.a).

Figure 13. FDI instock and GVC-related trade (moving averages), BRICS, 2000 to 2022

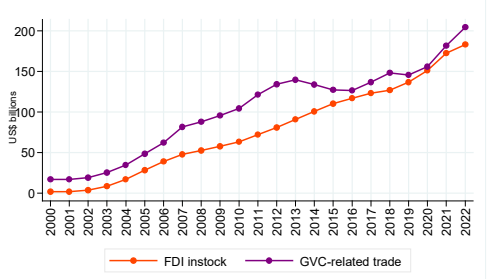


[32] Appendix Figure A.4.a shows that China and India experienced peak FDI inflows in 2022 (and 2020) respectively; Egypt and UAE had the highest FDI inflows in 2024; while Brazil and Russia had fluctuating trends. FDI net flows (% of GDP) show significant volatility in recent years (Appendix Figure A.b).

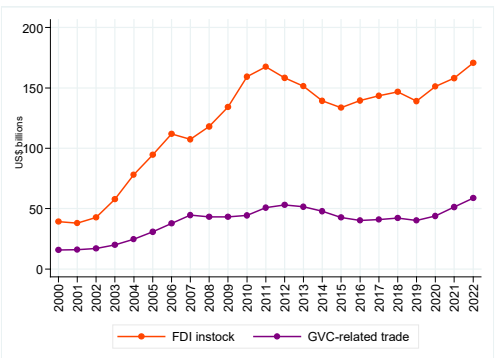
Saudi Arabia



UAE



South Africa



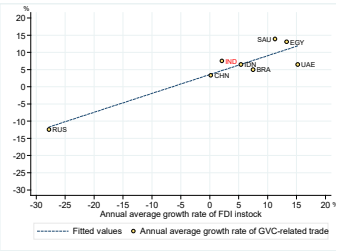
Source: Based on UNCTAD (2025) and OECD TiVA data (2025 ed.).

It is also imperative that BRICS countries focus on the "quality of FDI" (Kumar, 2002) and strengthen linkages between foreign led production/innovation and local firms.[33] In 2025, within BRICS, UAE, India, and Brazil emerged as top destinations for greenfield FDI projects reflecting capacity building in the Middle East and Africa (MEA), the Asia-Pacific (APAC) regions, and the Latin America and Caribbean (LAC) regions respectively (The fDi Report, 2026). Increasingly, China, India, and UAE are also important sources of greenfield FDI, including AI projects, data centers, and green energy, including those in advanced economies. Additionally, it matters whether MNC subsidiaries have a shallow assembling type of operation or invest in R&D, and producing a greater proportion of value-added in the host country. Surveys conducted by the US Department of Commerce on overseas operations of their majority-owned foreign affiliates indicate that India has had greater success in R&D (Figure 14.b), while in localisation of production Indonesia, Egypt, and UAE have done better, likely due to their natural resource endowments. (Figure 14.c).

[33] Several indicators such as share of FDI in technology-intensive manufacturing, greenfield FDI, crowding-in domestic investments, contribution to export competitiveness, and building domestic technological capabilities inform about the quality of FDI (see, for instance, IIDR, 2025).

Figure 14. FDI, GVCs, and upgrading through quality FDI

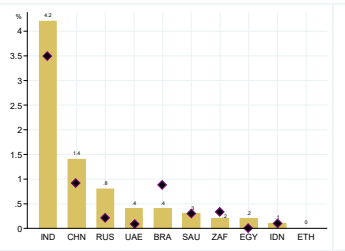
a. Growth in FDI instock and GVC-related trade, 2021 to 2024



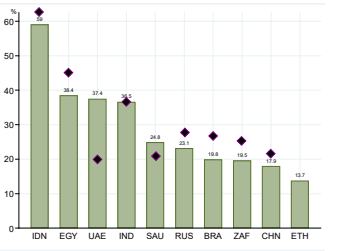
Source: Based on UNCTAD (2025) and ADB MRIO (2024) data.

b. Majority-owned foreign affiliates of US MNCs, 2010 vs. 2023

i. R&D intensity



ii. Value added to sales



Note: ◆ Data for 2010.

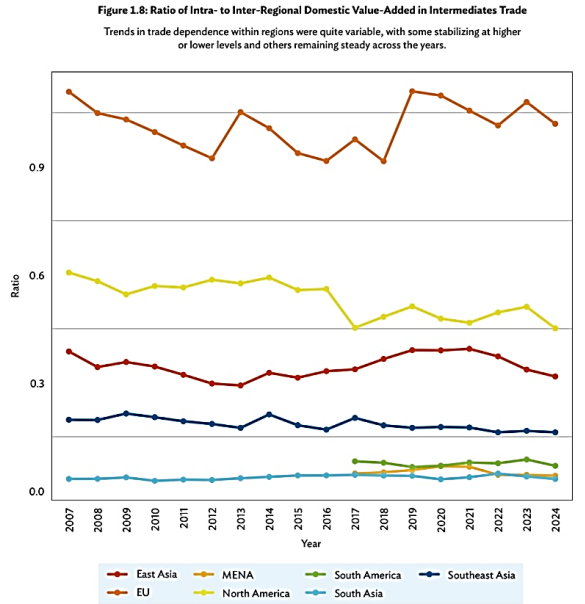
Source: Based on Bureau of Economic Analysis, U.S. Department of Commerce, www.bea.gov/international/di1usdop

