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Recent Developments in Global Value Chains

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1.1 Introduction

Global value chains (GVCs) have proven resilient over the past two decades. As shown in the 2023 edition of the *GVC Development Report*, despite facing successive shocks, there had been periods of growth in the value of world exports immediately following episodes of considerable contractions, underscoring the adaptability and soundness of the international trade foundation. In fact, in the two years that followed the COVID-19 pandemic's onset, world gross exports and GVC-related trade reached an all-time high – both in nominal and real terms – while composite measures of globalization such as the DHL Connectedness Index also rebounded strongly (DHL, 2022).

Such remarkable resilience coincided with key changes that came along the way, which draws attention to the process of reconfiguration that has surrounded the recent discourse on GVCs. The specialization brought about by trade and GVCs has led to the offshoring of production processes to where they are most efficiently executed (Inomata and Hanaka, 2024). Often, such reallocation points towards a few state actors, thereby leading to considerable concentration of production capacities. Together with the emergence of highly specialized products that have limited suppliers, these create bottlenecks and choke points, especially during periods of high uncertainty. In this sense, reconfiguring GVCs entails efforts to shore them up and introduce sufficient redundancy into the system (Yusuf, 2024).

The rising discontent and scepticism directed towards international trade and globalization has given new energy to doubts surrounding its capability to deliver on promises of increased productivity, technology transfers and knowledge spillovers, as

Note: The work on this chapter was led by the Asian Development Bank (ADB). The views expressed are those of the authors and do not necessarily reflect the views and policies of ADB or its Board of Governors or the governments they represent.

well as income and employment gains. With this, the calls to sacrifice some of these benefits in favour of reducing poverty and inequality, addressing climate change, and maintaining peace and security are gaining more traction. In recent decades, this structural reconfiguration manifested in shifts towards bringing production “closer to home”, especially as global alliances have shifted with political winds. It is in this context that the concept of reglobalization, the theme of this report and a term sometimes used interchangeably with reconfiguration, was born out of. However, evidence suggests that trade and GVCs remain adaptable mechanisms capable of advancing both efficiency and broader developments such as inclusive growth, sustainability and stability (WTO, 2023).

In this first chapter of the *GVC Development Report 2025*, the two interlinked themes of resilience and reconfiguration are revisited and explored in more detail in the face of ongoing trade and geopolitical disturbances. The first section presents current trends in global trade, particularly focusing on developments since the Russian war in Ukraine started. Some findings mirror patterns observed during past global crises, where the initial year showed little impact on world exports, followed by a sharp decline and then a swift recovery, driven largely by the growth of services trade. However, the gap between traditional and GVC-related trade has widened in recent years, which may be indicative of structural shifts that occurred along the way.

To assess reconfiguration, the second section examines the phenomena of deglobalization, export diversification, reshoring, regionalization and trade fragmentation. In recent periods, while the correlation between growth in gross domestic product (GDP) and exports remained positive, economies have appeared to be decoupling cross-border trade from domestic growth. Furthermore, significant rises in export concentration and reduced reliance on foreign intermediates have been observed in certain economies. These trends may partially account for the recent phenomenon of traditional trade surpassing GVC-related trade. Lastly, a general trend of regionalization cannot be deduced based on the ratio of intra- to inter-regional dependence on trade, though some evidence of fragmentation along geopolitical lines as well as rerouting through intermediary channels is present.

The final section examines regional trends to highlight differences that may help explain the recent drop in global GVC participation. The European Union (EU) has been decoupling from the Russian Federation while increasing its intra-regional GVC-related trade, and Central and West Asia has emerged as a key transit hub even as the trade volumes remained low. Southeast Asia has deepened its GVC integration through significant mega free trade agreements while the Middle East and North Africa (MENA) continued to face shipping disruptions that highlight the trading corridors’ vulnerabilities. East Asia and South Asia have maintained steady growth in traditional trade but have faced disruptions in GVC-related trade since the start of the pandemic. North America, on the other hand, has shown uneven trade dynamics, with stronger growth in intra-regional than inter-regional trade in recent years, while South

America sustained expansion in traditional but not GVC-related trade as it increasingly reoriented towards Asia. Overall, these developments convey how GVCs continued to adapt in the face of crises. Some structures that existed for a long time are already gone, but new ones are being created, paving the way for economic globalization, albeit in a different form and fashion, to continue forging ahead.

1.2 Recent Trends in International Trade and Global Value Chains

Following successive global trade developments, global value chain-related trade saw more volatility in year-over-year changes than traditional trade.

Global trade rebounded after the initial shock of the COVID-19 pandemic, but recovery has been uneven and was shaped by a combination of geopolitical realignments, policy uncertainty and weak demand. Using a framework pioneered by Koopman, Wang and Wei (2014) and refined by Borin and Mancini (2019), the Asian Development Bank's multiregional input-output tables (ADB MRIOTs) are used to decompose gross export flows into value-added categories, providing a deeper understanding of both gross trade patterns and the structure of value-added trade along GVCs[1]. As shown in Figure 1.1, since 2017, global gross exports have exhibited considerable fluctuations up until the post-pandemic stabilization. The impact of the trade dispute between the People's Republic of China (PRC) and the United States (US) was one of the major triggers of world exports falling by around 6.63%, from $25.48 trillion in 2018 to $23.8 trillion in 2019.[2]

Global trade activity was initially suppressed in 2020 but recovered swiftly and returned to pre-pandemic levels by 2021. Notably, the annual growth in world exports reached its highest point in two decades this year, increasing by approximately 25.8%, and sustained in 2022 with a further increase of 11.2%. Both components of trade, namely traditional[3] (value of gross exports corresponding to purely bilateral trade) and GVC-related[4] (value of gross exports involving multiple border crossings), peaked during this period, with the latter growing at a faster pace, underscoring the role of intermediates trade in driving

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1 Using the methodology detailed in ADB (2021), gross exports are decomposed into three broad categories – value-added from domestic sectors (DVA), value-added from foreign sources (FVA) and those that did not originate from value-added at all. The last, called pure double-counting (PDC), refers to duplicated recordings of the same value-added crossing the same border more than once. DVA, in turn, is further divided into three components – directly absorbed by the importer (DAVAX), reexported by the importer and eventually absorbed abroad (REX), and reexported by the importer and eventually returns to and is consumed by the exporter ("reflection" or REF).

2 For why all values in the report chapter are in current terms, see Box 1.1.

3 This is given by the sum of domestic value added directly absorbed by the importer in the form of final consumption (DAVAX1) and in the form of intermediates consumption (DAVAX2) or quite simply DAVAX, following the framework of Borin and Mancini 2019.

4 This is given by the sum of REX, REF, FVA and PDC, following the framework of Borin and Mancini 2019.

post-pandemic recovery. GVC-related trade grew by 34.2% in 2021 and 14.9% in 2022, as compared to 19.3% in 2021 and 8% in 2022 for traditional trade.

However, this momentum did not persist as growth in gross exports contracted by 2.4% in 2023 and recovered by 4.23% in 2024. From 2022 to 2024, there was a marked slowdown in trade between the Russian Federation and the EU, with the former intensifying its transactions with both the Central and West Asia region and the PRC. Furthermore, while global trade statistics showed a decline in gross exports in 2023, half of the economies covered by the ADB MRIOTs proved resilient and achieved export growth. In fact, Armenia, Bhutan, Fiji, Georgia, Lao People's Democratic Republic (PDR) and Mongolia posted double digit growth, likely reflecting delayed expansion following the COVID-19 restrictions and the effect of price inflation, especially after the Russian war in Ukraine began and the volatility of commodity prices (Box 1.1). Furthermore, 12 European economies achieved export growth throughout 2021 to 2024 regardless of geopolitical shifts in the region, including the Czech Republic, Croatia, Poland, Portugal and Slovenia.

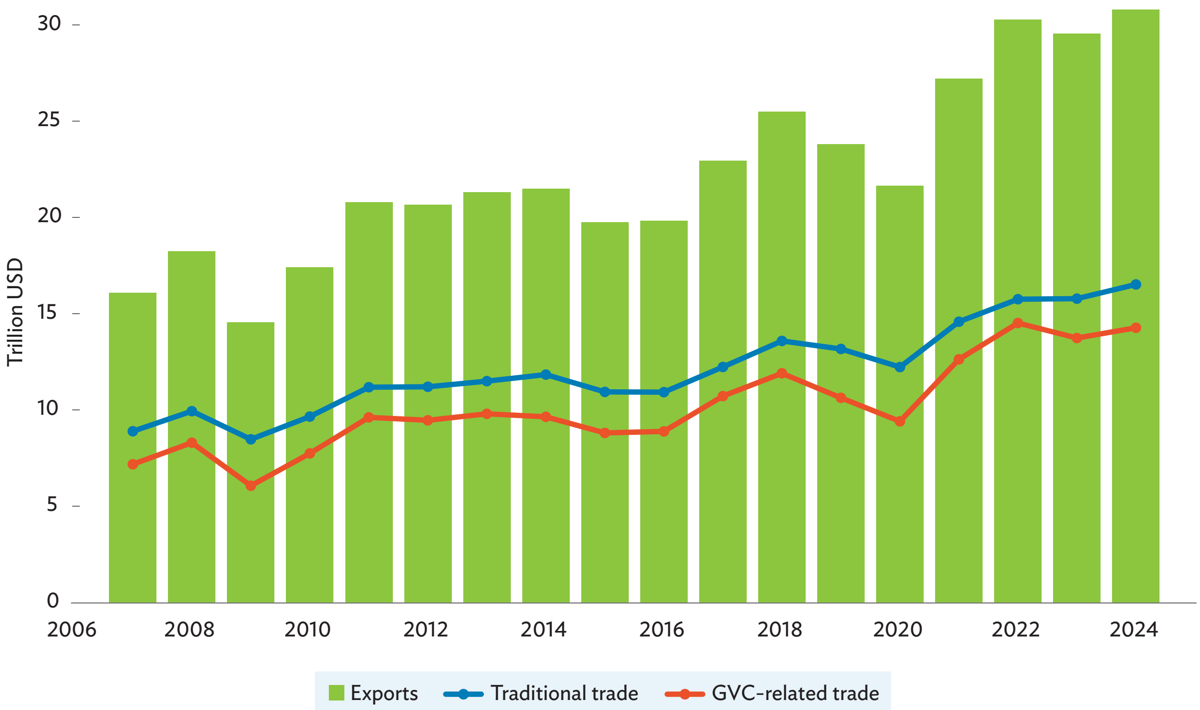
Notably, GVC-related trade saw a significant contraction in 2023, declining by 5.35%, compared to traditional trade's increase of 0.18% while in 2024, both grew at similar paces of 3.87% and 4.67%, respectively. The gap between GVC-related and traditional trade widened, especially during the 2019–2020 PRC-US trade dispute and COVID-19 pandemic, which coincided with GVC production lengths increasing. As such, the share of GVC-related trade in total trade declined from its peak of 48% in 2022 to 46.3% in 2024. Compared with gross exports growth, only 20 economies have seen their GVC-related trade increase by more than 1% in 2023. Several of these economies have abundant commodities, including Armenia, Australia, Lao PDR, Mongolia and the United Arab Emirates (UAE). Others, such as Georgia, the Kyrgyz Republic and various Eastern European economies, maintained substantial trade relations with the Russian Federation. More unexpectedly, highlighting the role of services in GVCs, Malta and Hong Kong, China also saw gains in GVC-related trade, driven in part by a post-pandemic revival in these sectors.

Services have overtaken goods in global value chain participation rates since 2019, showing steadier growth after the COVID-19 pandemic compared to the volatility of goods trade.

Figure 1.2 illustrates global annual growth rates of gross exports and GVC-related trade across five aggregate sectors – primary, low-technology manufacturing, medium- to high-technology manufacturing, business services, and personal and public services – and selected subsectors that recorded the strongest post-pandemic growth. Primary sectors such as agriculture and mining, as well as manufacturing sectors such as refined fuels and metals, saw higher volatility, reflecting fluctuations in commodity price cycles and global demand. GVC-related trade in the primary sector saw even higher swings. In contrast, trade in services proved to be more resilient between 2021 and 2024, with

Figure 1.1: Decomposition of World Gross Exports, 2007-2024

Global trade increased after the COVID-19 pandemic, but the gap between traditional and GVC-related trade widened.



Note: Gross exports decomposition follows the framework of Borin and Mancini (2019). Traditional trade refers to the value of gross exports corresponding to purely bilateral trade. GVC-related trade refers to the value of gross exports involving multiple border crossings.

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

Box 1.1: Using Current Prices in an Inflationary Period

Global inflation surged in 2022, driven primarily by aggressive fiscal and monetary stimulus during the COVID-19 pandemic, a subsequent surge in consumer demand and related supply chain bottlenecks, as well as soaring food and energy prices following the start of the Russian war in Ukraine, which impacted Europe, Central and West Asia, the Middle East and even Sub-Saharan Africa. In response, central banks launched vigorous programmes to manage demand, and by extension, price inflation, dubbed the "Great Tightening". Although institutions such as the International Monetary Fund (IMF) have reported that global inflation eased in 2023, the inflation level remained well above pre-pandemic figures. The composition of inflation also shifted over time. In 2022, inflation in energy-intensive sectors peaked; while towards the end of 2023, inflation broadened into less energy-dependent industries and was driven primarily by inflexible-price sectors such as clothing, communications and health (IMF, 2024).

This inflationary environment underscores the importance of distinguishing analysis using current versus constant prices. Constant (real) prices strip out inflation effects by fixing prices to a base year, enabling a clearer view of underlying growth. Current (nominal) prices, by contrast, reflect both price and volume movements, which can distort comparisons during inflationary spikes. For instance, global trade growth between 2020 and 2021 appeared much stronger in current prices (25.8%) as it exaggerates growth by conflating volume and price effects, compared to constant prices (17%). Furthermore, the decline in 2023 is much more pronounced in constant prices (-4.8%) than in current prices (-2.4%) as global markets deflated.

The Asian Development Bank's Multiregional Input-Output (ADB MRIO) database provides both constant and current price tables. Constant price tables, which are pegged to 2010, were introduced in 2020 as an experimental dataset. The methodology behind these tables is described in the GVC chapter of ADB's *Key Indicators for Asia and the Pacific 2023* publication. Current price tables, however, remain the reference point for capturing the latest economic shifts, even when inflation and commodity price swings significantly affect measured trade flows, as these have been validated across different data sources and extensively used as a global public resource for informing research and policy on various development issues.

