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ASEAN at a Crossroads:
Pathways for Deeper Economic Integration

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Abstract

ASEAN is one of the world's most dynamic economic regions, with deep integration into global value chains. Yet intra-regional trade has stagnated at around 22 percent of total trade for two decades – well below levels observed in ASEAN+3 and the EU. This paper argues that the persistence of modest intra-ASEAN integration reflects structural constraints – including diverse development levels, limited production sophistication, and shallow intra-regional investment – that trade liberalization initiatives alone cannot resolve. Using gravity model analysis, trade complementarity indices, and global value chain network mapping, the paper shows that ASEAN's outward orientation toward China and other Asian partners is structurally consistent with its stage of development, and that these external linkages can serve as a foundation for deeper regional integration rather than a substitute for it. Two reinforcing policy pathways are identified to complement ongoing integration initiatives: first, leveraging existing global value chain linkages and maximizing FDI spillovers to build domestic productive capabilities; and second, promoting intra-regional investment and the internationalization of ASEAN firms to create durable production and demand linkages across the region. Model simulations suggest that progress across these pathways could raise the intra-ASEAN trade share to nearly 40 percent by 2050. In an era of global fragmentation, deeper regional integration offers ASEAN a critical complement to – not a substitute for – the external openness that has long underpinned its economic transformation.

JEL classification: F02; F10; F13; F15; F21; F36

Keywords: ASEAN; ASEAN Economic Community; Economic Integration; Foreign Direct Investment; Global Value Chains; International Finance; International Trade; Trade Agreement

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Contents

List of Figures

List of Tables

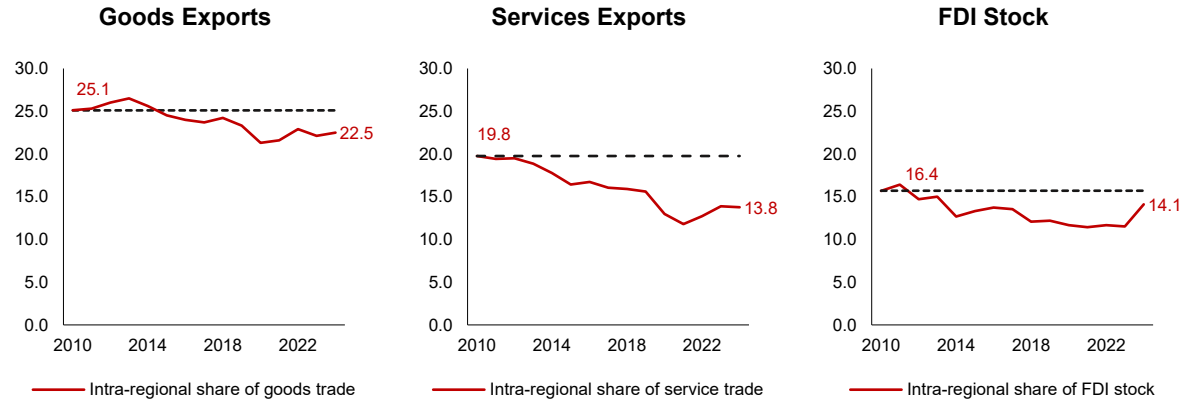
Introduction

ASEAN is one of the most important economic regions in the global economy. With 700 million people and a collective economic size of more than USD4 trillion by 2024, the region is expected to surpass the Japanese economy in size by 2027, becoming the fifth-largest economy in the world.[3] It is also one of the fastest-growing regions in the world, with growth consistently above the global average since the 1980s. Between 2025 and 2030, the region is expected to contribute 10 percent to global growth and account for 7 percent of global GDP by the end of the period.

The region is economically highly open and is a leading recipient of global foreign direct investment (FDI). ASEAN is deeply integrated into international markets and supply chains, with a trade-to-GDP ratio of more than 95 percent and contributing 8 percent to global exports. Despite the ongoing external challenges, ASEAN has continued to demonstrate its resilience as the leading investment destination. In 2023, ASEAN attracted a record-high USD230 billion in FDI inflows, equivalent to 17 percent of the global FDI flows, marking its third consecutive year as the top recipient of FDI among developing regions.[4]

Intra-ASEAN trade and investment shares have declined since the mid-2010s. In 2010, the intra-ASEAN goods trade share stood at 25.1 percent and the services trade share at 19.8 percent; by 2024, both had fallen to 22.5 percent and 13.8 percent, respectively (Figure 1, left and middle panels). Intra-ASEAN investment flows present a similar picture: despite total FDI inflows to ASEAN doubling over the past five years, the intraregional investment share declined from 16.4 percent in 2011 to 14.1 percent in 2024 (Figure 1, right panel). Part of the decline reflects faster growth in extra-regional linkages, with intra-ASEAN integration expanding more slowly.