7. Regionalisation, regional value chains (RVCs), and export diversification

Regionalisation in WTO (2025) is indicated through a rise in the ratio of intra-to-inter-regional domestic value added (DVA) embodied in intermediate trade, conveying stronger internal trade reliance (both in exports and imports) of economies belonging to the same region. For BRICS countries' respective regions, East Asia exhibited an increasing internal reliance from 2015 to 2021 before declining in more recent years. The MENA, South America, South Asia, and Southeast Asia regions are indicated to consistently trade more externally than internally, despite their numerous regional trade agreements (Figure 15).

UNCTAD (2024) notes that governments in developing countries can "Consolidate links with neighboring countries and cooperate at the regional level to strengthen regional value chains." As BRICS members tend to be leading economies in their respective regions, deeper regional integration and South-South cooperation through trade facilitation, pooling investment capacities and sharing risks can support more resilient GVCs by strengthening RVCs that can help overcome over-reliance on distant/unpredictable suppliers, and stimulate economic development in neighbouring countries. In the South-Asian context, Kumar and George (2020) highlight that despite ability to become a trade hub and promote broader integration, the region remains the least integrated in Asia-Pacific. Trade barriers make intraregional trade less competitive, continuing infrastructural deficits, geopolitical issues and chronic political differences limit trade and GVC integration, and the potential of developing RVCs. Figure 16 indicates that the only neighbouring countries that largely relied on India for their exports and imports, and GVC-related trade were Bhutan and Nepal (heavily reliant on few industries), limiting brand development, technology and knowledge spillovers, and cross-border e-commerce. But for China, the share of neighbouring countries in India's GVC-related trade remains generally limited.

Figure 15. BRICS countries in their regional settings



EU = European Union; MENA = Middle East and North Africa.

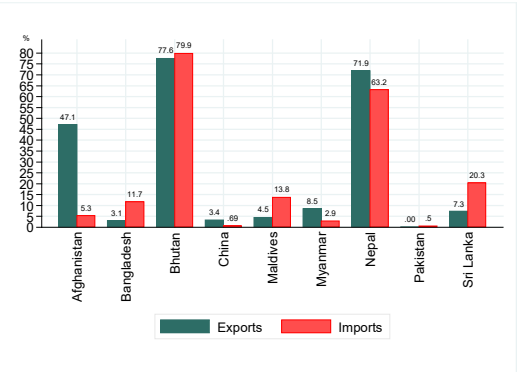
Note: Intra- and inter-regional value-added is calculated based on Hamanaka methodology (2015), where region i's intra-regional share = T_{ii} / $T_{i\cdot}$ where T_i = total exports of region i to the world plus total imports of region i from the world, and T_{ii} = exports of region i to region i plus imports of region i from region i.
Asia and the Pacific regional groupings are based on ADB classifications.
East Asia: Hong Kong, China; Japan; the Republic of Korea; Mongolia; the People's Republic of China; and Taipei,China.
South Asia: Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka.
Southeast Asia: Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.
The EU: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.
North America: Canada, Mexico, and the United States.
South America: Argentina, Brazil, Colombia, and Ecuador.
MENA: Egypt, Kuwait, Saudi Arabia, and the United Arab Emirates.
Data for MENA and South American economies are available from 2017 onwards in the ADB MRIOTs.

Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

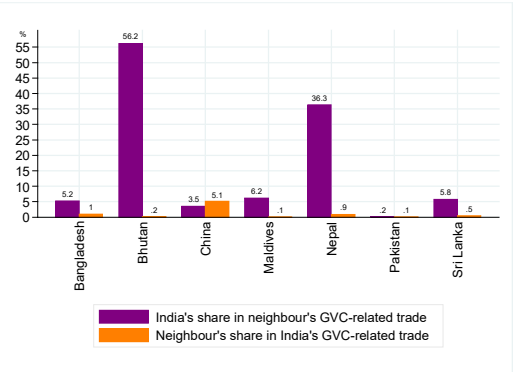
Source: WTO (2025, p.22).

Figure 16. India's trade and GVC-related trade in regional context, 2024

a. India's share in neighbour's gross exports and imports



b. India's (neighbours') share in neighbour's (India's) GVC-related trade



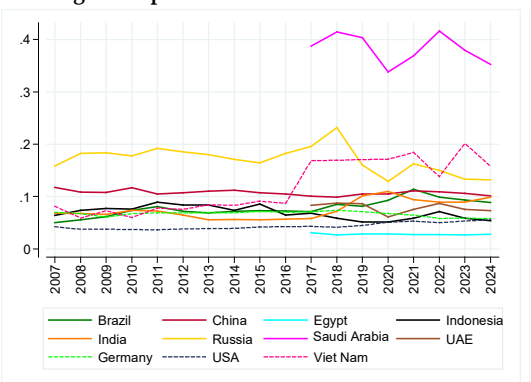
Note: Latest year of data for Afghanistan (2019), Bangladesh (2018), Nepal (2022), and Bhutan (2023).
Source: Based on UN Comtrade database.