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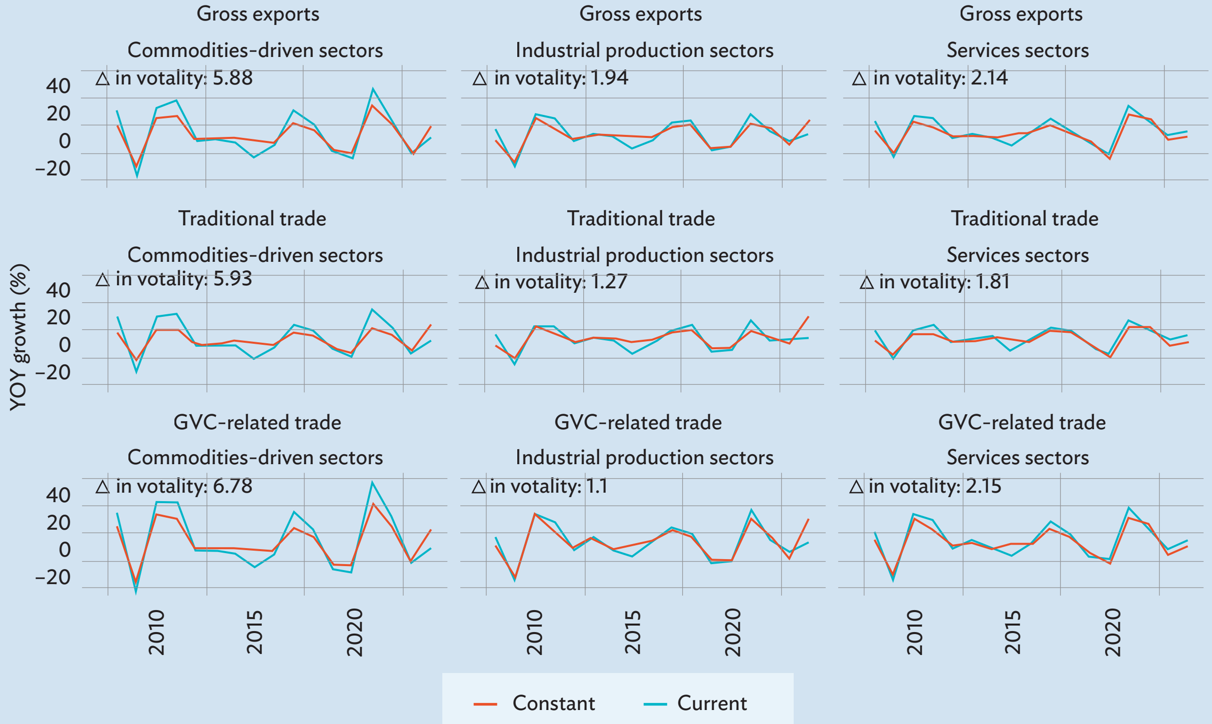
Box 1.1: continued

Differences in Volatility Between Constant and Current Price Measures of Global Trade Growth, By Sector and Trade Type, 2007-2024



Note: Sectoral volatility measures the absolute variation in year-on-year growth for each sectoral grouping independently. The reported delta in volatility represents the difference between volatility measured in current prices and constant prices. Gross exports decomposition follows the framework of Borin and Mancini (2019). Traditional trade refers to the value of gross exports corresponding to purely bilateral trade. GVC-related trade refers to the value of gross exports involving multiple border crossings. Commodities-driven sectors include agriculture (c1), mining (c2), refined fuels (c8), chemicals (c9), metals (c12) and other minerals (c11). Industrial production sectors include all other low- to high-technology sectors not included in the commodities-driven sectors. The services sectors are all the services sectors as classified in the ADB MRIOTs (c19–c35).

Source: Asian Development Bank. Multiregional Input–Output Databases; and Asian Development Bank estimates.

Notably, the relationship between current and constant prices varies across sectors and economies. Commodity-driven sectors such as refined fuels and metals, as well as regions like Central and West Asia, display far greater volatility in current-price measures compared to constant-price data. This highlights how constant prices can better reflect the real trajectory of production and trade, while current prices more accurately represent the actual value of global exchanges. For analytical purposes, sectors were grouped into three broad categories: commodities-driven sectors, such as agriculture, mining, refined fuels, chemicals, metals and other minerals, whose output values are closely linked to global commodity price movements; industrial production sectors, including low- to high-technology manufacturing; utilities and construction; and services sectors, which are generally less price-sensitive but may indirectly reflect inflation through cost pass-throughs. The figure below provides a comparison of trade growth measured in constant versus current prices, where commodities-driven sectors saw a higher degree of volatility between current and constant prices.

Over the given period, the change in volatility between current and constant prices of these sectors was roughly three times greater than in manufacturing and services, highlighting how inflation disproportionately drives swings in commodities trade values relative to other sectors. Industrial production showed the lowest degree of variability. Policymakers therefore need to interpret nominal data cautiously, especially in economies exposed to exchange rate fluctuations, persistent inflation or commodity dependence, to ensure timely and accurate policy assessment.

References:

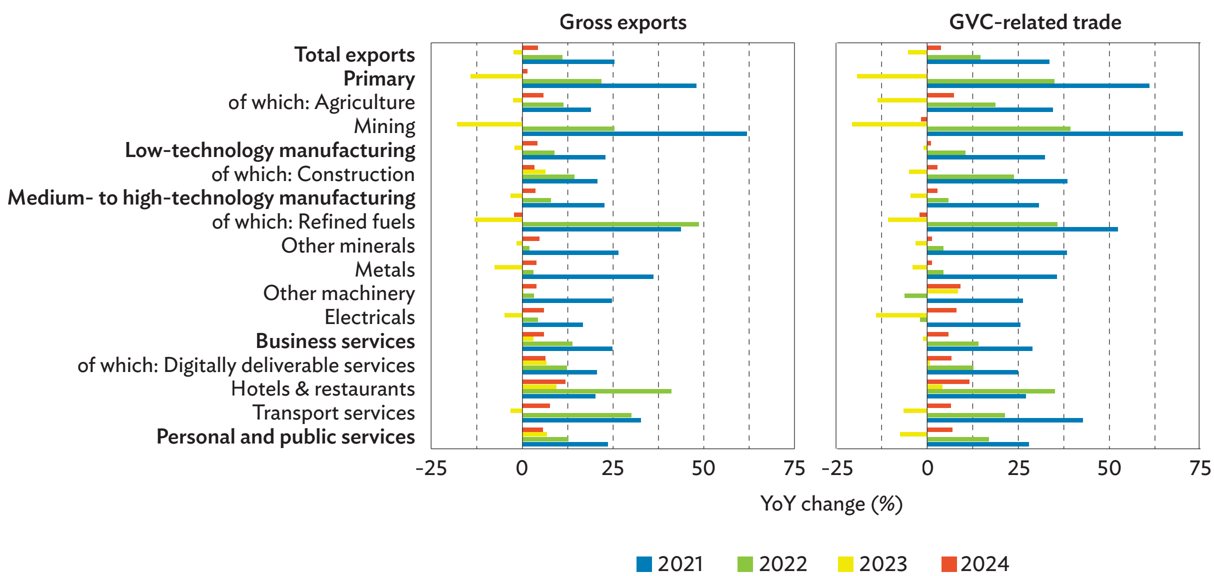
Asian Development Bank (2023). *Dollar and Price Wedge Between Nominal and Real Global Value Chain Participation. In: Key Indicators for Asia and the Pacific 2023.* Manila: ADB. Available at: https://www.adb.org/publications/key-indicators-asia-and-pacific-2023

International Monetary Fund (2024). *Chapter 2: The Great Tightening: Insights from the Recent Inflation Episode. In: World Economic Outlook, October 2024: Policy Pivot, Rising Threats.* Washington, D.C.: IMF. Available at: https://www.imf.org/en/Publications/WEO/Issues/2024/10/22/world-economic-outlook-october-2024

certain subsectors such as finance and telecommunications, grouped under digitally deliverable services, demonstrating consistent growth across the years. Transport sectors – including land, air and water transport services, and the travel sector – showed sharp cyclical rebounds, benefitting from the relaxation of pandemic-related mobility restrictions, with the travel sector seeing a much stronger growth from 2021 to 2023. Service sectors experienced sharper fluctuations in GVC-related trade than gross exports, though these changes were less extreme compared to goods sectors. In 2024, most service sectors sustained their growth while the exports of goods sectors linked to price-sensitive commodities, such as mining and refined fuels, continued to decline.

Figure 1.2: Trade Growth By Selected Sectors, 2021-2024

While medium- and high- technology manufacturing drove global trade, services showed sustained GVC resilience.



Note: GVC-related trade refers to the value of gross exports involving multiple border crossings.
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

As seen in Figure 1.3, GVC participation rates have consistently declined following major global shocks, such as the global financial crisis in 2008, the PRC-US trade dispute in 2018 and the COVID-19 pandemic in 2020 – a pattern that is consistent with longer-term developments. The more tempered growth of GVCs after the global financial crisis in 2008 suggests that GVC formation may have matured, or at least became more selective, reflecting shifts in production strategies and possibly nascent trends towards regionalization, reshoring or “near-shoring” – as seen with a significant contraction in global demand (especially for durables such as automobiles and machinery) – causing a notable reduction in GVC participation rates (Eaton et al., 2016). The COVID-19 shock lowered GVC participation rates, mainly due to supply-side impacts from containment policies (IMF, 2022).

While participation rebounded briefly in 2021-2022, it began falling again after 2022, which transpired alongside the rise in geopolitical fragmentation and shifts in the US trade policy. Notably, the composition of GVC participation by type of exports has shifted since 2019 – while historically, goods had higher participation rates than services; the latter have shown greater resilience in recent years. The decline during the pandemic and the subsequent downturn from 2023 to 2024 was less severe than that of goods, widening the gap between the two in the most recent period. GVC intensive sectors, especially in goods, were more exposed to disruptions in the supply chain during the pandemic; however, certain services sectors mitigated the negative effects of reduced worker mobility by transitioning to remote work (IMF, 2022). Furthermore, digital services rely less on physical infrastructure, so disruptions in transport, logistics or commodity markets have less impact on their delivery. Meanwhile, digitally deliverable services – encompassing telecommunications, finance, insurance and information technology (IT) sectors – have seen some of the most consistent sectoral growth (Figure 1.2), suggesting that not only have these sectors become more prevalent since the pandemic, but that their GVC participation has also gotten more resilient to shocks.

Figure 1.3: Trends in Global Value Chain Participation By Exports Type, 2007-2024

Compared to goods, services' GVC participation rates were more stable and have softened the blow on the overall figure in recent years.

Note: GVC participation rates are computed using the methodology in Asian Development Bank (2021).
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

Global production along global value chains has lengthened since the COVID-19 pandemic, especially among European economies in the period between 2020 and 2024.

Decreased GVC participation may also occur due to supply shortages arising from choke points in the system. Stehrer et al. (2025) show that all sectors globally are dependent on the PRC, the EU and the US, while certain industries in other economies are strongly dependent on India, Japan, the Republic of Korea or Singapore. Large and proximate economies are often found to act as choke points for an economy's existing trade. Such dependence may either lead to a shortening or lengthening of paths that intermediates go through before reaching final consumers. If shocks discourage economies from continuing offshoring processes due to concerns about sustainability or even rising home bias, this may remove certain production layers away from foreign economies in favour of domestic sectors thereby reducing the length of the supply chain path. On the other hand, if at their current level of capacity utilization, domestic sectors are unable to accommodate increased demand and the goods/services that are lost from a foreign supplier are too specialized for only a handful of economies to offset, then more players may be involved, which could lengthen the supply chain paths.

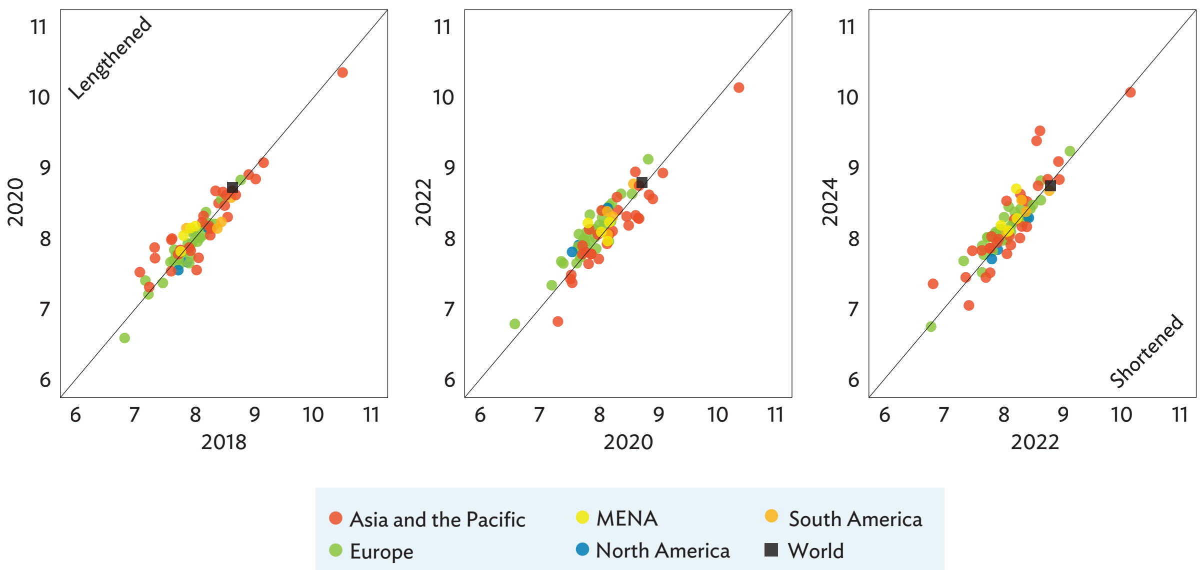
GVC production lengths are shown in Figure 1.4, which give the average number of stages separating domestic value-added creation by primary factors of production to final consumption. A general lengthening occurred during the pandemic onset, which coincided with the numerous supply shocks experienced during the pandemic, most notably in the shipping industry, which saw a surge of 20% in global container port congestion in the second half of 2020 (PortCalls Asia, 2021). From 2018 to 2020, 34 economies (47%) experienced lengthening GVC-related trade, including 15 in Asia and the Pacific (50%). From 2020 to 2022, as the pandemic continued to disrupt supply chains and with the start of the Russian war in Ukraine, the global production length further elongated. During this period, 48 economies (67%) experienced lengthening, including nearly all European and Central and West Asian economies (except for Norway and Türkiye) and all MENA economies apart from the UAE. Conversely, most economies in Asia and the Pacific (67%) exhibited shorter production lengths.

This trend intensified between 2022 and 2024, as major global trade developments ignited widespread reallocation of trade flows. An extended lengthening was recorded in 45 economies (62.5%), with significant expansions noted across Europe (18 economies), Asia and the Pacific (19 economies), as well as all economies within the MENA region. The sharpest increases occurred in Mongolia (10.5%), the Republic of Korea (9.6%) and Bhutan (7.8%), setting a record of lengthening across all time periods, while North American economies saw a shortening of production lengths (by 1-2%).