Figure 1. Intra-regional Trade and Investment Shares in ASEAN
(Percent of total goods exports; percent of total services exports; percent of total investment stock)



Source: ASEAN Stats, UN Comtrade; AMRO staff calculations
Note: FDI = Foreign Direct Investment. The dotted line represents the initial intra-regional share in 2010 for each respective panel.

Going forward, the further deepening of regional integration will be important to enhance ASEAN's resilience against mounting external challenges. The global economic environment has become increasingly fragmented, with existing trade networks and global supply chains

[3] In 2027, the nominal GDP of ASEAN is estimated at USD4.7 trillion, larger than Japan's USD4.6 trillion. This would place ASEAN behind the US, China, the European Union, and India (IMF 2026).
[4] While global FDI flows in 2023 declined by 2 percent and inflows to developing regions fell by 7 percent, investment in ASEAN increased in 2023 (ASEAN Secretariat and UNCTAD 2024).

undergoing reconfiguration due to escalating geopolitical tensions and other structural factors, posing unprecedented challenges to the multilateral trading system. These geoeconomic disruptions have created a more uncertain trade and investment landscape, which is a growing source of vulnerability for many, especially smaller open economies. For ASEAN, deeper regional integration offers a strategic pathway to mitigate these external vulnerabilities.

This paper contributes to the literature on ASEAN's trade and investment integration in three respects. First, it examines why intra-ASEAN trade has remained at around 22 percent of total trade despite decades of liberalization, bringing together evidence on the region's development heterogeneity, limited production sophistication, and shallow intra-regional FDI to provide a more comprehensive account of the structural constraints at play. Second, it maps the reconfiguration of global supply and demand networks over the past two decades, documenting ASEAN's deepening embeddedness in broader Asian value chains and the emergence of new economic relationships that are reshaping the region's integration options. Third, it embeds these structural and network insights into a forward-looking gravity-based simulation framework to quantify the potential integration gains from alternative policy pathways – moving the discussion beyond the identification of barriers toward a systematic assessment of what it would take to overcome them.

The paper is structured in four complementary parts. Part I presents a model-based quantitative assessment of ASEAN's trade integration relative to economic fundamentals and other regions. Part II maps the evolution of global trade networks and examines ASEAN's role in the global value chain. Part III assesses key ASEAN integration initiatives thus far. Part IV offers broad policy pathways to deepen regional economic integration for the future based on the findings of the previous parts. While centred on ASEAN, the analysis is contextualized within the broader global and region to account for the significant economic linkages between ASEAN and the broader Asian region and the world.

Part I: Intra-ASEAN Trade Integration – Structural Limits

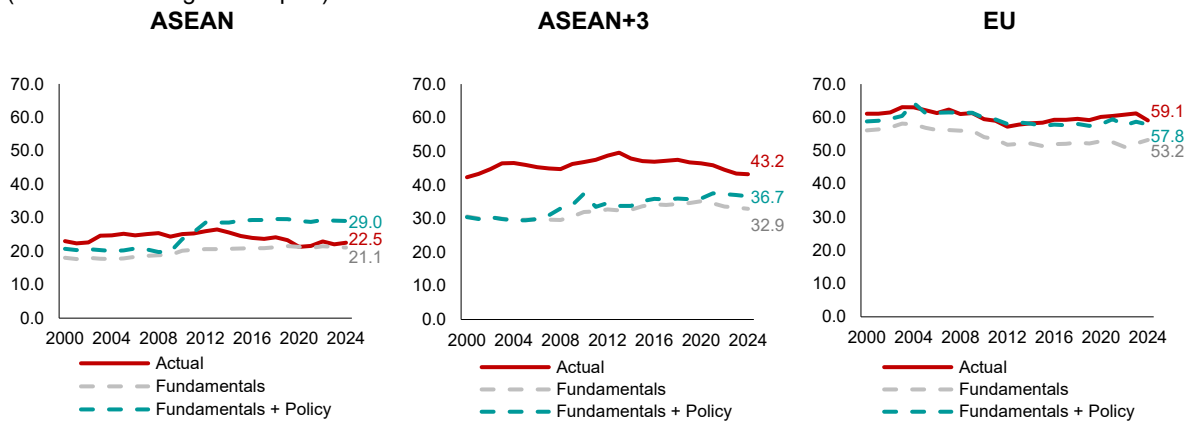
Intra-ASEAN trade integration has remained modest, despite the region's overall growth and openness. While intra-ASEAN trade has expanded in absolute terms in line with regional growth, its share of total trade has hovered around 20-25 percent for the past three decades. Model-based estimates confirm that this outcome is broadly consistent with ASEAN's economic fundamentals, such as market size, geography, and historical linkages (Annex 1). When policy variables – such as the presence of trade agreements – are incorporated, predicted integration rises slightly above 25 percent, indicating that full realization of commitments under existing trade policies and other regional frameworks could yield incremental gains in intra-regional trade (Figure 2, left panel).