Source: ISID based on ADB MRIO (2024) data.

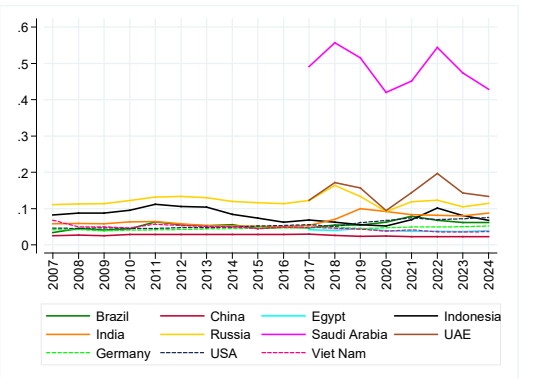
Economies may be vulnerable to supply chain disruptions due to over-reliance on limited trade partners. Export partner diversification, including cross-regional value chains can help avoid a 'function trap' and overdependence on a single 'node.'[34] The Herfindahl-Hirchman Index (HHI) index[35] measures how concentrated an economy's destinations for GVC-related trade are. "Lower HHI values indicate a more diversified and resilient trade structure, while higher HHI values point to greater concentration and potential vulnerability to partner-specific shocks."[36] For most BRICS countries (except Saudi Arabia, and Russia in 2017/18) HHI values are below 0.2 (Figure 17).

Figure 17. Export diversification, BRICS and selected countries

a. HHI. gross exports



b. HHI. value added



Note: Herfindahl-Hirchman Index (HHI) index. Data for BRICS members Egypt and Saudi Arabia are available from 2017 onwards.
Source: Based on ADB MRIO (2024) data.

8. Conclusion and policy reflections

Global value chains (GVCs) represent a substantial proportion of global trade. In the past two decades, BRICS members have witnessed greater dynamism in GVC-related trade compared to the global average, even while growth of GVC integration declined post-crisis, globally, as also in BRICS, with the retreat of hyper-globalisation (due to protectionism and the trend towards reshoring), while volatility has increased, especially post-pandemic. This has adversely affected the salience of GVC-related trade. The distribution of gains from GVC participation have been highly asymmetric, dominated by OECD countries. China dominates among the BRICS, commanding 48% of the total value-added created within GVCs, dominating both backward and forward GVC participation. Intra-BRICS GVC-related trade is growing, as is economic upgrading in BRICS countries though there is considerable heterogeneity. Some BRICS countries display greater

[34] See, for instance, Kordalska and Olczyk (2023).
[35] See WTO (2025, Annex Box 1.A.1, p. 43).
[36] WTO (2025, pp. 15-16). Thresholds of HHI below 0.10 indicate unconcentrated, between 0.10 and 0.18-0.20 as moderately concentrated, and above 0.18-0.20 as highly concentrated.

dynamism in leveraging FDI for GVC participation. As means of securing resilience in supply/value chains, trade related to regional value chains (RVCs) can be strengthened, and export and import concentration can be reduced.

The disengagement with multilateralism and global governance has led to multipolarisation, regionalisation, plurilateralism, and bilateralism aligned with state-directed, and partner country strategies (strategic coupling, Yeung, 2016). Amidst shifting trade dynamics, dependencies, and GVC disruption risks, developing countries are seeking resilience in global supply chains, and multinational firms' location.[37] As new triggers are reshaping power, politics, and agency between (and within) the global North and the global South, as also in GVCs,[38] resilience is being reframed not only as supply security or disruption-management of supply lines (by revising sourcing strategies) but also as a means to improve the quality of participation in trade, through development-oriented GVCs, including upgrading, diversification, and domestic capability building, fostering more own lead firms with higher bargaining power in global and regional production networks. Comparing GVC resilience strategies, Borin et al. (2026, pp.21-22) note that:

> Aside from the tradeoff between efficiency and resilience, firms and policy makers should also consider the trade-off between exposure to global and local shocks to evaluate the optimal degree of globalising and diversifying GVCs, reshoring may not be an effective strategy to enhance resilience as it would leave firms more vulnerable to domestic disruptions, regionalisation of value chains, through near-shoring or friend-shoring, presents an intermediate profile of exposure to risk, as geographically (and geopolitically) closer countries are usually exposed to more similar (or highly correlated) supply and demand shocks. A better strategy to lower the overall risk exposure might be to diversify both the supplier and the customer base.