Across the entire period, 16 economies (22%) recorded persistent lengthening. These include European economies such as Belarus, Bulgaria, Croatia, Georgia, Romania and the Russian Federation, along with Egypt, India, Kuwait, New Zealand, Pakistan, Saudi Arabia and Sri Lanka. In MENA, the ongoing increase may indicate both diversification and logistical disruptions, which will be discussed further below. On the other hand, only three economies consistently shortened their GVC production lengths: Taipei,China (by 4.04%), the Lao PDR (4.43%) and the PRC (4.75%).

Figure 1.4: Global Value Chain Production Lengths By Region, 2018-2024

The production length of GVCs has generally increased, especially among European economies.



Note: Global value chain production lengths are the sum of backward and forward lengths. These are computed following the methodology of Wang, Wei, Yu and Zhu (2017).

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

Although high-global value chain trading economies still account for most of the global GVC-related trade, their collective share has declined from 76% in 2010 to 63.6% in 2024, reflecting the gradual integration of other economies into GVCs.

Global production length averages mainly reflect the influence of major GVC traders, as calculations are weighted by value-added shares. While many smaller economies have experienced lengthening since 2018, the influence of major hubs dominates the overall picture. Indeed, there is evident concentration when looking at sources of value-added[5] in exports. In 2024, just 10 economies accounted for 53.5% of global domestic value-added (DVA) in exports, with the PRC, the US and Germany ranking at the top. These economies, long recognized as major GVC hubs in the relevant literature, have maintained their dominant positions since 2007. Yet, some shifts are also evident over an extended period. India, an economy that has seen a consistently growing integration

5 This is given by the domestic value-added in an economy's exports, which is the sum of DAVAX, REX and REF in the Borin and Mancini (2019) gross exports decomposition framework.

into GVCs, has risen to become part of the top 10 value adding economies since the onset of the pandemic, with a share of 2.8% of global DVA in exports in 2024. This may be explained by the successes of its information technology industry in exporting business process management services (Nano and Stolzenburg, 2021), recently enacted free trade agreements and policies aimed at attracting investments from multinational enterprises (Choorikkadan, 2024). However, the overall stability of the leading contributors highlights the structural barriers that many economies face when attempting to integrate into GVCs.

Changes in global value chain participation and shares in global GVC-related trade by category of traders are examined in this context. To identify the categories, values for the 25th percentile, median and 75th percentile were derived for decade (2010-2019) averages of GVC-related trade. The year 2020 was deliberately excluded due to abnormalities in trends and patterns observed during the pandemic onset. Each economy was then categorized into the following:

1. **High GVC traders** – decade average of GVC-related trade greater than or equal to the 75th percentile
2. **Upper middle GVC traders** – decade average of GVC-related trade greater than the median but less than the 75th percentile
3. **Lower middle GVC traders** – decade average of GVC-related trade greater than the 25th percentile but less than the median
4. **Low GVC traders** – decade average of GVC-related trade lower than or equal to the 25th percentile

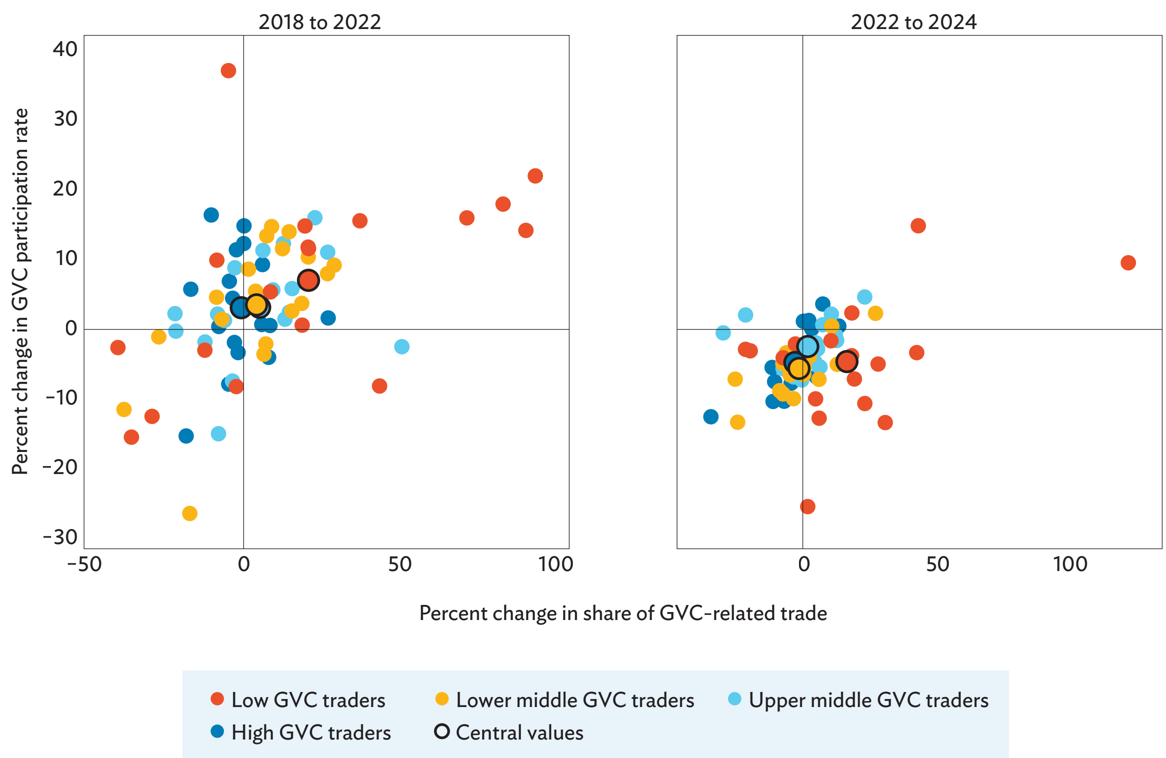
For the 19 low GVC traders, five were from South Asia (Bangladesh, Bhutan, Maldives, Nepal, Sri Lanka), four were from Europe (Cyprus, Estonia, Latvia, Malta) and three were from Southeast Asia (Brunei Darussalam, Cambodia, the Lao PDR). In 2010, these economies contributed 0.69% and 0.66% to the global gross and GVC-related export values, respectively. By 2018, these shares rose to 0.85% and 0.81% while in 2024, these further grew to 1.26% and 1.24%. This general trend is seen in Figure 1.5 in the central value of the group. In addition, average GVC participation also grew for these economies between 2018 and 2022, indicating a stronger reliance on GVCs for exports, but have gone down between 2022 and 2024.

The high GVC traders were composed of the typical hubs identified for GVC trade – Japan, the PRC and the Republic of Korea from East Asia; North American economies; and European economies such as France, Germany, Italy and the United Kingdom (UK), among others. Figure 1.5 also shows that the “appetite” towards GVCs grew between 2018 and 2022 in this group as evidenced by an increase in the participation rate before falling between 2022 and 2024, while their capture has consistently got smaller due to the growth in other groups. In 2010, their combined shares in gross exports and GVC trade were 77.46% and 76.07% respectively, but these went down to 76.84% and 75.16% in 2018. By 2024, these further contracted to 64.15% and 62.63%.

It is also worth noting that while high and upper middle GVC traders tended to send most of their value-added exports[6] to the high GVC traders, low GVC traders' export destinations were a bit more diverse – the top 10 destinations were split between high GVC traders, upper middle GVC traders and lower middle GVC traders.

Figure 1.5: Changes in Extent of Global Value Chain Integration – Relevance and Participation

Economies that contributed the least to GVC-related trade prior to the pandemic have taken up larger shares as global players went through reconfigurations.



Note: Gross export decomposition follows the framework of Borin and Mancini (2019). High GVC traders pertain to economies that fall in the 75th percentile of decade average GVC-related trade, while low GVC traders fall below the 25th percentile. Lower middle and upper middle GVC traders have values falling below the median but above the 25th percentile and above the median but below the 75th percentile, respectively. GVC-related trade refers to the value of gross exports involving multiple border crossings.

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

Diverging policy priorities across major global markets are exerting a stronger influence on global value chain-related trade than on traditional trade.

Global trade developments summarized in Table 1 underscore how geopolitical shocks and supply chain disruptions affected global GVC trade. Large markets such as the PRC and the US set de facto standards, while smaller economies navigated between blocs,

[6] Derived as the sum of REX and REF, thereby pertaining to GVC-related value-added exports

aligning themselves with dominant regimes where market access is essential. This has led to the emergence of “connector economies”, which have helped replace direct trade between areas affected by geopolitical tensions. Mexico and Viet Nam have both gained the most in US import shares and the most in PRC export shares (Gopinath et al., 2025). At the same time, stricter geoeconomic screening and export controls have followed in trade between the East and the West, with tighter outbound and inbound investment screening and critical mineral curbs slowing down long-term growth of enterprises (Huang et al., 2025).

Understanding these structural and ‘bloc’ developments is therefore essential for evaluating how GVCs are being reconfigured: whether global production processes are being brought closer to home or if networks are being reconfigured with new partners, corridors and standards while overall openness is maintained. In the following section, these dynamics are assessed through measuring deglobalization, diversification of exports, reshoring, regionalization and trade fragmentation. In doing so, this chapter aims to assess whether current developments reflect a fundamental restructuring of global production networks or a rebalancing of trade along geopolitical and regional lines.

Table 1: Global Developments Affecting World Trade, 2017-2024

Year	Trade Developments	Exports, In USD and Annual Change	GVC Trade, Value And Yoy	Traditional Trade, USD and Annual Change	Global GVC Average Production Length	Export Sector Forward GVC Participation	Export Sector Backward GVC Participation
2017	US trade policy shifts (NAFTA renegotiation)	$22.94 trillion, 16%	$10.7 trillion, 23%	$12.2 trillion, 12%	8.66	19.34	26.73
2018	PRC–US trade dispute	$25.48 trillion, 11%	$11.9 trillion, 11%	$13.5 trillion, 11%	8.63	19.45	26.59
2019	Global trade slowdown	$23.8 trillion, -6.6%	$10.5 trillion, -11.8%	$13.1 trillion, -3%	8.61	18.99	25.49
2020	COVID-19 pandemic	$21.6 trillion, -9%	$9.4 trillion, -10.3%	$12.2 trillion, -7.15%	8.73	18.58	24.72
2021	Supply chain bottlenecks; container shortages	$27.2 trillion, 25.8%	$12.6 trillion, 34.2%	$14.58 trillion, 19.3%	8.68	19.55	26.72
2022	Start of the Russian war in Ukraine	$30.26 trillion, 11%	$14.5 trillion, 14.9%	$15.74 trillion, 8%	8.80	20.03	27.64
2023	Conflict in the Red Sea; Panama Canal drought; conflict in Gaza	$29.5 trillion, -2.4%	$13.7 trillion, -5.35%	$15.77 trillion, 0.18%	8.84	19.42	26.54
2024	Expansion of carbon border policies; continuation of geopolitical tensions; threat of universal tariffs on RoW from the US	$30.7 trillion, 4.23%	$14.26 trillion, 3.8%	$16.5 trillion, 4.6%	8.75	19.41	26.40

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

Having established the recent trends and volatility patterns in world trade, the following section turns to the structural mechanisms behind these shifts, testing whether they reflect temporary adjustments or deeper changes in how GVCs are organized.

1.3 Structural Shifts in Global Value Chains

In this section, various aspects of trade and related phenomena are examined to offer viable explanations behind key observations seen from current trends, namely the widening of the gap between traditional and GVC-related trade, as well as the lengthening of production chains in several economies.

These are first explored from the perspective of the nexus between growth of exports and GDP to assess if there are signs of deglobalization (output increasingly being reallocated to local consumers; a retreat from international trade as a means of furthering growth). Following this, a host of reconfiguration strategies, namely export and import diversification, reshoring (replacing foreign dependence on supply in favour of domestic sectors), regionalization (reallocating trade to allies and/or neighbouring economies for strengthening regional resilience instead of global connectivity) and decoupling are analysed to assess how and to what extent adjustments were made in response to anomalies in global production, particularly those borne out of consecutive – and at times, overlapping – global crises.

To unpack these mechanisms systematically, the analysis begins with the macro-link between export and GDP growth, a traditional gauge of trade-output coupling, before turning to reconfiguration strategies such as diversification in trading partners, reshoring and regionalization.

The strong relationship between export growth and GDP growth weakened since the pandemic and has not gone back to previous levels, despite remarkable recovery in global trade.

In 2020, the global economy was shaped by disruptions in international logistics, curtailed cross-border movement and widespread shutdowns of production networks. Most economies saw a decrease in both GDP and exports growth in 2020, which successfully reversed in 2021 and 2022 as the same economies showed strong recoveries in both. In 2021, the only economies that posted a further decrease in GDP were Fiji, Japan and Lao PDR, even as the latter two's exports increased. In 2022, 46 more economies recorded increases in their GDP and exports, and resource-dependent economies such as Cambodia and Mongolia saw disproportionately strong recovery in exports relative to GDP growth, reflecting their integration into resilient commodity supply chains.

In the post-pandemic normalization and realignment period in 2023 and 2024, heterogeneity among economies became more pronounced. While the global trading system has adjusted to post-pandemic realities, “geoeconomic fragmentation” may be emerging, which refers to policy-induced changes in trade flows as guided by strategic efforts of governments to secure certain alliances. Importantly, this occurrence may also see an associated decline in global trade relative to GDP (Gopinath et al., 2025). New trade corridors formed, particularly between the Russian Federation, Central and West Asia, and the PRC, with some economies, such as Georgia and the Kyrgyz Republic, experiencing sharp increases in exports, possibly in response to sanctions on the Russian Federation. Lastly, several economies exhibited strong export growth despite low domestic activity, potentially benefiting from favourable exchange rate adjustments, surges in commodity exports or sanctions-driven trade diversion.

Economies maintained a diverse set of trading partners along global value chains, but several cases showed rising concentration as pre-existing relationships were challenged or reliance on neighbours grew stronger.

Based on this increased divergence over the years, the link between trade and GDP growth has weakened, perhaps due to existing vulnerabilities in international trade becoming more discernible in the face of crises. However, economies deeply integrated into global production networks may not have enough flexibility to disentangle GDP growth from increased trade. Instead, the most viable option would be to reconfigure existing structures to address weaknesses or limitations in the system, one of which being the concentration of trade flows as well as production capacities. To mitigate such risk, it is essential to diversify supply or demand and build more slacks in the network.