Comparisons with ASEAN+3 and the European Union (EU) highlight the structural limits to deeper trade integration in ASEAN.[5] In both the broader ASEAN+3 and the EU, actual intra-regional trade shares consistently exceed the levels predicted by fundamentals and trade policies (Figure 2, middle and right panels). One possibility behind such a trend is that the complementarities in production structures and demand patterns, which are not captured by the model, are reinforcing integration beyond the model estimates. In the EU, for instance, relatively high-income levels and dense industrial specialization have created self-reinforcing

[5] EU comprises of the EU-27 member economies, as listed by the European Commission.

trade flows.[6] In ASEAN+3, cross-border value chains are anchored by a few large and advanced economies that provide substantial market demand and technology know-how. By contrast, ASEAN's trade integration has remained limited within the levels implied by its structural characteristics.

Figure 2. Intra-regional Goods Export Share in Selected Regions
(Percent of total goods export)

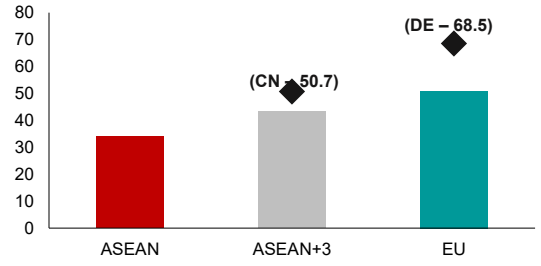


Source: UN Comtrade; AMRO staff calculations
Note: "Fundamentals" and "Fundamentals + Policy" are the model-based estimates of the intra-regional goods export share.

ASEAN's relatively modest trade integration is reflected in its limited intra-regional trade complementarity. The alignment between what ASEAN economies produce and what they demand from each other remains relatively limited. ASEAN's trade complementarity index is substantially lower than that of ASEAN+3 or the EU, reflecting narrower demand structures and less diversified supply capabilities (Figure 3, left panel; Annex 2). On the demand side, relatively lower and uneven income levels across ASEAN restrict the breadth of consumption and investment needs, limiting the role of final demand within the region. On the supply side, the region's average economic complexity is below global peers, implying a more limited range of intermediate and final production capabilities. This combination reduces the likelihood that exports from one ASEAN economy can meet the needs of another. The outcome is both weaker demand–supply alignment and shallower intra-regional value-chain participation, with ASEAN economies continuing to rely more on extra-regional partners for both inputs and demand (Figure 3, right panel).

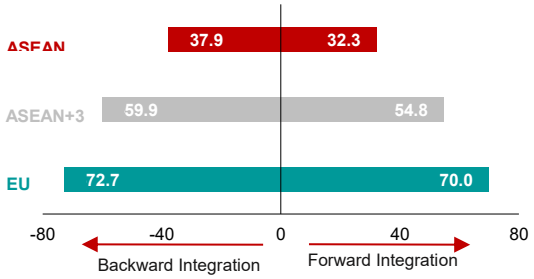
Figure 3. Trade Integration Indicators of Selected Regions

Trade Complementarity Index
(Index)



Source: UN Comtrade; AMRO staff calculations.
Note: Regional average indices are weighted by each member's intra-regional value by its share of the region's total trade to derive a region-wide average. Diamonds indicate each region's central trading-hub index value versus the rest of the region. CN = China; DE = Germany.