Complementing the multilateral trading system, deeper cooperation among BRICS economies can support more resilient GVCs through source and market diversification, collective policy responses to reduce fragmentation or exclusion, and the potential for industrial upgrading. FDI and MNC networks are central to both resilience and inclusion. Promoting "friend-shoring" of GVC-oriented FDI within the BRICS group, anchoring FDI locally by strengthening MNE-local firm linkages, especially with MSMEs (Tier-2 and Tier-3 suppliers) as value chains evolve and deepen, can enable businesses in BRICS countries to break into FDI-GVC production and export networks, and integrate into higher value-added tiers that supports them throughout their investment lifecycle.

While GVC participation is considered important for developing countries, many domestic firms in developing countries, especially SMEs may benefit from promoting local value added and integration into local and regional value chains prior to their GVC involvement (Keijser et al., 2021). Premature GVC exposure may condition these firms to remain in low-

[37] See Conteduca et al. (2025).
[38] Kano (2020).

value production segments. Also, while BRICS members are collectively endowed with significant reserves of critical minerals, there is limited beneficiation near the source, with processing, manufacturing, and higher-value activities concentrated in advanced economies. Overcoming trade finance gaps, promoting digital and financial inclusion, and fostering industry clusters can raise firms' competitiveness and potential for integrating into higher value-added activities.

While between themselves, BRICS and partner countries have combined trade capabilities and competitiveness across commodities, industrial and services sectors, amidst China's dominance,[39] the institutional architecture of BRICS would shape the pattern of value capture across the bloc. Balancing competition,[40] finding common ground, BRICS can add value in exploring sustainable patterns of intra-BRICS GVC linkages, support local value creation, and boost innovation. Coordinated identification of constraints and chokepoints, identifying potential synergies (or risks) across products/tasks/locations/assembly lines/technologies/logistics/trade routes/and energy sources can enable future-ready GVCs that can benefit businesses in BRICS countries. Sharing best practices, strengthening capacity building and knowledge sharing frameworks would benefit not only businesses directly engaged in GVCs but also have potential positive spillover effects on domestic firms linked to these businesses through buyer/supplier networks in regional and local value chains.

The latest BRICS 2026 'Shared Understand on GVCs and BRICS GVC ACTION PLAN 2026-2030' that BRICS members have agreed to endeavours to build cooperation amongst BRICS members for resilient and inclusive GVCs towards realising the potential for "mutual benefit and capacity building for intra-BRICS GVCs to transform them into engines of stability, growth, shared prosperity, industrial upgrading, value addition taking into account the differing levels of development, infrastructure and technology gaps and industrial capacities among Members." [41] Additionally, to develop resilient supply/value chains, as a strategic geopolitical and economic move, deeper sub-regional integration by each of the BRICS economies by strengthening regional value chains RVCs, multimodal logistics networks including Special Economic Zones (SEZs), can support local learning environments and wider distribution of GVC gains. As several BRICS and partner countries are part of mega-regional free trade agreements, with their own regional governance frameworks, national and institutional contexts and opportunities to gain therefrom,[42] a "**Trade+ strategy**" recommended in UNCTAD (2026) may be impactful.

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[39] See, for instance, Brotto (2026).

[40] The economic and geopolitical interests of some BRICS members may conflict with those of others. Resisting barriers to trade can help narrow the growing trade imbalances.

[41] BRICS India (2026 b, p.13).

[42] The 'noodle bowl problem.'

References

ADB MRIO (2024) Asian Development Bank's Multiregional Input-Output database: Global Value Chains Indicators. https://kidb.adb.org/globalization/gvc

Avendano, R., Blanchard, E. J., Olney, W., Santos-Paulino, A. U., & Trentini, C. (2025). The Great Reallocation Revisited How FDI is (and is not) Shifting Amid Heightened Geopolitical Tensions, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5991974

Balassa, B. (1965). Trade liberalisation and "revealed" comparative advantage 1. *The manchester school*, *33*(2), 99-123.

Banga, R. (2014). Linking into global value chains is not sufficient: do you export domestic value added contents? *Journal of Economic Integration*, 267-297.

Borin, A., & Mancini, M. (2023). Measuring what matters in value-added trade. *Economic Systems Research*, *35*(4), 586-613.

BRICS India (2026 a). https://www.brics2026.gov.in/

BRICS India (2026 b). Sixteenth BRICS Trade Ministers' Meeting: Chair's Statement and Outcome Document, Annex III Workplan on BRICS Shared Understanding on Global Value Chains, 7th August, 2026, https://d2jiw2zrmmyqt8.cloudfront.net/wp-content/uploads/2026/08/18114422/Chairs-statement-and-Outcome-document-7-august-2026.pdf

Brotto, A. (2026). Sourcing Commodities for China: What is the Real Purpose of the BRICS? in Matteo Bursi and Ettore Greco (eds) *Rethinking global value chains amid geo-economic fragmentation*, 29.

Callegari, J., Melo, T. M., & Carvalho, C. E. (2018). The peculiar insertion of Brazil into global value chains. *Review of Development Economics*, *22*(3), 1321-1342.