This practice is already commonplace in a handful of production chains as multinationals do tap multiple suppliers for items (Yusuf, 2024). Tradlinx (2025) says that enterprises are starting to adopt so-called “China+1” or “China+2” strategies to ensure multi-supplier sourcing. Apart from these, multiple modes of transportation (e.g., by air, rail or sea) are also being integrated into the system. In a 2022 study by Ernst and Young, 62% of enterprises surveyed have made significant changes to their supplier base, 57% initiated operations in at least one economy, while 53% have either nearshored or reshored their operations (DHL, n.d.). To investigate if this import diversification or concentration phenomenon is also occurring along global value chains, Herfindahl-Hirschman indexes (HHIs) are produced using GVC-related trade from the perspective of the destination economy, which is a standard measure of how diversified or concentrated an economy’s trade relationships are[7]. In the context of GVCs, the index is calculated separately for exports and imports to show how widely an economy sources from or sells to its partners. Lower HHI values indicate a more diversified and resilient trade structure, while higher HHI values point to greater

[7] The detailed mathematical specification, variable definitions, and weighting methodology are provided in Annex 1 (Methodological Notes for Chapter 1).

concentration and potential vulnerability to partner-specific shocks. Thresholds used by the US Federal Trade Commission (FTC) and the UK Competition and Markets Authority (CMA) classify HHIs below 0.10 as unconcentrated, between 0.10 and 0.18-0.20 as moderately concentrated, and above 0.18-0.20 as highly concentrated (Madhu et al., 2024; FTC, 2023; CMA, 2023).

Apart from mitigating risks from the supply side, economies can also do so from the demand side by diversifying beyond their main export destinations. A similar approach is used to capture this export diversification phenomenon by producing HHIs from the perspective of the origin economy. Looking at the results of these analyses in Figure 1.6, several key observations can be drawn, the first of which is a general picture of diversification in complex cross-border demand and supply of intermediates during the pre- and post-pandemic era. Following the thresholds compiled by Madhu et al. (2024) from the US FTC and the UK CMA, the average values[8] for exports-related HHI were 0.093 in 2019 and 0.092 in 2024, while those for imports-related HHI were 0.083 in 2019 and 0.082 in 2024.

Next, there were fewer economies that became less diversified in 2024. Only 23 out of the 72 (31.9%) economies had higher exports-related HHIs in 2024, most notably the Russian Federation (increase of 247.3%), Argentina (121.1%) and Viet Nam (48.6%) – all of which were reclassified to “moderate concentration” from “no concentration” five years prior. The changes exhibited by these economies were more pronounced compared to those that diversified, with an average increase of 32.36% as compared to just 16.06% (in absolute value terms) for the latter. On the other hand, 30 out of the 72 (41.67%) economies registered higher imports-related HHIs in 2024. The Russian Federation (186.45%), Slovenia (154.72%) and Pakistan (92.64%) had the highest increases, leading to a reclassification from “no concentration” to “moderate concentration”. Like the export counterpart, instances of positive changes in this indicator were more significant with an average absolute change of 28.57% compared to 12.01% for those that diversified.

Looking at individual economies, there are a few which display notable patterns and trends. First is the Russian Federation, which had the smallest export-related HHI in 2019 (0.036), thereby having the most diverse set of destinations for its GVC-related trade. Its main trading partners were the PRC (7.48%), Germany (7.34%), Poland (5.22%), the US (4.60%) and Türkiye (4.55%), with exports even reaching small, open economies such as Maldives and Fiji. By 2024, however, the Russian Federation became the 13th most concentrated economy with its HHI increasing to 0.124, which (as mentioned above) made its GVC-related exports moderately concentrated. Evidence of lessened reliance on the US and Europe (Germany, Poland, Italy, the Netherlands, Finland and the UK) is also apparent as all these economies fell out of the top 10. Meanwhile, the

8 Weighted averages are calculated by using the total value of exports for exports-related HHIs and the total value of imports for imports-related HHIs

PRC's share rose to 27.94% in this year while dependence on India also saw a dramatic increase – from 1.96% to 17.57%. In terms of imports-related HHI, the Russian Federation moved from being the 9th most diverse economy (HHI = 0.054) to having the 11th highest HHI (0.154). This was mainly driven by imports from the PRC, whose share increased from 13.50% to 36.88% between 2019 and 2024.

Next are the most concentrated economies in terms of GVC-related exports, namely Mongolia, Mexico, Bhutan and Canada. An obvious characteristic shared by this group is a strong dependence on neighbouring economies. Mongolia's HHI increased from 0.735 in 2019 to 0.827 in 2024, which coincided with the PRC's share rising from 85.62% to 90.93%. Mexico and Canada, on the other hand, were highly reliant on the US market and to a certain extent on each other. The US received 76.55% and 60.29% of Mexico and Canada's GVC-related exports in 2024, respectively, while both economies were in each other's top five destinations across the years. As for Bhutan, India took up the majority of its outbound trade in 2019 and 2024. It is also worth noting that there were differences in trends among these economies, with Mongolia and Mexico having registered higher HHIs over time while Bhutan and Canada showed signs of diversification – some of India's share in Bhutan's exports were taken up by Thailand and Bulgaria, while reliance on the PRC increased for Canada.

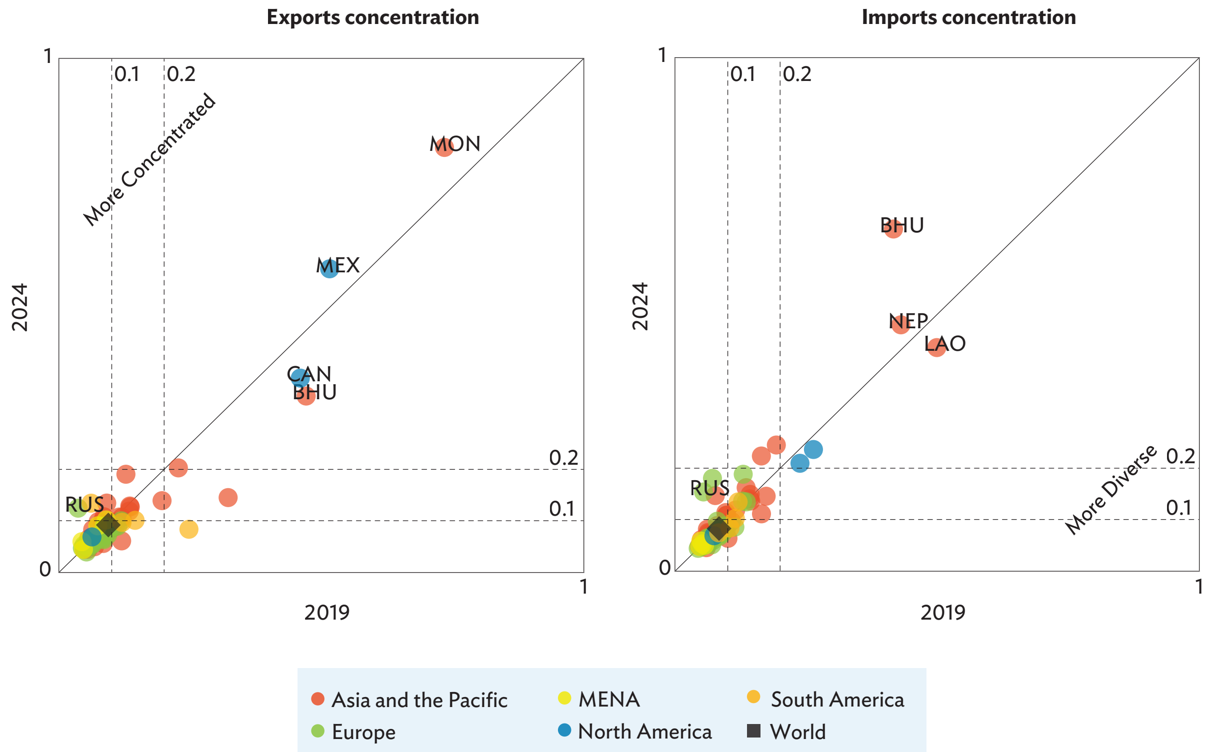
The most concentrated economies in terms of GVC-related imports were the Lao PDR, Nepal and Bhutan, all of which are small, landlocked economies that heavily rely on a few industries (e.g., agriculture). All three remained in the "high concentration" category between 2019 and 2024, with Bhutan (0.42 to 0.67) and Nepal (0.43 to 0.48) registering increases in the index. Similar to what was seen for exports, dependence on neighbouring economies was quite high – Bhutan's reliance on India went up to 81.3% from 63.2%, Nepal's imports from India also increased (64.4% to 68%), while the combined shares of Thailand, Viet Nam and Singapore in the Lao PDR's supply of GVC-related trade were 79.9% and 71.1% in 2019 and 2024, respectively.

Apart from mitigating risks from the point of view of trade partners, economies can also approach this by diversifying beyond their main exporting sectors. 27 out of the 72 (37.5%) economies have become less diverse both in gross and value-added exports[9], primarily concentrated in Southeast Asia (e.g., Brunei Darussalam, Indonesia, the Lao PDR, Singapore and Thailand), 12 economies in the EU and the biggest players in the Americas. These economies are far less concentrated than resource-dependent economies, but they might have reached their diversification capacity or are starting to focus on fewer products as they specialize. On the other hand, 18 economies have become more diverse in both gross and value-added terms. The biggest changes came from the Russian Federation as well as economies it shares close trading relationships with such as Georgia, Kazakhstan, the Kyrgyz Republic,

9 These refer to value-added exports based on forward industrial linkages, which allows contributions of other sectors in exports that may not be captured by traditional measures to be included.

Figure 1.6: Herfindahl-Hirschman Indexes of Economies for Global Value Chain-Related Trade, 2019-2024

GVC-related trading activities remained diverse across the years, with a few exceptions of higher concentration due to trade redirection or increased reliance on neighbouring economies.



BHU = Bhutan; CAN = Canada; LAO = Lao People's Democratic Republic; MEX = Mexico; MON = Mongolia; NEP = Nepal; RUS = Russian Federation

Note: The Herfindahl-Hirschman Index (HHI) is a measure of an economy's export concentration. Thus, higher values of HHI correspond to lower levels of diversification. The HHI indexes shown in the figure are computed using GVC-related exports/imports derived from the value-added accounting framework of gross exports of Borin and Mancini (2019). The Rest of the World aggregate is excluded from the analysis.

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

India and the PRC. Significantly, all MENA economies in the database have shown a decrease in concentration, signalling that these resource dependent economies may already be maturing and starting to diversify away from minerals. It must be noted, however, that most of these changes are very minimal and the more general picture is that of stability, which points to the fact that diversifying may often be an expensive proposition that requires various feasibility studies, as well as investments in soft and hard infrastructures, among others (Yusuf, 2024).

Having examined how diversification and concentration in trading partners have evolved, the next step considers whether economies have sought resilience through reshoring production closer to home or by strengthening regional supply networks.

Dependence on foreign value-added sources to satisfy domestic final demand decreased since the pandemic onset for the People's Republic of China, the United States and the European Union, possibly indicating some level of reshoring. Simultaneously, signs of regionalization were also present in this period.

Aside from concerns related to risks associated with concentration in global production networks, there is also an alternative strain of ideology that promotes distaste for economic globalization, often associated with bringing production closer to home. Such interventions, motivated by geopolitics and self-sufficiency, are often associated with reshoring and regionalization. Cai and Miroudot (2024) analysed the extent of reshoring by looking at the ratio of foreign to domestic value-added in domestic final demand. Percent changes in this ratio are derived for two periods – pre-pandemic (2011 to 2019) and pandemic onset onwards (2019-2024). Using structural decomposition analysis, these changes are then attributed to five factors:

1. **Final demand composition**: the industry mix in an economy's final demand (e.g., the change in economy A's agriculture sector's share in economy A's final demand)
2. **Final demand sourcing**: the location where products for final use are being sourced (e.g., economy A substituting final products from economy B in favour of economy C)
3. **Input industry mix**: the use of intermediates irrespective of origin (e.g., an increasing use of manufacturing input corresponding with declining purchases of business services)
4. **Input sourcing mix**: the location where intermediates are being sourced (e.g., economy A substituting intermediates from economy B in favour of economy C)
5. **Value-added coefficient**: the ratio of value-added to gross output

This methodology is replicated using the ADB MRIOTs, which extends the pandemic onset period to 2024. In the pre-pandemic period, almost all economies with major roles along GVCs appeared to have increased their extent of vertical specialization, as evidenced by the growth in the foreign to domestic value-added ratio. However, the PRC and the Republic of Korea, economies capable of producing their own advanced industrial goods with track records of vertical integration, were obvious exceptions. During the phase of globalization that saw intermediate goods becoming the driver of trade as well as an increasing participation of a more diverse – i.e., non-Western group of economies and individuals (called "Globalization 3.0" by Thomas Friedman in 2005), the PRC was recognized as the workshop of the world, wherein more downstream processes were allocated for efficiency gains. However, the PRC, in its "dual circulation" strategy, has emphasized domestic growth and economic self-sufficiency, leading to a transition from a relatively downstream to a relative upstream position along GVCs in recent years (Schneider-Petsinger, 2023) and marking a significant shift in the structure of international trade.

Structural decomposition analysis shows that the main drivers for growth between 2011 and 2019 were final demand sourcing and input sourcing mix for 16 out of 72 economies covered. This means that the key reasons more economies appeared to have increased their reliance on foreign sources were changes in the locations where final products and intermediate inputs were sourced from, i.e., the distribution of import partners changing during the period. On the other hand, the input industry mix, used as a proxy for productivity gains arising from technological innovations, contributed significantly to the decline in foreign value-added embedded in domestic consumption for Asia and the Pacific economies such as the PRC, the Republic of Korea, Viet Nam and Mongolia. For example, the Republic of Korea has increased its domestic production of high-end semiconductors and electric vehicles (EVs), requiring more IT services and R&D, which meant that there was considerable substitution of inputs[10] and changes in technology and specialization that took place in this period.

During the pandemic onset and beyond, a reversal of the pattern was seen for the EU, primarily driven by final demand sourcing and composition, while the level of reliance of the PRC and the US on foreign intermediates also declined (Figure 1.7). This may be taken as a sign of reshoring in recent times as it suggests some degree of substitution of foreign value-added sources for domestic ones. However, large economies like India, Japan and the Republic of Korea showed an increase in the indicator, which renders such a reversal to be more of a location-specific trend. Interestingly, even though the trade dispute between the PRC and the US occurred in this period[11], the decline in the ratio was not too drastic, which may partly be explained by reports and observations of ensuing trade redirection that took place in response to losses associated with retaliatory tariffs imposed on each other.