Regional Value Chain Integration
(Percent share)

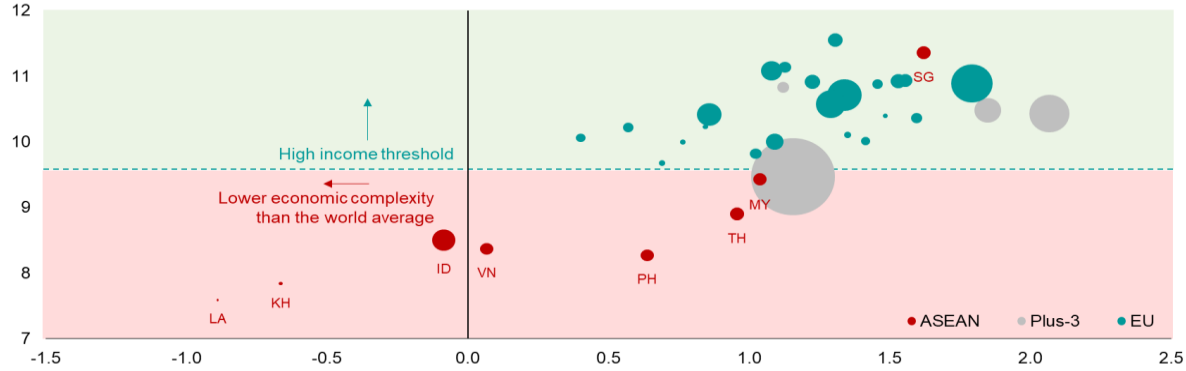


Source: ADB Multi-regional Input Output Table; AMRO staff calculations.
Note: Regional percentages are a simple average of individual economies' backward/ forward participation with respective regional economies as a share of total value chain participation.

[6] As discussed, for example, in Serlenga and Shin (2007) and Balassa and Bauwens (1988), income levels and industrial capacity are key determinants of intra-EU trade integration.

Disparities in development levels, together with limited income levels and production sophistication, remain a fundamental constraint for intra-regional trade in ASEAN. ASEAN economies span the full spectrum of income and industrial capability, from high-income, innovation-driven economies to lower-middle-income, more resource-based exporters (Figure 4). This diversity enables integration with the global economy by matching ASEAN's supply with external demand, but within the region, it reduces the degree of overlap. Higher-income members demand sophisticated goods and services that lower-income partners cannot yet supply, while lower-income members lack the purchasing power to absorb higher-value exports. Conceptually, regional integration deepens most readily when economies converge to higher income levels and greater production sophistication, creating overlapping demand structures and opportunities for complementary specialization.[7] ASEAN has not yet reached this stage, and as a result, intra-regional demand remains segmented and production linkages relatively shallow compared with more advanced blocs.

Figure 4. Diversity in Income and Industrial Capability in Selected Regions, 2023

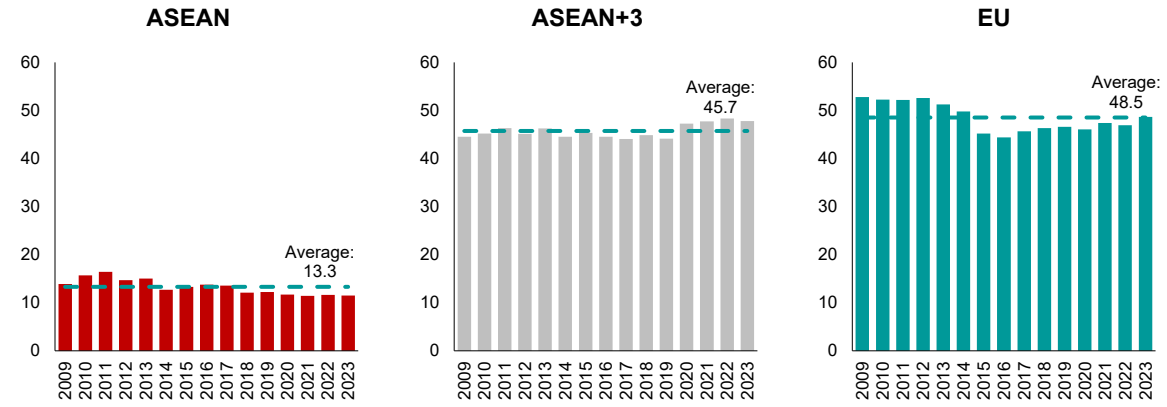


Source: IMF, Harvard Growth Lab; AMRO staff calculations.
Note: The x-axis shows the Economic Complexity Index, while the y-axis represents the log GDP per capita. High income threshold follows the World Bank's definition in 2023. Negative Economic Complexity Index indicates the economy's export basket is less complex than the world average. The size of each bubble is the economy's nominal GDP for 2023, measured in USD. For ASEAN and ASEAN+3, Economic Complexity Index for Brunei and Myanmar are unavailable. For the EU, ECI data for Cyprus. Estonia, Latvia, Luxembourg, and Malta are unavailable. BN = Brunei; KH = Cambodia; LA = Laos; ID = Indonesia; MM = Myanmar; MY = Malaysia; SG = Singapore; TH = Thailand; VN = Vietnam.