Campos, R. G., Estefania-Flores, J., Furceri, D., & Timini, J. (2023). Geopolitical fragmentation and trade. *Journal of Comparative Economics*, *51*(4), 1289-1315.

Chawla, I. (2025). Tracing global value chains in the RCEP domain: Participation, position and asymmetric value capture. *European Journal of East Asian Studies*, *24*(3), 285-319.

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.

Conteduca, F. P., Mancini, M., Romanini, G., Giglioli, S., Borin, A., Attinasi, M. G., ... & Meunier, B. (2025). Fragmentation and the future of GVCs. *Bank of Italy Occasional Paper*, (932).

de Sousa Filho, J. F., dos Santos, G. F., de Santana Ribeiro, L. C., de Cerqueira, R. B., & Lima, L. L. (2024). Global value chains and intra-BRICs trade in value-added. *Journal of Government and Economics*, *16*, 100127.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of international political economy*, *12*(1), 78-104.

Harvard Growth Lab (2024). *The Atlas of Economic Complexity*. https://growthlab.hks.harvard.edu/

Helpman, E. (2025). The Future of Foreign Trade. (No. w34189). National Bureau of Economic Research.

Humphrey, J., & Schmitz, H. (2002). How does insertion in global value chains affect upgrading in industrial clusters? *Regional studies*, *36*(9), 1017-1027.

ISID (2025). *India Industrial Development Report 2024-25*: *Towards a Manufacturing-led Transformation*, Academic Foundation.

Joseph, R. K., & Kumar, R. A. (2026). Making Global Pharma Supply Chain Resilient: Will the PLI Scheme of India make it a Reliable Alternative to China for the Supply of APIs?. *The Indian Economic Journal*, *74*(1), 49-63.

Kano, L., Tsang, E. W., & Yeung, H. W. C. (2020). Global value chains: A review of the multi-disciplinary literature: Liena Kano et al. *Journal of international business studies*, *51*(4), 577-622.

Keijser, C., Belderbos, R., & Goedhuys, M. (2021). Governance and learning in global, regional, and local value chains: The IT enabled services industry in South Africa. *World Development*, *141*, 105398.

Koopman, R., Wang, Z., & Wei, S. J. (2014). Tracing value-added and double counting in gross exports. *American Economic Review*, *104*(2), 459-494.

Kordalska, A., & Olczyk, M. (2023). Upgrading low value-added activities in global value chains: a functional specialisation approach. *Economic Systems Research*, *35*(2), 265-291.

Kumar, N. (2002). *Globalization and the quality of foreign direct investment*. Oxford University Press.

Kumar, N. (2023). Unlocking India's Potential in Industrial Revolution 4.0: National Innovation System, Demography, and Inclusive Development. *Indian Public Policy Review*, *4*(3), 67-87.

Kumar, N. (2024). Manufacturing-led transformation for realizing India's 2047 Vision in the context of a fractured trading system: challenges, opportunities, and strategic interventions. *Indian Economic Review*, *59*(1), 155-176.

Kumar, N. (2025). Harnessing India-Japan Economic Partnership for Supply Chain Resilience in the Context of Global Trade Policy Uncertainties, ISID Working Paper 301.

Kumar, N. & and George J. (2020). Harnessing the Potential of Regional Value Chains for Sustainable Development in Southern Asia: Towards a South Asia Comprehensive Economic Partnership (SACEP), in *Trade and Regional Integration in South Asia*. DOI: 10.1007/978-981-15-3932-9_4.

Kummritz, V., Taglioni, D., & Winkler, D. E. (2017). Economic upgrading through global value chain participation: which policies increase the value added gains? *World Bank Policy Research Working Paper*, (8007).

Meng, B., Ye, M., & Wei, S. J. (2020). Measuring smile curves in global value chains. *Oxford Bulletin of Economics and Statistics*, *82*(5), 988-1016.

Nana, I., & Tabe-Ojong, M. P. J. (2026). Global Agrifood Value Chains, Structural Transformation and Income Inequality. *Agricultural Economics*, *57*(2), e70097.

OECD (2020). Trade Policy Implications of Global Value Chains, https://www.oecd.org/content/dam/oecd/en/publications/reports/2019/11/trade-policy-implications-of-global-value-chains_f182d1f5/4989ef9e-en.pdf

OECD (2025). OECD Supply Chain Resilience Review Navigating Risks https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/06/oecd-supply-chain-resilience-review_9930d256/94e3a8ea-en.pdf

OECD Trade in Value Added (TiVA) database (2025 ed.), https://www.oecd.org/en/topics/sub-issues/trade-in-value-added.html (accessed January 2026).

O'Neill (2001). Building Better Global Economic BRICs, 30 November 2001. https://www.goldmansachs.com/insights/goldman-sachs-research/building-better

PIB (2025). Geo-economic fragmentation replacing globalisation worldwide with backsliding of economic integration: Economic Survey 2024-25, 31 January 2025, https://www.pib.gov.in/PressReleasePage.aspx?PRID=2097913&reg=48&lang=2

Qiang, C. Z., Liu, Y., & Steenbergen, V. (2021). *An investment perspective on global value chains*. Washington, DC: World Bank Group.