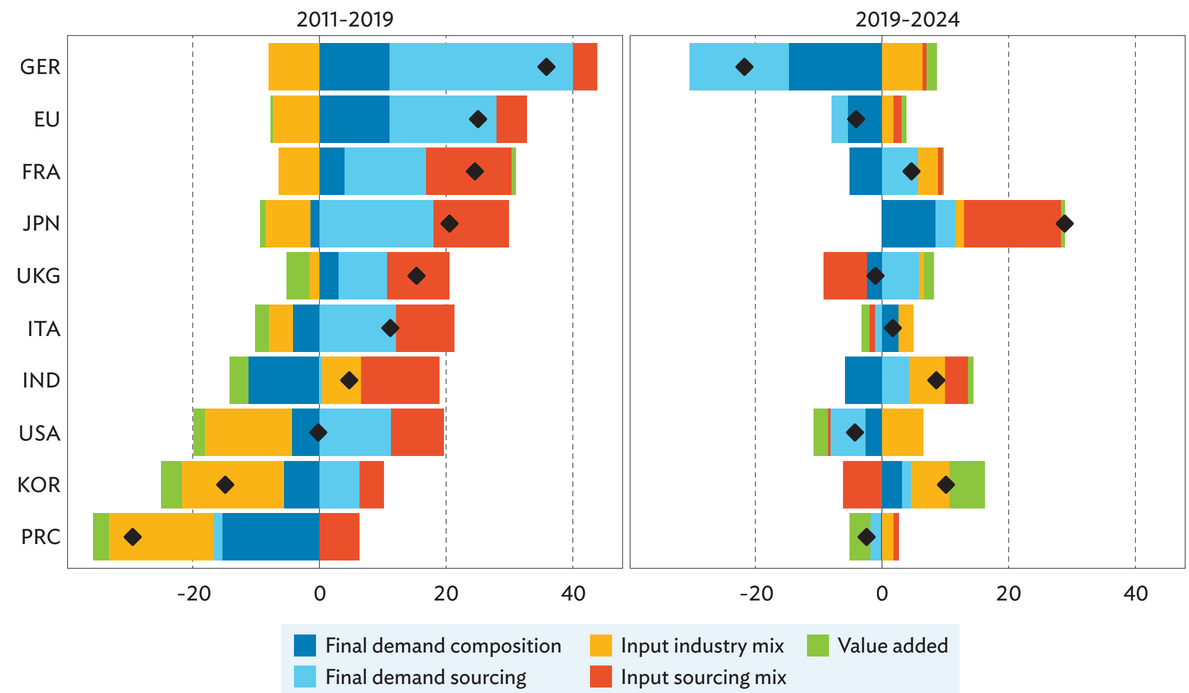
As for regionalization, trends in the ratio of intra- to inter-regional domestic value-added embodied in intermediate trade are presented in Figure 1.8. A rise in this indicator conveys that internal trade reliance – both in terms of exports and imports – of economies belonging to the same region has got stronger, thereby suggesting regionalization. There are two useful ways to look at the trends – first from the perspective of levels and the second from growth. It is quite clear how the EU is more “regionalized” as compared to the rest of the world, which points to the “single market” approach within the bloc. By 2019, this ratio jumped to what appears to be a new equilibrium hovering around 1.5.

10 Produced primarily by a particular industry.

11 Largely driven by the fact that there was a considerable dependence between the two economies – hence the US administration’s push for decoupling strategies.

Figure 1.7: Percent Change in the Ratio of Foreign to Domestic Value-Added in Domestic Final Demand, Structural Decomposition Analysis, Selected Economies

Reliance on foreign intermediates in selected economies has declined, driven by a range of factors.



EU = European Union; FRA = France; GER = Germany; ITA = Italy; JPN = Japan; KOR = Republic of Korea; PRC = People's Republic of China; UKG = United Kingdom; USA = United States.

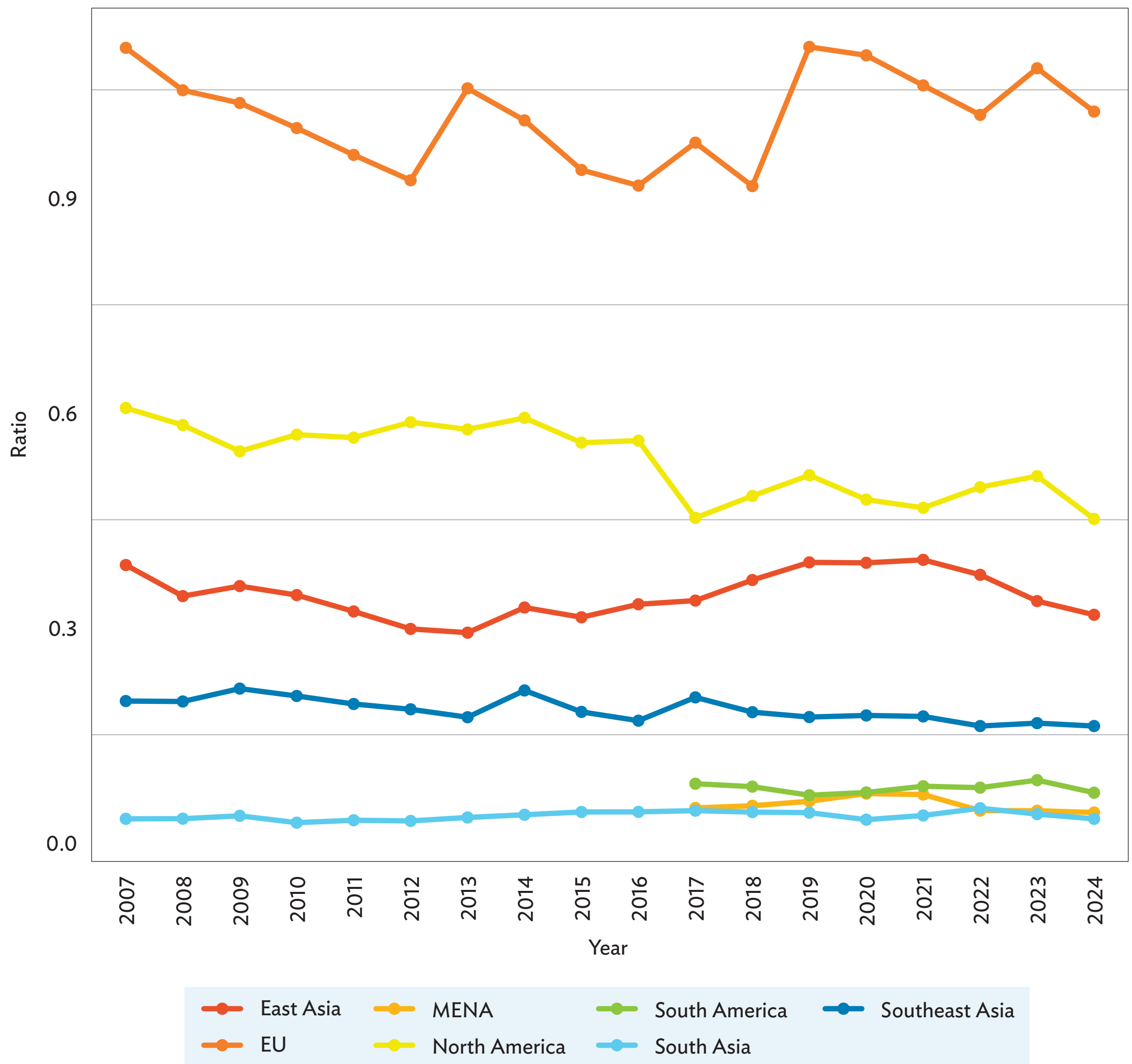
Note: The European Union is treated as a single economy.

Source: Asian Development Bank Multiregional Input-Output Database; and Organisation for Economic Co-operation and Development estimates.

While the relatively high ratios in North America are self-explanatory, it is interesting to see how the trend appears to be the opposite of what was seen for the EU – stable values around 0.6 are observed from 2007 to 2016 before going down and staying close to 0.5 in the years that followed. Meanwhile, East Asia exhibited an increasing internal reliance from 2015 to 2021 before declining in more recent years. Lastly, MENA, South America, South Asia and Southeast Asia appeared to consistently trade more externally than internally, despite the numerous trade agreements in place (e.g., ASEAN Free Trade Area, Greater Arab Free Trade Area, Mercosur, South Asian Free Trade Area and the Regional Comprehensive Economic Partnership).

Figure 1.8: Ratio of Intra- to Inter-Regional Domestic Value-Added in Intermediates Trade

Trends in trade dependence within regions were quite variable, with some stabilizing at higher or lower levels and others remaining steady across the years.



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, 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.

Gross and direct value-added trade were negatively affected by growing fragmentation along geopolitical lines, while indirect value-added trade was generally unaffected.

While there is some level of stability in intra- to inter-regional dependence on intermediates trade, blocs that transcend geographic barriers may be of more relevance, especially given current developments. Recent evidence points to a growing fragmentation of global trade along geopolitical lines since the start of the Russian war in Ukraine (Blanga-Gubbay and Rubínová, 2024). Trade between hypothetical East and West blocs – measured using UN General Assembly voting patterns (Bailey, Strezhnev and Voeten, 2017) – grew around 4% slower than trade within each. Extending the analysis to a more recent period, after an initial widening of this gap, fragmentation appears to have stabilized in 2023 and 2024. In the first half of 2025, further fragmentation is observed but, unlike 2022, this is so far mostly explained by an acceleration of the PRC-US decoupling.

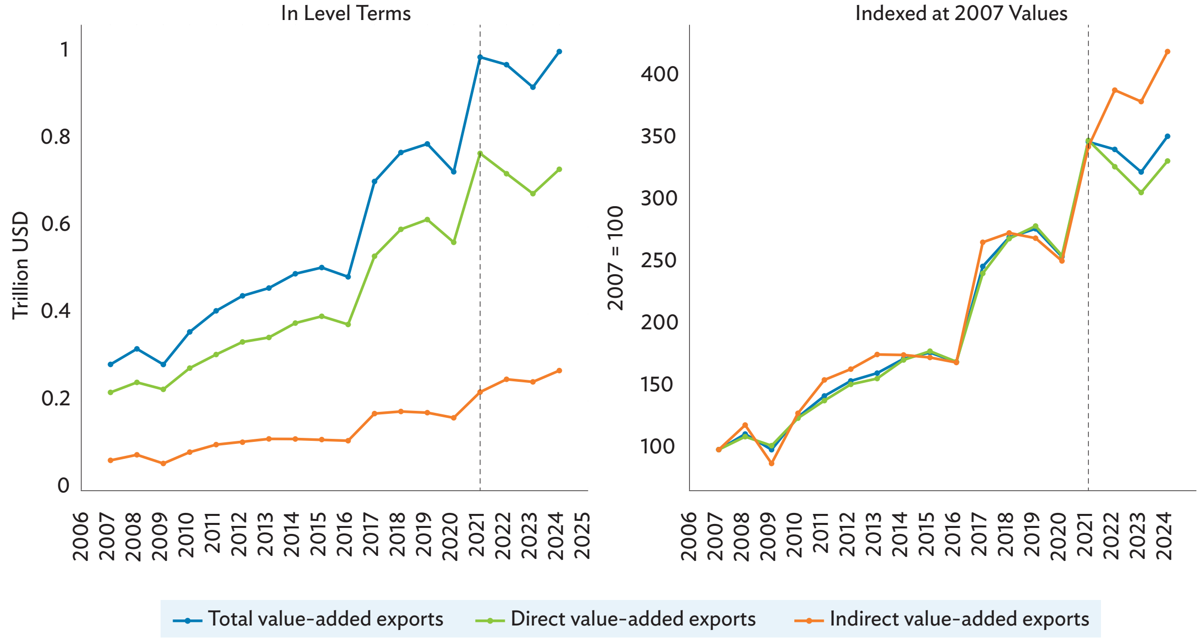
In fact, rising trade tension between the PRC and the US since 2018 has intensified decoupling pressures. The tit-for-tat tariff increase, followed by global uncertainty and geopolitical shocks, has had a strong impact on bilateral flows – trade between the two grew substantially slower (around 30%) than their trade with the rest of the world. This led to preliminary evidence of trade diversion and rerouting of goods through connector economies, highlighting how geopolitical frictions can reshape trade geography. For example, Alfaro and Chor (2023) show that decoupling was accompanied by an increase in US import shares from Viet Nam and Mexico, which in turn increased their imports from the PRC.

It is, however, difficult to assess the magnitude of trade rerouting using gross trade data alone. To go beyond gross flows in the analysis of decoupling and connector economies, value-added trade data from ADB MRIOTs are used, which shows that rerouting makes up for only a small share of the fall in PRC-US trade[12]. In a world increasingly organized around GVCs, input-output linkages provide a clearer view of underlying exposure as they enable quantification of indirect value-added trade (e.g., PRC value-added in the exports of intermediary economies like the EU, Mexico or Viet Nam, to the US). Looking at Figure 1.9, direct value-added trade between the PRC and the US declined in parallel with gross exports while indirect value-added trade increased from 2021 to 2024, indicating some redirection of trade through connector economies. However, the level of indirect value-added trade remains small compared to direct flows, such that its growth has not compensated for the decline in direct value-added trade. This implies that the trade tensions have significantly lowered PRC-US trade linkages despite anecdotal evidence of rerouting.

12 See Blanga-Gubbay, Majune, Rubínová, and Stolzenburg (forthcoming) for details.

Figure 1.9: Value-Added Trade Between the People's Republic of China and the United States

Rerouting trade through intermediary economies increased but only partially cushioned the blow of increased trade tensions between the PRC and the US.



Note: Left panel shows the value of trade in trillions of dollars (current prices). The right panel sets 2007 as the baseline year, thus all figures are expressed in terms of percentage of this initial value.

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

Blanga-Gubbay, Majune, Rubínová and Stolzenburg (forthcoming) also demonstrate how trade patterns between geopolitically aligned economies showed obvious signs of fragmentation when viewed through the lens of value-added trade. Results from their study indicate a decline in direct value-added trade since the Russian war in Ukraine began, consistent with findings based on gross trade flows, but, in contrast to the PRC-US case, indirect value-added trade showed no significant movement. Turning to services, no comparable signs of fragmentation were observed, which may be linked to the fact that services trade is highly concentrated, thereby making redirection more challenging. It also likely reflects the fact that trade policy remains focused on manufacturing and critical minerals, despite the growing role of services for trade discussed in this chapter and the GVC Development Reports of 2017 and 2021 (Heuser and Mattoo, 2017; Nano and Stolzenburg, 2021).

In summary, the weaker relationship of GDP and trade growth among economies may be taken as a sign of prioritizing local versus foreign consumption of domestically produced goods and services, especially after the pandemic onset. It must be noted, though, that the correlation remained positive and significant throughout the study period, which means that in general, international trade remains highly tied with economic growth – a result that has persisted despite numerous global crises having occurred in recent decades. In addition, despite some marginal increases in export concentration metrics for some economies – both in terms of suppliers and consumers of GVC-related trade – the overall picture still suggests diversification across the board.

Recent developments, such as challenges in existing trade relationships and growing reliance on neighbouring economies, combined with a decline in the reliance on foreign intermediates, warrant a more careful look, as they may partly explain the widening gap between traditional and GVC-related trade observed from 2023 to 2024. Lastly, while there is stability in intra- to inter-regional dependence on trade, there appears to be evidence of fragmentation between hypothetical East and West blocs as well as decoupling and trade rerouting, especially after major periods of geopolitical crises.