Weak intra-ASEAN investment further constrains deeper trade integration. FDI is a critical enabler of trade – embedding production networks, transferring technology, raising productivity, and creating stakeholders for cross-border exchange (Box 1). Empirical analysis shows that bilateral FDI has a positive, statistically significant impact on ASEAN trade flows, underscoring its catalytic role for regional trade integration (Annex 3). However, investment flows within the region have declined in relative terms, with intra-regional FDI stock standing at only about 10 percent of the total in 2023, less than roughly 50 percent seen in ASEAN+3 or the EU (Figure 5). This is also below the levels predicted by fundamentals by about 25 percent (Annex 6). The weakness of intra-regional investment within ASEAN, therefore, limits the region's ability to build supplier networks and deepen value-chain integration. In many respects, FDI is the weakest link in ASEAN's integration – without stronger cross-border investment, efforts to strengthen trade complementarity or reduce policy friction are unlikely to translate into significantly deeper integration.

[7] As per the Linders' hypothesis, when incomes and product sophistication converge, demand structures overlap, boosting intra-industry trade and regional integration. For example, as discussed in Hallak (2010), income similarity and product-quality considerations have empirically led to stronger intra-industry trade.

Figure 5. Intra-regional Investments in Selected Regions
(Percent of total FDI stock)



Source: ASEAN Stats; UN Comtrade; AMRO staff calculations.

Overall, ASEAN's trade integration is limited by structural constraints that trade policies alone cannot resolve. The persistence of modest intra-regional trade shares reflects the region's income gaps with advanced economies, the limited breadth of demand and production capabilities, and the weakness of investment flows within ASEAN. These structural limits explain why ASEAN's intra-regional trade has remained broadly unchanged over time and why trade policy measures on their own, though necessary, will not be able to drive deeper integration to levels observed in the broader ASEAN+3 and the EU. By contrast, ASEAN's outward orientation toward Plus-3 partners reflects structural complementarities: larger and advanced economies provide the technological inputs, production sophistication, and market demand that complement ASEAN's development stage. This outward orientation is consistent with the region's fundamentals, even as ASEAN works to strengthen its own foundations for deeper intra-regional trade over the longer term.

Box 1. FDI–Trade Linkages: Evidence and Implications for ASEAN

Empirical analysis suggests that weak intra-ASEAN FDI integration remains a constraint on trade integration, with actual levels falling well short of what fundamentals would predict.

Foreign direct investment (FDI) has long been recognized as a critical driver of economic integration. Beyond capital inflows, FDI plays a catalytic role by embedding economies into production networks, facilitating technology transfers, and expanding productive capacity. These effects extend directly into trade: cross-border investment creates new demand for imported inputs while simultaneously raising the host economy's export capacity. For regions such as ASEAN, where integration has been shaped by production sharing and global value chains, the degree of intra-regional FDI is therefore closely linked to the potential for deeper trade linkages.

Insights from the Literature

Empirical studies consistently find that FDI and trade are complementary. Rather than substituting for exports, investment flows typically reinforce cross-border trade by widening the scale and diversity of exchanges. Outward FDI from a home economy is often accompanied by higher exports of machinery, components, and specialized services, while inward FDI strengthens the host's capacity to produce for both domestic and external markets (Obashi 2022).

Several channels explain why FDI tends to foster trade. Vertical FDI distributes production stages across borders, raising trade in intermediate goods and inputs along supply chains (Miroudot and Ragoussis 2009). Horizontal FDI, while aimed at serving local markets, typically requires imports of capital equipment, skills, and supporting services from abroad. Both forms facilitate spillovers: foreign affiliates transmit technology and managerial know-how to local firms, which enhances productivity

and export readiness (Desbordes and Franssen 2019). These mechanisms reinforce the role of FDI as an enabler of cross-border trade.

Regional experience in East Asia illustrates how FDI inflows precede stronger trade integration. In industries such as electronics and automotives, surges of foreign investment into production hubs have been followed by sustained increases in cross-border trade, particularly in intermediate goods. These show how investment builds productive capacity and embeds economies more deeply into multinational supply chains (Obashi 2022). This dynamic has been central to East Asia's rapid integration into the global economy, and offers important lessons for ASEAN.