Roy, S., 2020. *Contours of Value Capture: India's Neoliberal Path of Industrial Development*. Cambridge University Press. United Kingdom.

Stojčić, N., & Matić, M. (2023). A journey toward global value chain upgrading: Exploring the transition from backward to forward integration. *EFZG working paper series*, *2023*(08), 1-43.

The fDi Report (2026). Greenfield investment trends in a changing world. https://www.ftlocations.com/knowledge-hub/report/the-fdi-report-2026

UNCTAD (2013). *World Investment Report 2013: Global Value Chains – Investment and Trade for Development.* United Nations Conference on Trade and Development, United Nations publication, New York and Geneva.

UNCTAD (2024). *Global economic fracturing and shifting investment patterns.* https://unctad.org/publication/global-economic-fracturing-and-shifting-investment-patterns

UNCTAD (2025). *World Investment Report.*

UNCTAD (2026). Two decades of Intra- BRICS Trade: Trends, Patterns and Policies. https://unctad.org/publication/two-decades-intra-brics-trade-trends-patterns-and-policies

UNECA (2021). United Nations Economic Commission for Africa, *OECD Development Pathways Production Transformation Policy Review of Egypt Embracing Change, Achieving Prosperity: Embracing Change, Achieving Prosperity*. OECD Publishing.

Veeramani, C. (2026). India's Integration into Global Value Chains: Policy Approaches to Growth and Industrial Upgrading, *Asia & the Pacific Policy Studies*: e70054. https://doi.org/10.1002/app5.70054.

Wang, Z., Wei, S. J., Yu, X., & Zhu, K. (2017). *Characterizing global value chains: Production length and upstreamness* (No. w23261). National Bureau of Economic Research.

WTO (2025). Global Value Chain Development Report, *Rewiring GVCs in a Changing Global Economy*: World Trade Organization (WTO), ADB, IDE-JETRO, and UIBE. https://www.wto.org/english/res_e/booksp_e/gvcreport2025_e.pdf

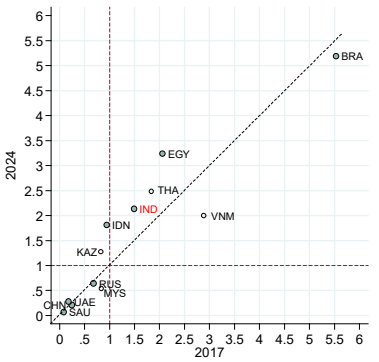
Yeung, H. W. C. (2016). Strategic coupling: East Asian industrial transformation in the new global economy. In *Strategic Coupling*. Cornell University Press.

Appendix Figures

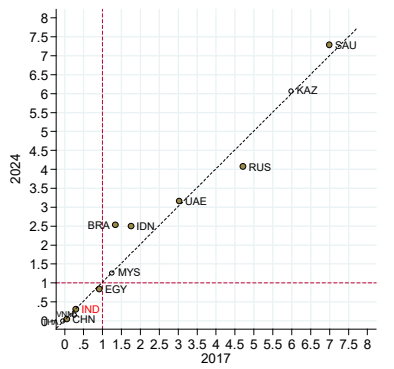
Appendix Figure A.1. Revealed comparative advantage (RCA), BRICS and partner countries, 2024 vs. 2017

Primary sectors

Agriculture

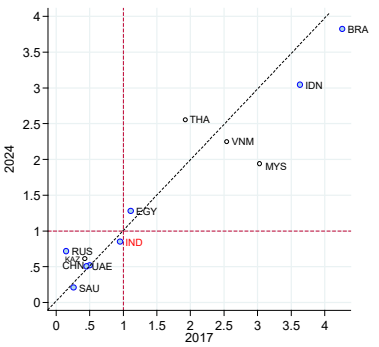


Mining

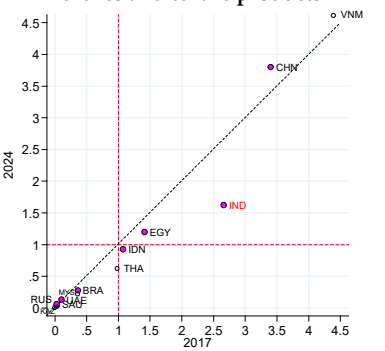


Low-technology manufacturing (light manufacturing)