Overall, there is still a good deal of heterogeneity in the paths that economies have taken since the disruption of the COVID-19 pandemic. Some structures that existed for a long time are already gone – e.g., the EU's dependence on the Russian Federation, the PRC's downstream position in GVCs – while new patterns are emerging. These shifts suggest that globalization is not retreating but rather being reshaped in different forms and through new channels. The next section turns to regional trade developments and the extended application of inter- and intra-regional trade within regions to analyse these emerging patterns and reconfigurations in more detail.

1.4 Regional Trends

As economies face rising uncertainties, regional trade patterns are diverging – highlighting that while global value chains remain broadly resilient, the pathways through which trade flows are changing.

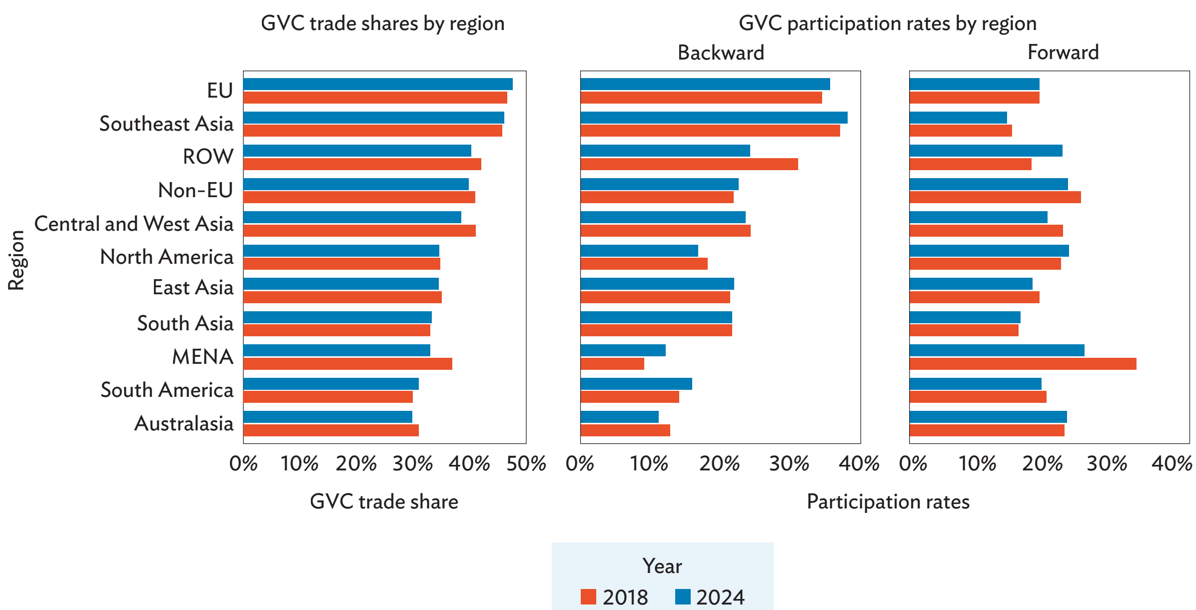
Understanding regional trade trends is essential for assessing the evolving structure of globalization. While global aggregates point to stabilization in overall trade, they conceal important divergences across regions that point to the patterns seen in GVC-related trade. Regions faced distinct strategic trade-offs: some, like parts of the EU, have had to substitute Russian energy imports while facing internal tensions of decreasing trade with the PRC, even as the PRC had simultaneously increased its trade ties with individual EU economies like Hungary, Poland and the Slovak Republic (PISM, 2024). South America has also been diversifying to the PRC over the past two decades, with the latter becoming the largest trading partner to Brazil, Chile, Peru and Uruguay and signing free-trade agreements with Chile, Costa Rica, Ecuador, Nicaragua and Peru (CRS, 2023).

Figure 1.10 shows regional differences between the role of GVCs in exports. The EU and Southeast Asia remained the most integrated into GVCs, with both regions maintaining the highest GVC-related trade shares over the period. Notably, the EU experienced further increase in its GVC trade share by 2024, reinforcing its role as a global hub. Southeast Asia also sustained a high GVC-related trade share, highlighting its emerging importance in manufacturing and re-export activities. By contrast, several regions, such as Australasia, Central and West Asia, MENA and other European economies, recorded declines, reflecting either reduced reliance on foreign inputs or weaker integration of domestically produced intermediates in complex production networks. Meanwhile, respective shares of East Asia, North America, South Asia and South America remained stable, indicating that their structural positions in GVCs were largely entrenched. As such, there is persistence in long-standing GVC hubs and divergence across other regions.

Backward participation rates remained highest in the EU and Southeast Asia, reflecting their deep reliance on imported intermediate inputs and relatively downstream position in global production networks. By contrast, Australasia and MENA displayed lower backward participation rates and higher forward participation rates, underscoring their importance in upstream production chains. However, between 2018 and 2024, their trajectories diverged – while MENA had decreased its participation in upstream inputs into GVCs and increased their backward GVC participation, suggesting diversification away from raw resources, Australasia maintained their participation patterns. Altogether, this suggests that regional trajectories differed: some economies reinforced their roles as hubs for complex supply chains, while others reconfigured their GVC linkages. In this section, we take a closer look into the regional breakdown of trade flows to assess whether these shifts represent early signs of new trading patterns.

Figure 1.10: Global Value Chain Participation Rates By Region, 2018 and 2024

GVC-related trade remains concentrated in the EU and Southeast Asia, with diverging backward and forward linkages across regions.



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

Note: Asia and the Pacific regional groupings are based on ADB classifications.
Australasia consists of the following economies: Australia, Fiji, and New Zealand.
Central and West Asia: Armenia, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, and Türkiye.
Non-EU economies: Norway, the Russian Federation, Switzerland, and the United Kingdom.

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

The European Union saw growth in trade within the bloc, while the Russian Federation and the United Kingdom diversified trade to outside of the region.

Since 2017, EU trade has undergone major reconfigurations. The UK's withdrawal from the EU Single Market and Customs Union in 2020 triggered a sharp decline in EU–UK trade (Kren et al., 2024). A second and even more profound adjustment came in 2022 when the EU, the UK, the US and other allies responded to the start of the Russian war in Ukraine by imposing sweeping sanctions targeting the Russian Federation's financial sector, energy exports and industrial base. For decades, the Russian Federation was one of the EU's primary trade partners, particularly in energy. Germany sourced around 60% of its natural gas imports from the Russian Federation, while reliance in Central and Eastern European economies reached as high as 90% (Rojas-Romagosa, 2024; Yusuf, 2024). By 2023, however, EU sanctions such as embargoes on coal, refined oil and a G7-led crude oil price cap, had reduced the Russian Federation's refined fuel exports to the EU to just 12% of total sectoral exports, down from 42% only a year earlier.

The EU's move to decouple had immediate repercussions – bilateral goods trade with the Russian Federation fell to its lowest level in decades, energy prices spiked through 2022-23 and supply chains for both energy and agriculture were disrupted (Schneider-Petsinger, 2023; Steinbach, 2023). In response, the EU diversified by shifting to liquefied natural gas (LNG) imports from the US, expanding renewables and rerouting export flows towards Central and West Asia, which absorbed over $20 billion of redirected EU exports (Birch et al., 2024). While these shifts imposed economic costs through higher energy prices and trade distortions, they also accelerated the EU's long-term structural adjustment, reducing dependence on Russian energy and reinforcing investment in alternative supply routes and sustainable energy sources.

Figure 1.11 shows that both intra-regional total trade and domestic value-added in intermediates trade[13] grew at a higher pace than with other regions since 2019, highlighting a stronger internal reliance, particularly in satisfying final demand. While inter-regional trade also expanded, its trajectory has been uneven – trade ties with the UK and the Russian Federation contracted, while flows to other regions strengthened between 2023 and 2024. This pattern suggests that, although the EU has faced significant shocks in the region in the past five years, it has reinforced internal integration while diversifying inter-regional partnerships to mitigate vulnerabilities exposed by rising geopolitical tensions.

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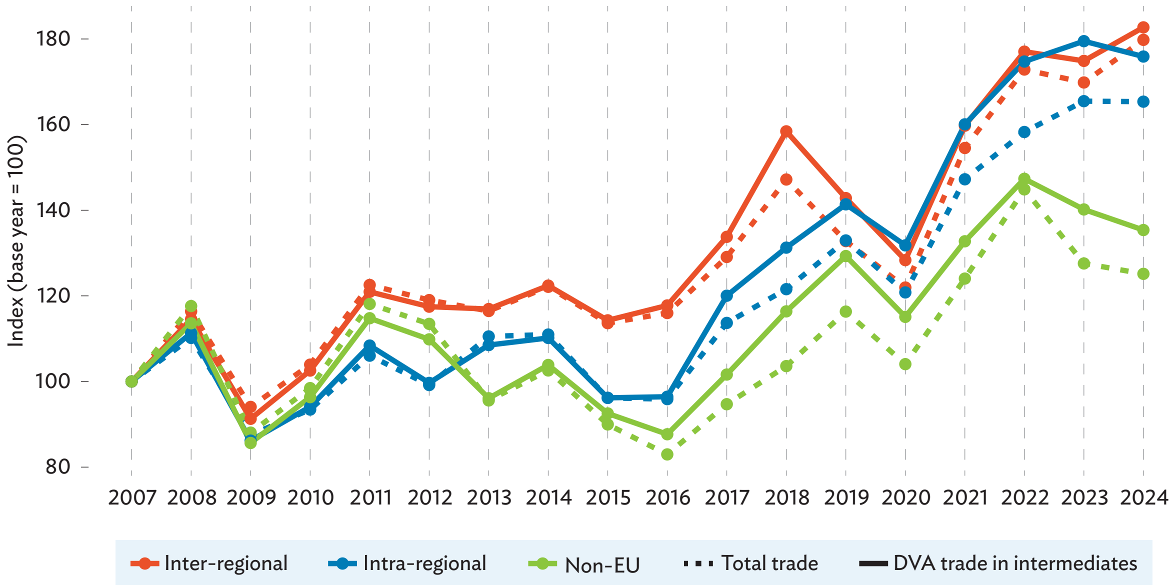
13 The sum of DAVAX2, REX, and REF from Borin and Mancini's gross exports decomposition framework

Figure 1.11: Change in the EU's Inter- and Intra-Regional Total Trade and Domestic Value-Added in Intermediates Trade, 2017-2024

The EU's intra-regional trade strengthened as trade with other European economies decreased since 2022.



DVA = domestic value-added.

Note: Other European economies ("Non-EU") include Norway, the Russian Federation, Switzerland and the UK. Inter-regional trade includes these European economies.

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

Central and West Asia emerged as a growing intermediary hub while the European Union, the Russian Federation and the People's Republic of China looked for alternative routes.

Europe's pivot from the Russian Federation redirected flows towards Central and West Asia, elevating the Trans-Caspian International Transport Route as an alternative Eurasia channel. Economies in the region experienced significant trade growth by acting as intermediaries while maintaining trade with both the Russian Federation and the West. With the Russian Federation cut off from many direct Western imports, trade data is consistent with these neighbours becoming key transit hubs for "parallel imports", where goods are rerouted through third economies. The Russian Federation officially legalized parallel imports in 2022, facilitating this practice through trade partners like Türkiye and Kazakhstan (UNCTAD, 2022). In 2022, bilateral exports from the Kyrgyz Republic and Kazakhstan to the Russian Federation, for instance, grew by 47.6% and 82.57%, respectively[14]. In fact, between 2022 and 2023, the Russian Federation was the largest export partner for economies in the region – Armenia, Georgia and the Kyrgyz Republic and the second largest for Kazakhstan, after the PRC. At the same time, product-level analysis for Armenia, Kazakhstan and the Kyrgyz Republic suggests that these economies experienced strong import growth from the

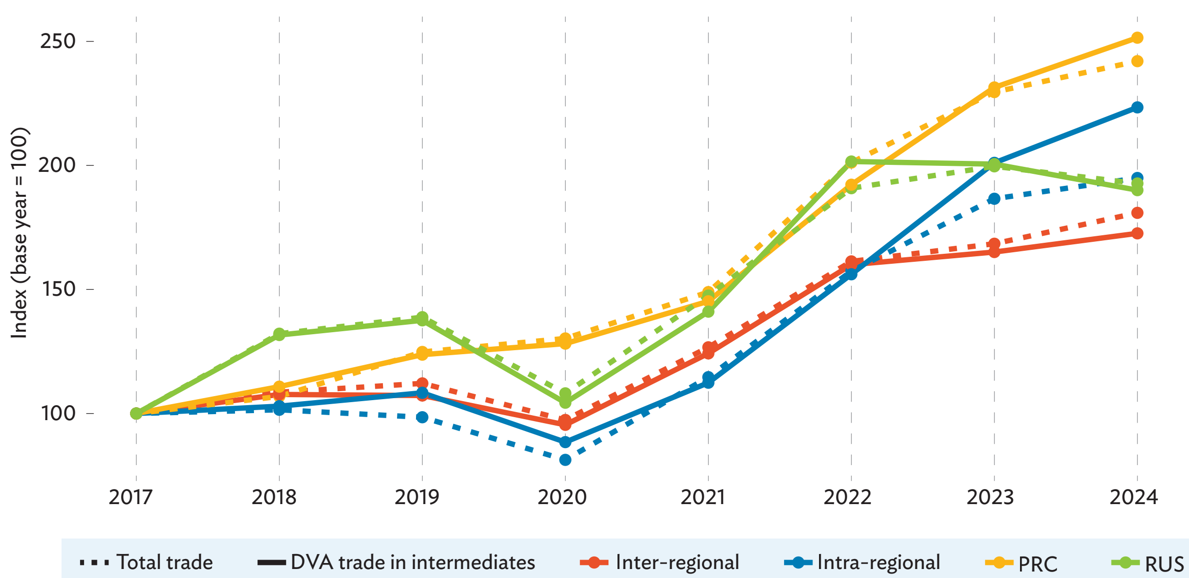
[14] The increase in trade values is likely amplified by inflationary effects, as the analysis is based on current price tables. For an explanation of the rationale behind using current rather than constant price tables, refer to Box 1.1.

EU, particularly pronounced in product groups partially or fully subject to sanctions (Chupilkin et al., 2023).