Empirical Insights for ASEAN

Analysis for ASEAN confirms that FDI has a strong and statistically significant effect on trade. Using an instrumental variable approach, higher bilateral FDI stocks were found to be consistently associated with larger bilateral trade flows among ASEAN economies (Annex 3). These results hold even after accounting for standard gravity controls such as size, distance, and historical linkages, underscoring the robust complementarity between investment and trade in the region.

Yet, intra-regional FDI in ASEAN is likely below potential compared to the region's fundamentals. Model estimates that, based on ASEAN's fundamentals – economic size, geography, and structural characteristics, the predicted level of intra-ASEAN investment should be closer to 25 percent of total FDI stock (Annex 3). Actual levels, however, stand at about 10 percent and have declined over time. This shortfall indicates that ASEAN has been unable to mobilize sufficient intra-regional investment to sustain the type of production networks observed in ASEAN+3 or the EU.

Weak intra-regional FDI is thus a binding constraint on ASEAN's trade integration. With investment inflows remaining primarily from outside the region, ASEAN's capacity to develop intra-regional supplier networks, absorb spillovers, and generate the demand–supply complementarities needed for deeper integration is limited. In contrast, higher intra-regional investment has underpinned the more advanced stages of integration seen in ASEAN+3 and the EU. For ASEAN, strengthening cross-border investment links will be essential to unlocking greater intra-regional trade and to building the foundations for more resilient and inclusive integration over the longer term.

Part II: ASEAN within the Global Value Chain – A Changed Landscape

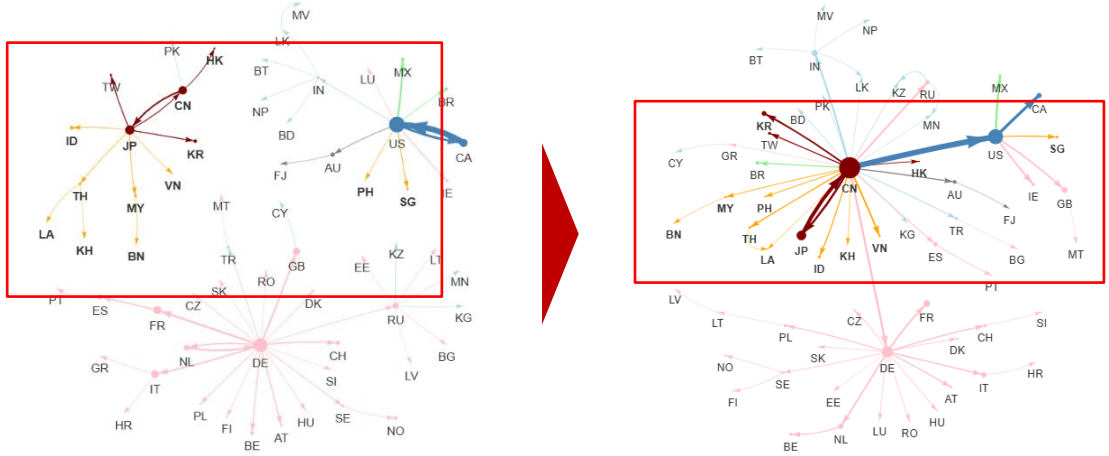
Understanding ASEAN's evolving position within global value chains is important in informing the future pathways of deeper regional integration. Building on the preceding analysis of the structural constraints limiting intra-ASEAN trade, this part examines how the global value chains architecture has transformed over the past two decades and situates ASEAN within this changing landscape. The approach uses two complementary perspectives: supply networks, which trace input sources and upstream linkages to reveal import dependencies, and demand networks, which capture downstream markets by tracking export destinations and the breadth of market access (Annex 4). These perspectives provide a fuller picture of ASEAN's role in international production systems, highlighting both its function as a supplier of goods and services and its integration into diverse end-markets.

Shifts in Global Supply Hubs

ASEAN's position in the global supply network has been reshaped as China emerged as Asia's dominant supply hub over the past two decades. The global supply network is organized around three major regional clusters – Asia, the Americas, and the EU – each anchored by a dominant hub economy that serves as the primary gateway for intra-regional trade and connections to other clusters (Figure 6). While the Americas and EU clusters have maintained

relatively stable configurations since 2000, the Asian cluster has undergone a key transformation. Japan functioned as the primary supply hub for most ASEAN economies in 2000, with select ASEAN-5 economies like Thailand acting as intermediary connectors to other regional economies such as Cambodia and Lao PDR. However, by 2024, China had taken over Japan as the region's central hub, establishing direct supply relationships with most ASEAN economies. The transformation extends beyond Asia, as economies previously integrated with other hubs – including Brazil's shift away from US dependence – now rely on Chinese supply networks, creating new indirect linkages between ASEAN and global markets through China's expanding influence.