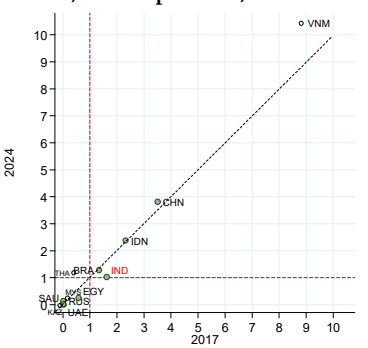
Food, beverages and tobacco



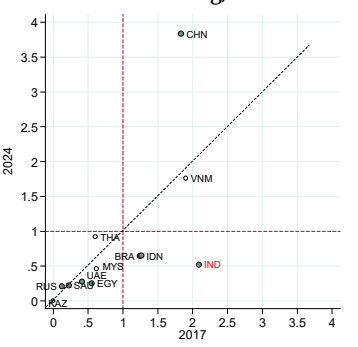
Textiles and textile products

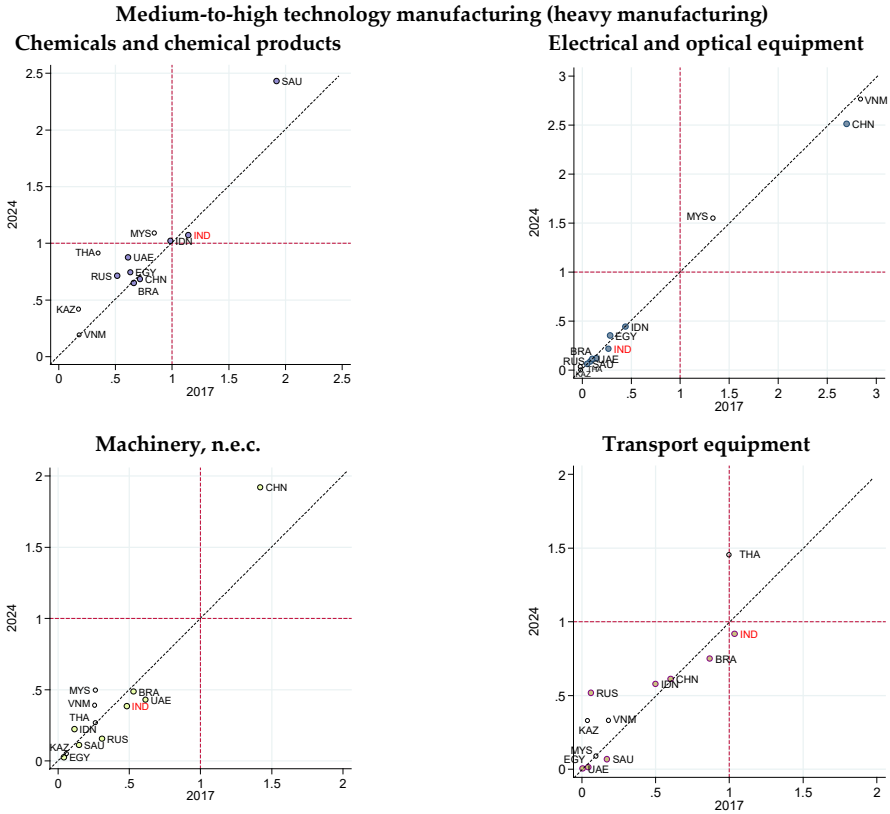


Leather, leather products, and footwear



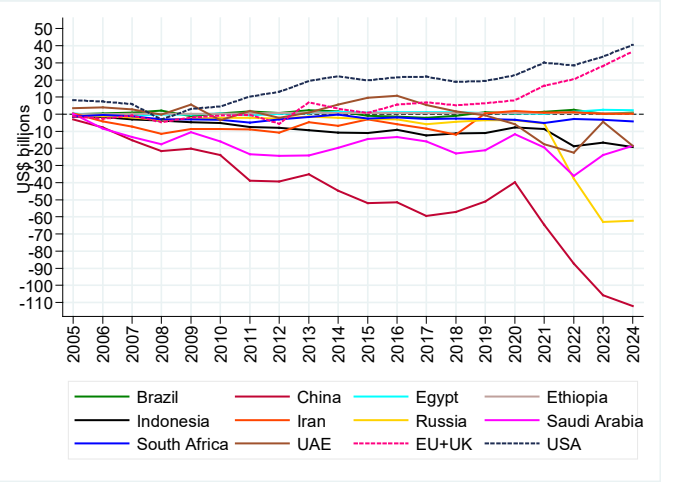
Manufacturing, n.e.c.





Note: RCA (value added exports, by exporting sector).
Source: Based on ADB MRIO (2024) data.

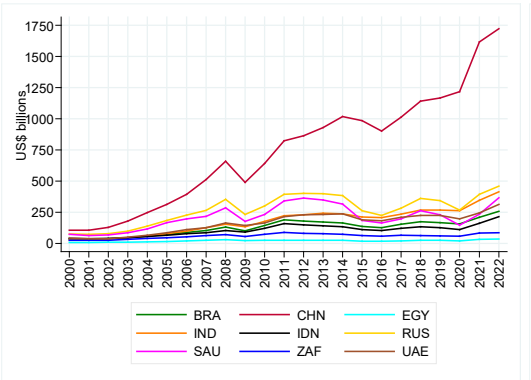
Figure A.2. India's trade balance with BRICS and selected countries



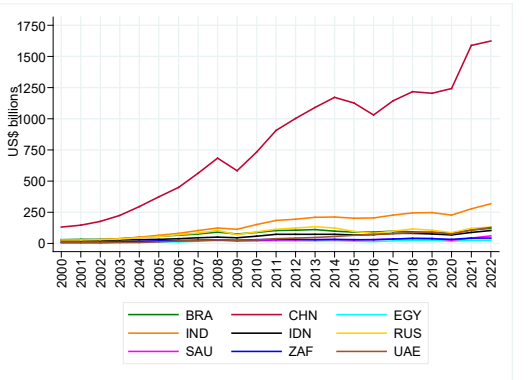
Source: Based on UN Comtrade database.