Beyond the Russian Federation, regional trade integration accelerated through the Trans-Caspian International Transport Route, otherwise known as the Middle Corridor. Cargo flows doubled in 2022 to 1.5 million tons, while the traditional Northern Route fell by 34% (Euronews, 2025). The PRC has deepened its engagement in the region, signing bilateral agreements with Azerbaijan, Georgia and Kazakhstan to expand the corridor (Trends Research, 2024), which reflected in the rapid increase of exports from the region to the PRC. Figure 1.12 shows that Central and West Asian economies have seen a strong trade growth since 2020, including both inter- and intra-regionally, with the Russian Federation and especially with the PRC. Furthermore, Central and West Asia became one of the only regions that has not seen a significant decline in trade from 2022 to 2023, and a steady increase in domestic value-added trade in intermediates, overtaking growth in traditional trade with external regions. These developments underline how Central and West Asia has become pivotal in both sustaining Russian trade and reshaping Eurasian connectivity in GVCs.

Figure 1.12: Change in Central and West Asia's Inter- and Intra-Regional Total and Domestic Value-Added in Intermediates Trade, 2017-2024

Central and West Asia's trade with the rest of the world strengthened, particularly with the PRC and the Russian Federation.



DVA = domestic value-added; RUS = Russian Federation; PRC = People's Republic of China.
Note: Inter-regional trade figures include flows with the Russian Federation and the PRC.
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

The People's Republic of China and India deepened trade ties with the Russian Federation, as other economies in East Asia and South Asia looked to diversify their trading partners.

As geopolitical tensions unfolded in the West, the PRC and India deepened their north-bound links, reshaping partner portfolios with the Russian Federation. The PRC did not join Western sanctions, opposing unilateral restrictions and continuing regular trade with the economy. The Russian Federation, in turn, weathered the initial sanctions shock by pivoting to trade with Asia, propping up its economy through state intervention and leveraging its commodity wealth. By 2023, total trade between the two economies had reached a record high, surpassing the Russian Federation's trade volume with the EU (Figure 1.13). The PRC's share of Russian imports more than doubled, from 19.5% in 2017 to 39.4% in 2024, with notable acceleration during the COVID-19 pandemic and after February 2022. The PRC's domestic value-added in exports to the Russian Federation, including machinery, electronics, automobiles and other consumer products, has increased by 56% from 2021 to 2023, effectively replacing lost European trade. However, at the same time, foreign value-added embedded in PRC exports to the Russian Federation has increased by 70% in the same time period – a higher rise compared to all other trade components.

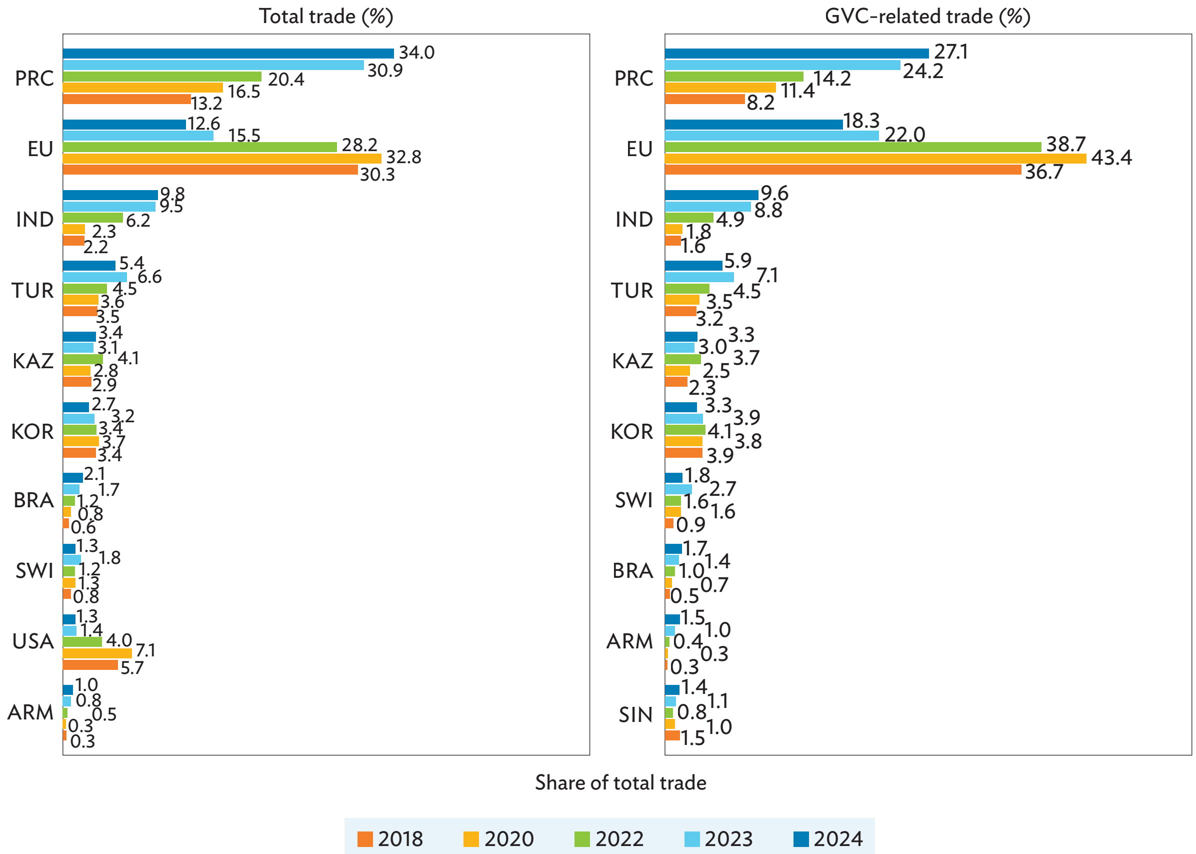
The Russian Federation also strengthened its trade relations with India, with exports doubling between 2021 and 2022. GVC-related trade similarly expanded – more than doubling and outpacing the growth of total trade (Figure 1.13). By mid-2023, the Russian Federation had become India's largest crude oil supplier, with the refined fuels sector accounting for approximately 28% of total Indian imports, compared to 3.6% in 2021. As with the PRC, India's trade with the Russian Federation showed a higher share of directly absorbed domestic value-added in intermediates (DAVAX2) rather than participation in broader GVCs. The PRC and India have also faced increasing barriers with trade from the US in 2025, which will likely affect the trade reconfiguration of the two economies and, by extension, of the region in the coming years.

Elsewhere in East Asia, the COVID-19 pandemic exposed the structural vulnerabilities of advanced economies, as the EU and the US have relied on the region for leading-edge chips. Advanced chip fabrication has been concentrated in Taipei,China and in 2023, its exports contracted by 9.6%, with traditional trade rising by 1.4% but GVC-related trade falling more sharply by 17.8%[15], indicative of the economy's relative downstream position in GVCs (positioned 58th out of 72 economies). However, in 2024, the economy's exports grew by 8.2%, with both GVC-related trade and traditional trade increasing. Across the sea, Japan registered weak overall trade performance, though GVC-related exports edged by 0.06% in 2024 despite a slight decline (-0.86%) in traditional trade. The Republic of Korea experienced a steep decline in GVC-related trade in 2023 (15.9%), followed by a strong rebound in 2024 (9.2%). Meanwhile,

[15] Out of which REF declined by 44%, REX declined by 28%, and FVA declined by 16%.

Figure 1.13: Top 10 Trading Partners of the Russian Federation By Trade Type, 2018-2024

While the Russian Federation's overall trade rapidly realigned after 2022, shifts in its GVC-related trade have not followed traditional trade.



ARM = Armenia, BRA = Brazil, EU = European Union, IND = India, KAZ = Kazakhstan, KOR = Republic of Korea, PRC = People's Republic of China, SIN = Singapore, SWI = Switzerland, TUR = Türkiye, USA = United States.
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

Mongolia, as a commodity-dependent economy, displayed more volatile traditional trade growth compared to relatively stable GVC-related trade, diverging from broader regional patterns.

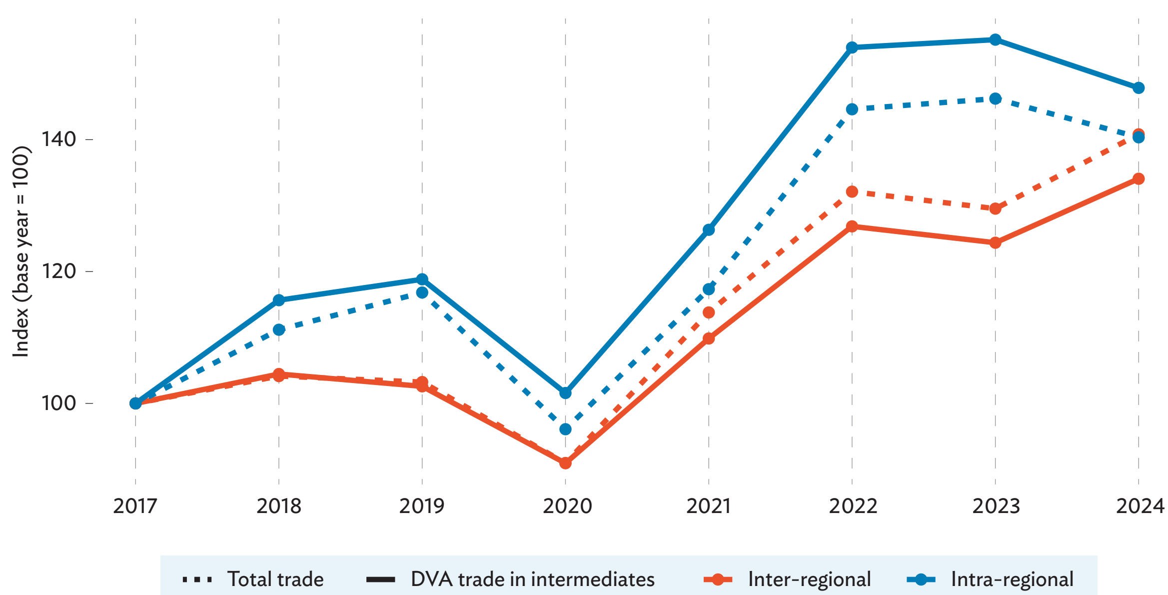
North America's intra-regional trade grew at a higher rate than inter-regional trade, as United States' trade ties with Mexico deepened.

The role of the US is particularly significant in global production networks, as it remained the world's second-largest source of foreign value-added embodied in exports after the PRC. Yet, persistent policy uncertainty following the PRC-US trade dispute has prompted enterprises to reconsider sourcing strategies, supplier networks and investment destinations. Mexico has emerged as one of the key beneficiaries of this shift. By late 2023, Mexico overtook the PRC as the US' largest source of imports – a position it maintained through 2024. This development, widely seen because of "friendshoring" dynamics, is reflected in Mexico's rising share of intra-regional GVC trade, which now surpasses that of Canada.

Figure 1.14 highlights that since 2017, both intra- and inter-regional trade in North America expanded through 2024, though the pace of growth varied across total and value-added trade. Intra-regional trade grew more strongly than inter-regional trade, reflecting the region's deepening integration. Within this, intra-regional domestic value-added trade in final goods rose faster than intra-regional domestic value-added trade in intermediates, whereas inter-regional flows grew at similar rates across both categories. At the economy level, the US continued to dominate, accounting for about 40% of both traditional and GVC-related trade within the region. Yet, differences between Canada and Mexico stood out – Canada captured a larger share of intra-regional traditional trade (about 33%), indicating that more of its exports were consumed directly within North America. By contrast, Mexico captured a higher share of GVC-related trade (about 35%), underscoring its vital role in intermediate production and re-exports within supply chains. However, Blanga-Gubbay, Majune, Rubínová and Stolzenburg (forthcoming) show that intra-regional trade has increased at a higher pace in recent years mostly due to indirect trade of the US with the PRC through Mexico and Viet Nam.

Figure 1.14: Change in North America's Inter- and Intra-Regional Total Trade and Domestic Value-Added in Intermediates Trade, 2017-2024

Intra-regional trade in North America grew faster than inter-regional trade, with value-added flows driving deeper integration.



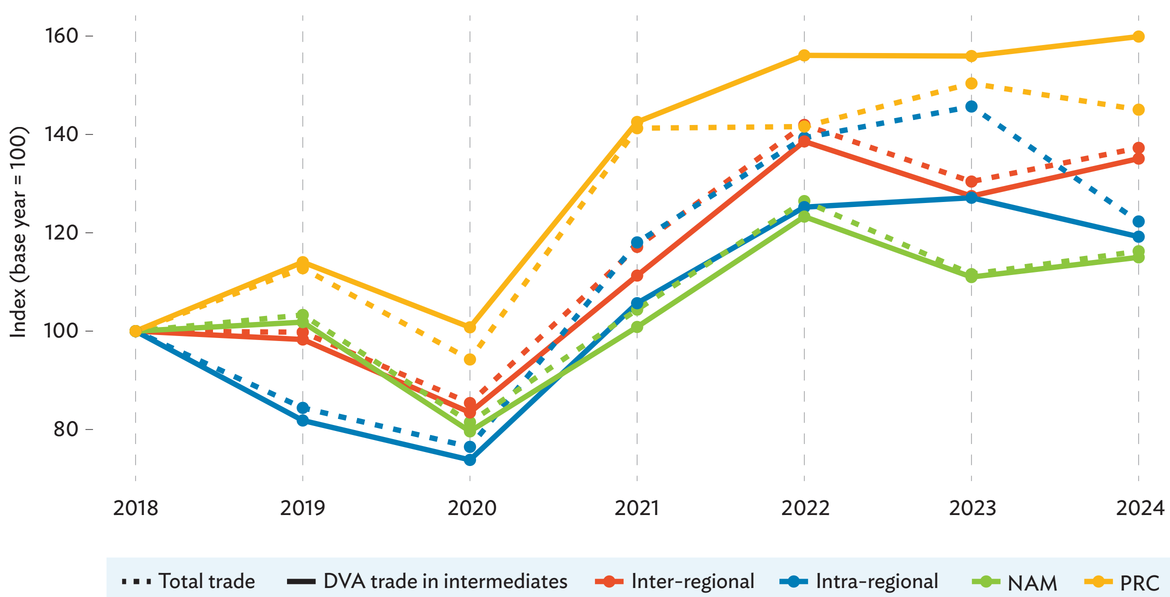
DVA = domestic value-added.
Note: North America includes the United States, Canada, and Mexico.
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

Amid the shift in North America, South America diversified towards the People's Republic of China through new free trade agreements.

In the past decade, South America has shown signs of redirecting trade away from traditional dependence on North America towards Asia, particularly through deeper engagement with the PRC (Figure 1.15). More broadly, the PRC's network of free trade agreements (FTAs) in Latin America expanded during this period, and as of 2024, FTAs were in force or ratified with Chile, Costa Rica, Ecuador, Nicaragua and Peru. These agreements form part of a strategic effort by many South American economies to hedge risk vis-à-vis US policy volatility, while accessing growing PRC demand for agricultural products. From the perspective of the PRC, its expansion of trade with the region may signal its interest in securing supply of raw materials. Symbolically, nine South American and 12 Central American and Caribbean economies have signed Belt and Road-related memorandums of understanding (MoUs) with the PRC, leading to a wider political and economic cooperation (European Parliament, 2025).