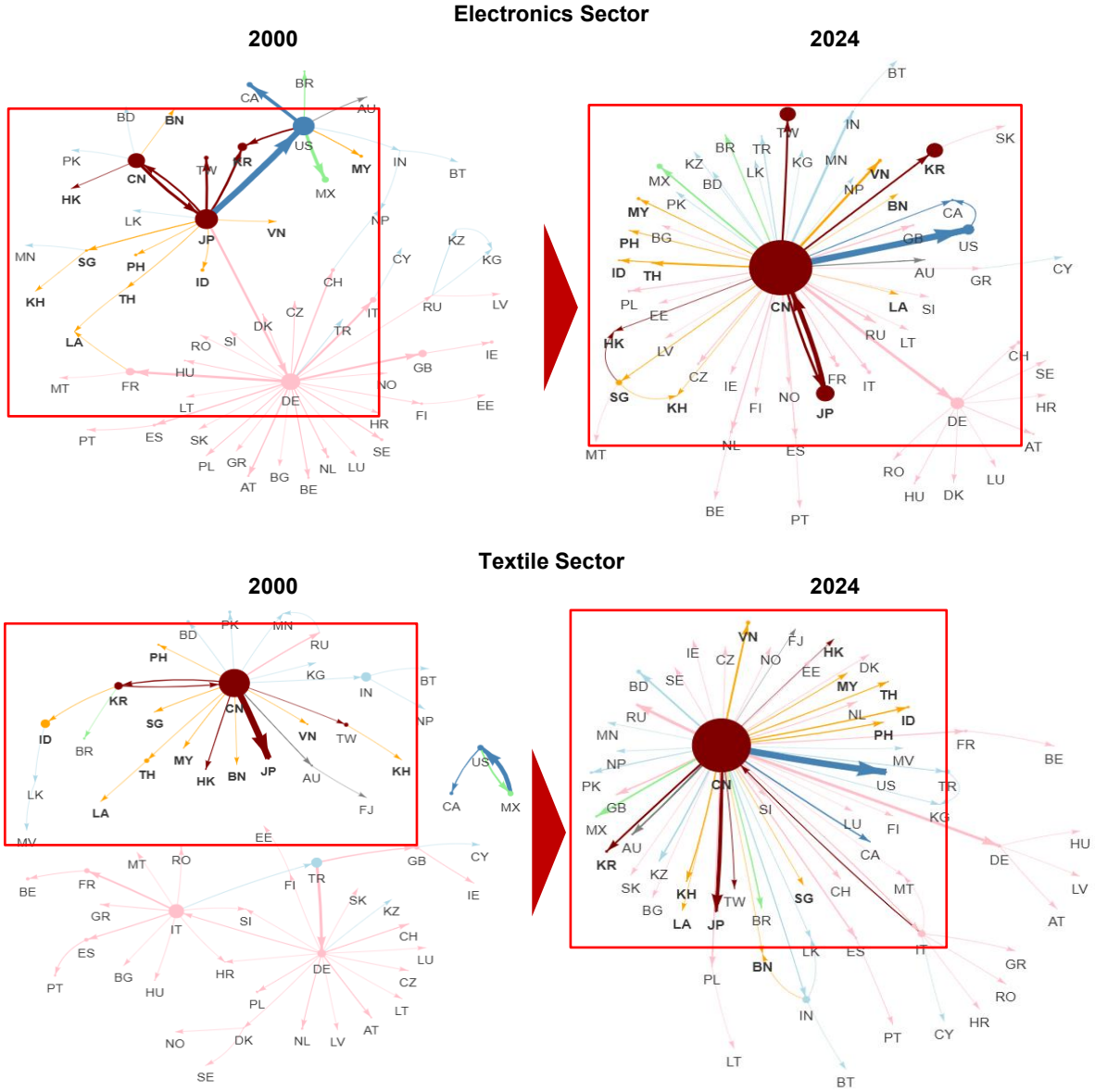
Figure 6. Global Supply Hubs of Value Added in Goods and Services



Source: Asian Development Bank Multiregional Input-Output Table; AMRO staff calculations.
Note: Only linkages that represent the largest value-added imports or more than 25 percent of the total value-added imports of the recipients are shown. The size of the bubble represents the share of an economy's value-added imports in the world's total value-added imports. The thickness of the linkage represents the share of value-added flow between each trading partner in the world's total value-added flow. Economies are labeled based on International Organization for Standardization 2 (ISO-2) codes. See Annex 4 for further details.