Figure A.3. Gross exports, US$ billion, BRICS

a. Intermediate products



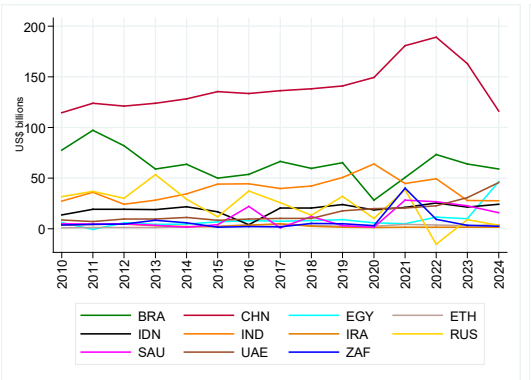
b. Final products



Source: Based on OECD TiVA data (2025 ed.).

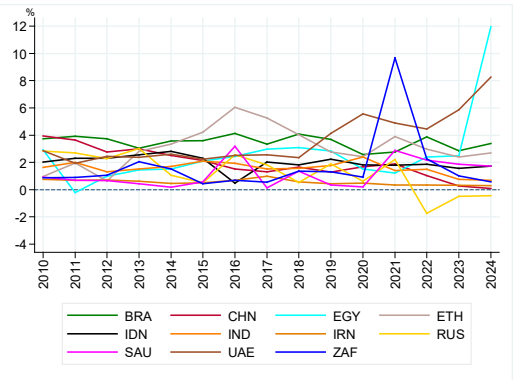
Figure A.4. Trends in FDI, BRICS

a. FDI inflows



Source: Based on UNCTAD (2025).

b. FDI, net inflows (% of GDP)



Source: Based on World Development Indicators, World Bank.

Appendix Tables

Appendix Table A.1. Country coverage, OECD TiVA database (2025 ed.)

OECD						*Non-OECD*					
No.	*Code*	*Country*	*No.*	*Code*	*Country*	*No.*	*Code*	*Country*	*No.*	*Code*	*Country*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
1	AUS	Australia	20	JPN	Japan	39	AGO	Angola	61	MLT	Malta
2	AUT	Austria	21	KOR	Korea	40	ARG	Argentina	62	MAR	Morocco
3	BEL	Belgium	22	LVA	Latvia	41	BGD	Bangladesh	63	MMR	Myanmar
4	CAN	Canada	23	LTU	Lithuania	42	BLR	Belarus	64	NGA	Nigeria
5	CHL	Chile	24	LUX	Luxembourg	43	BRA	Brazil	65	PAK	Pakistan
6	COL	Colombia	25	MEX	Mexico	44	BRN	Brunei Darussalam	66	PER	Peru
7	CRI	Costa Rica	26	NLD	Netherlands	45	BGR	Bulgaria	67	PHL	Philippines
8	CZE	Czech Republic	27	NZL	New Zealand	46	KHM	Cambodia	68	ROU	Romania
9	DNK	Denmark	28	NOR	Norway	47	CMR	Cameroon	69	RUS	Russian Federation
10	EST	Estonia	29	POL	Poland	48	CHN	China (People's Republic of)	70	STP	São Tomé and Príncipe
11	FIN	Finland	30	PRT	Portugal	49	CIV	Côte d'Ivoire	71	SAU	Saudi Arabia
12	FRA	France	31	SVK	Slovak Republic	50	HRV	Croatia	72	SEN	Senegal
13	DEU	Germany	32	SVN	Slovenia	51	CYP	Cyprus	73	SGP	Singapore
14	GRC	Greece	33	ESP	Spain	52	COD	Democratic Republic of Congo	74	ZAF	South Africa
15	HUN	Hungary	34	SWE	Sweden	53	EGY	Egypt	75	TWN	Chinese Taipei
16	ISL	Iceland	35	CHE	Switzerland	54	HKG	Hong Kong, China	76	THA	Thailand
17	IRL	Ireland	36	TUR	Turkey	55	IND	India	77	TUN	Tunisia
18	ISR	Israel	37	GBR	United Kingdom	56	IDN	Indonesia	78	UKR	Ukraine
19	ITA	Italy	38	USA	United States	57	JOR	Jordan	79	ARE	United Arab Emirates
						58	KAZ	Kazakhstan	80	VNM	Viet Nam
						59	LAO	Lao (People's Democratic Rep.)	81	WXD	Rest of the World
						60	MYS	Malaysia			

Source: OECD (TiVA) 2025 ed.

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