Figure 1.15: Change in South America's Inter- and Intra-Regional Total Trade and Domestic Value-Added in Intermediates Trade, 2017-2024

South America's exports have shifted decisively towards the PRC, with GVC-related trade leading growth while intra-regional and North American ties remain modest.



DVA = domestic value-added; NAM = North America; PRC = the People's Republic of China.
Note: South America includes Argentina, Brazil, Chile, and Ecuador, which account for more than 70% of the total region's total economic output.
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

Transport infrastructure dynamics, tariff concessions and logistics improvements under these FTAs are early indicators that South America may be reconfiguring its supply chains, favouring Asia-Pacific pathways. For instance, the Chancay deep-water mega port in Peru, the first port of which was inaugurated in 2024, will establish direct access between Shanghai and Peru through the Pacific Ocean, benefitting other South American economies as well. As such, given the gradual implementation schedules of many FTAs, the full trade-flow effects are likely to manifest more clearly beyond 2024.

Southeast Asia doubled down on mega free trade agreements, cementing its role in inter-regional global value chain trade.

Southeast Asian trade is striking for its strong reliance on GVC-related exports, which dominated across all destinations (Figure 1.16), underscoring the region's role in upstream production, where exports are embedded in complex value chains rather than directly consumed. Furthermore, while the EU shared this upstream orientation, Southeast Asia stood out in terms of its inter-regional trade: on average between 2017 and 2024, 84% of its exports go outside of the region, compared to the EU's heavier dependence on internal trade (52%).

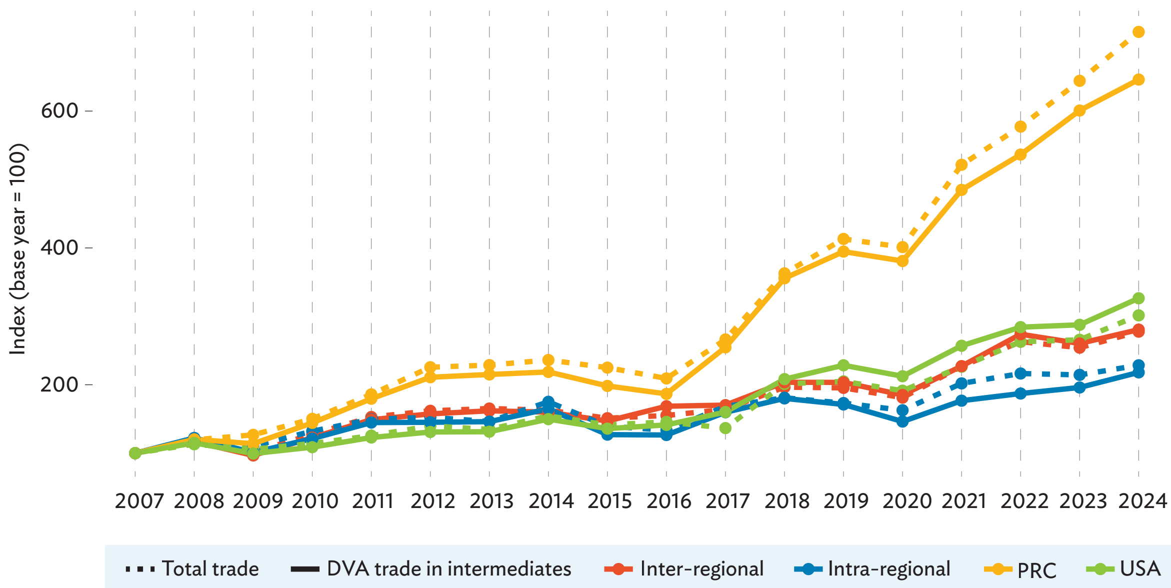
Southeast Asia has also actively deepened integration, both within the region and beyond. In November 2020, all members of the Association of Southeast Asian Nations (ASEAN) joined Australia, Japan, New Zealand, the PRC and the Republic of Korea in the Regional Comprehensive Economic Partnership (RCEP), which came into effect on 1 January 2022. Furthermore, several Southeast Asian economies joined the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) starting in 2018 – now the world's fourth largest free trade area. Within these frameworks, GVC-related trade has consistently outpaced traditional trade growth, defying the perceived global stabilization of GVCs after the COVID-19 pandemic.

Within ASEAN, several initiatives have been reinforcing this trajectory. The ASEAN Digital Economy Framework Agreement (DEFA), launched in 2023, aims to become the world's first binding regional pact focused solely on digital governance (World Economic Forum, 2025). By harmonizing rules on e-commerce, cross-border data flows, digital payments and cybersecurity, DEFA is expected to reduce regulatory fragmentation and transaction costs, creating a more seamless and competitive digital ecosystem across ASEAN. The Digital Economy Partnership Agreement, signed into agreement by Chile, New Zealand and Singapore in 2020, with the Republic of Korea acceding in 2024, looks to achieve comparable results, facilitating end-to-end digital trade.

Yet Southeast Asia's dependence on GVC-related trade implies that the bloc is more at risk from global trade uncertainties resulting from US's proposed tariff increases as well as its trading partners. In addition, regional geopolitical uncertainties pose ongoing risks to the region's trade resilience, even as trade with the PRC had seen significant growth in the past decade (Figure 1.16). Furthermore, members of the ASEAN are pursuing different growth strategies: the continental Southeast Asia (Cambodia, Lao PDR, Myanmar, Thailand and Viet Nam) have edged closer to the PRC's infrastructure, while the maritime states, surrounded by the ocean (Indonesia, Malaysia, Singapore, the Philippines and Brunei Darussalam), have more opportunities to diversify their trading partners.

Figure 1.16: Change In Southeast Asia's Inter- and Intra-Regional Total Trade and Domestic Value-Added in Intermediates Trade, 2017-2024

Southeast Asia's exports grew strongly from 2017 to 2024, with inter-regional driving gains and GVC-related exports outpacing traditional trade.



PRC = People's Republic of China, USA = United States.
Source: Asian Development Bank Multiregional Input-Output Database; and Asian Development Bank estimates.

Inter-regional trade overwhelmingly dominated MENA's trade profile, accounting for an average of 94% of total trade between 2017 and 2024. Within this mix, traditional trade continued to outweigh GVC-related trade, although the latter's growth rate has been more stable in recent years. The region's heavy reliance on traditional trade, particularly energy exports, has exposed it to recent geopolitical and logistical disruptions. 2023, in particular, saw a sharp drop in trade due to the conflict in Yemen and the Red Sea, which has severely disrupted shipping lanes, a situation compounded by drought-related capacity reductions in the Panama Canal. These constraints have forced container ships to reroute away from the Suez Canal and instead transit via the Cape of Good Hope, adding roughly 6,500km and 10-12 days to shipping times (UNCTAD, 2024). As a result, weekly transits around the Cape surged from 300 to 605 after the Houthis' Red Sea attacks in November 2023, remaining elevated through March 2024 (ONS, 2024). These developments have increased transport costs and delivery risks, weighing heavily on the region's trade flows.

Overall, the evidence suggests that globalization is adapting. International trade and participation in GVCs have expanded since 2018, though at uneven rates across regions. Europe's decoupling from Russian energy and Central and West Asia's emergence as a key transit hub all highlight how geopolitical shocks can accelerate structural change. At the same time, Southeast Asia's sustained integration through RCEP and CPTPP, and the MENA region's exposure to shipping disruptions, underscores the vulnerabilities that remain. The challenge ahead will be to manage this transition in ways that strengthen resilience without undermining the efficiency gains that global integration has delivered.

1.5 Conclusion

This chapter provided the empirical foundation for understanding recent developments in international trade and GVCs. The analysis highlights three key findings. First, global trade growth has slowed since the COVID-19 pandemic recovery, but traditional trade has proven more resilient than GVC-related trade since 2022. However, even within GVCs, sectoral pathways diverge, as services sectors have overtaken goods sectors in terms of GVC participation rates.

Second, the weakening link between GDP and trade growth since the pandemic suggests a shift towards prioritizing domestic consumption, though trade remains a key driver of economic activity. While some economies have shown increased concentration in trade partners, overall patterns still point to diversification. However, recent geopolitical shifts and reduced reliance on foreign intermediates may explain the growing gap between traditional and GVC-related trade. Structural decomposition analysis underscores that much of the shift in GVC patterns stems from changes in final demand composition and sourcing, signalling that trade patterns are not merely cyclical nor due to regionalization, but undergoing longer-term restructuring. Despite stable intra- and inter-regional trade shares, signs of fragmentation and rerouting – especially between East and West blocs – are becoming more evident. These trends underscore the evolving nature of globalization, marked by adaptation rather than retreat.

Third, regional reconfigurations and trade patterns in the recent years are highly uneven: the EU has intensified intra-regional linkages, North America showed deepening integration driven by US-Mexico ties while indirect trade between the US and the PRC continued through connector economies such as Mexico and Viet Nam. Southeast Asia has deepened its GVC integration through mega FTAs and trade with other regions, while Central and West Asia has emerged as a strategic intermediary hub amid geopolitical disruptions.

Economies more tightly embedded in regional value chains, or aligned with industrial hubs like the PRC, ASEAN or the EU, appeared to have captured stronger export gains, while those at the periphery often lagged behind. Emerging free trade agreements, such as RCEP, DEFA and the African Continental Free Trade Area (AfCFTA), underscore this shift towards trade alignments, where digital integration and regulatory harmonization matter as much as traditional cross-border openness. Taken together, these insights suggest that future patterns of trade will be defined not only by globalization's scale but also by the structure and ownership of production networks. New methodologies such as the Trade in Factor Income (TiFI) framework (Meng et al., 2024) and firm-level customs-based approach (Kee et al., 2024) provide a more granular understanding of how value is created, captured and redistributed along GVCs. By focusing on ownership and firm heterogeneity, these tools reveal structural shifts, such as the PRC's move towards more upstream and domestically controlled activities, that are not visible in aggregate trade measures alone, which are further explored in Chapter 3.

While the rising contributions of economies that are not traditionally linked to GVCs may signal a modest broadening of globalization, expanding their inclusivity in GVCs will require targeted strategies, such as through digital technologies. Digitalization lowers entry costs for micro, small and medium-sized enterprises, widens participation across populations and has proven critical to resilience during the COVID-19 pandemic (Park et al., 2023). Moreover, digitally deliverable services have been radically changing the global economy, amounting to more than half of total services exports (Ossa, 2023). The long-term future of trade may well be in services and not goods as digitalization will have profound effects on its scale, scope and speed (Schneider-Petsinger, 2023). Chapter 2 explores increased digital infrastructure in Africa and Asia, and participation gaps in Latin America, while Chapter 7 turns to finance and firm-level outcomes, including trade finance architecture, productivity gaps digital lending and inclusivity.

At the same time, industrial and climate policies are reshaping GVC configurations. The US has maintained restrictive tariffs on the PRC while introducing new duties on semiconductors, EVs and critical minerals under the Section 301 review, a mechanism that allows the US Trade Representative to impose trade measures in response to unfair trade practices, and the US Chips Act in the period between 2023 and 2024. Similarly, Canada and the EU have imposed restrictions on the PRC-linked EV supply chains. These measures reflect broader efforts to reduce dependence on the PRC, adding complexity and uncertainty to the trade environment. In parallel, global trade in green technologies has expanded (ADB, 2025), creating opportunities for long-term growth but also fueling new trade frictions, as reflected in the US tariffs targeting PRC solar cells and the EU's Carbon Border Adjustment Mechanism (CBAM). These dynamics will be taken up in greater detail in Chapter 3 and Chapter 4.

To address these emerging themes in global trade, the World Trade Organization has begun compiling thematic mapping, involving more than 100 economies across all regions, and identifying so called “mini deals” (Stolzenburg, 2024). Empirical evidence shows that such arrangements often cover more product lines than many headline FTAs and are increasingly being used as pragmatic tools to address supply chain disruptions and manage technical barriers to trade. These trends will be explored further in Chapter 8.

Global trade will continue to be shaped by ongoing developments. Deepening geopolitical tensions in Europe and the Middle East might harden into the new normal. In the US, the imposition of reciprocal tariffs on a widening set of partners might further push trade reconfigurations as the added uncertainty for firms navigating cross-border networks turns away from the US's traditional partners. Already, the end of the "de minimis exemption" ruling in the US will affect global trade metrics, the full impact of which will not be seen immediately. At the same time, emerging trends in industrial policy, climate action and digital services may likely become more prominent in the trade landscape and further reconfigure global trade and value chain participation.

The structural realignments traced in Chapter 1 reveal not a retreat from globalization but its reconfiguration into new forms of connectivity. Yet the capacity of economies to benefit from this reglobalization depends on whether they are institutionally, technologically, and financially prepared to adapt. By linking global trends to economy-level capabilities, Chapter 2 tests whether digital trade facilitation, reliable energy-transition pathways, and predictable rulemaking translate into shorter lead times, lower costs and reduced uncertainty. In doing so, it distinguishes between structural diversification that builds resilience and spurious diversification that merely reflects rerouting – turning the empirical patterns documented in Chapter 1 into a readiness map for policymakers navigating the next phase of global integration.

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Annex 1.1: Methodological Notes for Chapter 1

Annex Box 1.A.1: Measuring Trade Partner Concentration in Global Value Chains

1. Import partner concentration ($HHI^r_{imports}$)
This index measures how concentrated an economy's sources of GVC-related imports are. It is calculated as:

$$HHI^r_{imports} = \sum_s \left(\frac{GVC^{sr}}{GVC^{*r}}\right)^2 = \sum_s (S^s)^2$$

Where:
- GVC^{sr} is the value of GVC-related imports from economy *s* to economy *r*
- GVC^{*r} is the total GVC-related imports received by economy *r*

A lower HHI indicates a more diversified set of import partners, while a higher HHI suggests greater concentration.

2. Export partner concentration ($HHI^s_{exports}$)
This index measures how concentrated an economy's destinations for GVC-related exports are. It is calculated as:

$$HHI^s_{exports} = \sum_r \left(\frac{gvc^{sr}}{gvc^{s*}}\right)^2 = \sum_r (S^r)^2$$

Where:
- GVC^{sr} is the value of GVC-related exports from economy *s* to economy *r*
- GVC^{s*} is the total GVC-related exports sent by economy *s*

Again, lower values reflect diversification, while higher values indicate concentration.

Interpretation thresholds
Based on guidelines from the US Federal Trade Commission (FTC) and the UK Competition and Markets Authority (CMA):
- HHI ≤ 0.10: No concentration
- 0.10 < HHI ≤ 0.18–0.20: Moderate concentration
- HHI > 0.18–0.20: High concentration

These thresholds help identify economies that may be vulnerable to supply chain disruptions due to over-reliance on a few trade partners.

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