ASEAN's integration patterns across major industries, especially the electrical and electronics and textile sectors, illustrate this rising importance of China as a supply hub. The electrical and electronics sector exemplifies this transformation most clearly (Figure 7). In 2000, the global electronics supply chain operated through multiple regional hubs, with advanced economies serving distinct geographical clusters and ASEAN economies maintaining diverse supplier relationships with Japan and the US. By 2024, China had consolidated its position as the global supplier of electronics, creating a hub-and-spoke model that places virtually all economies, including ASEAN members, in direct linkage to Chinese production networks. A parallel evolution occurred in textiles, where the previously fragmented regional structure of 2000 gave way to China's shift to a global supply hub by 2024 (Figure 7). While ASEAN economies maintained supply relationships with China in textiles from 2000 onward as part of the existing Asian cluster, China's emergence as the world's dominant textile supplier has effectively connected ASEAN to global markets through China.

Figure 7. Global Supply Hubs of Value-Added by Key Industries



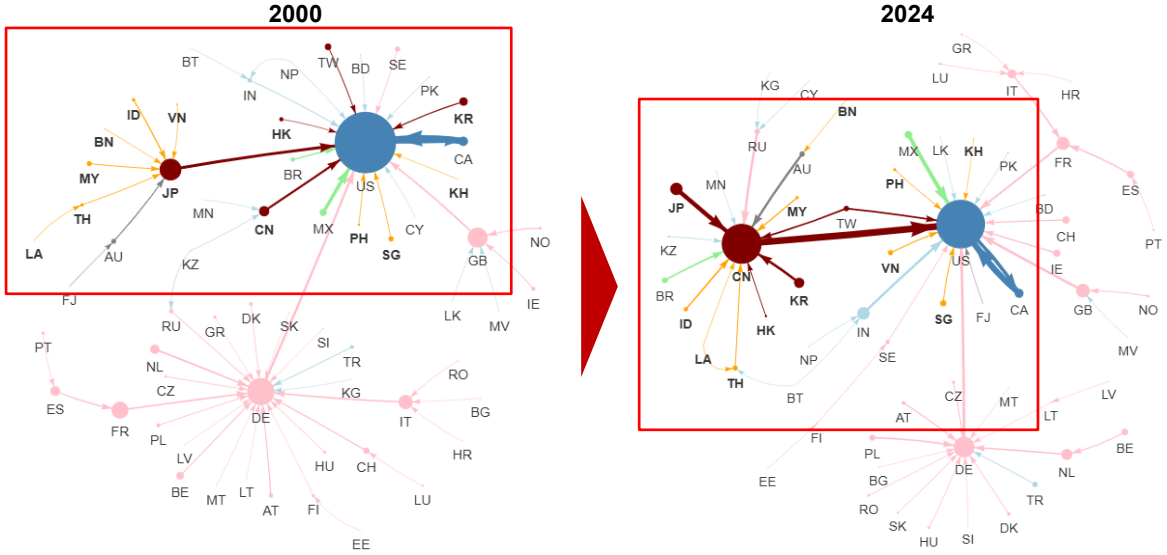
Source: Asian Development Bank Multiregional Input-Output Table; AMRO staff calculations.
Note: Only linkages that represent the largest value-added import or more than 25 percent of the total value-added import of the recipients are shown. The size of the bubble represents the share of an economy's value-added imports in the world's total value-added imports. The thickness of the linkage represents the share of value-added flow between each trading partner in the world's total value-added flow. Economies are labeled based on International Organization for Standardization 2 (ISO-2) codes. See Annex 4 for further details.

Shifts in Global Demand Hubs

ASEAN's primary demand sources have fundamentally shifted as China emerged as a major global demand hub alongside the US. Similar to supply chain networks, the global demand network in 2000 comprised three regional clusters – Asia, the Americas, and the EU – each with a dominant demand hub economy: Japan, the US, and Germany (Figure 8). The US functioned as the primary global demand hub, with several ASEAN economies maintaining strong direct linkages to US markets. ASEAN economies with relatively less direct US connections remained indirectly linked through Japan. By 2024, however, China had emerged as the dominant demand hub not only within Asia but globally. This transformation has fundamentally altered ASEAN's demand relationships, with most regional economies now primarily serving Chinese markets. China's growing role demonstrates how the Asian cluster

has evolved into a systemically important global demand source, significantly increasing ASEAN's exposure to economic developments within the demand networks and enhancing the region's integration into global value chains through this critical market linkage.

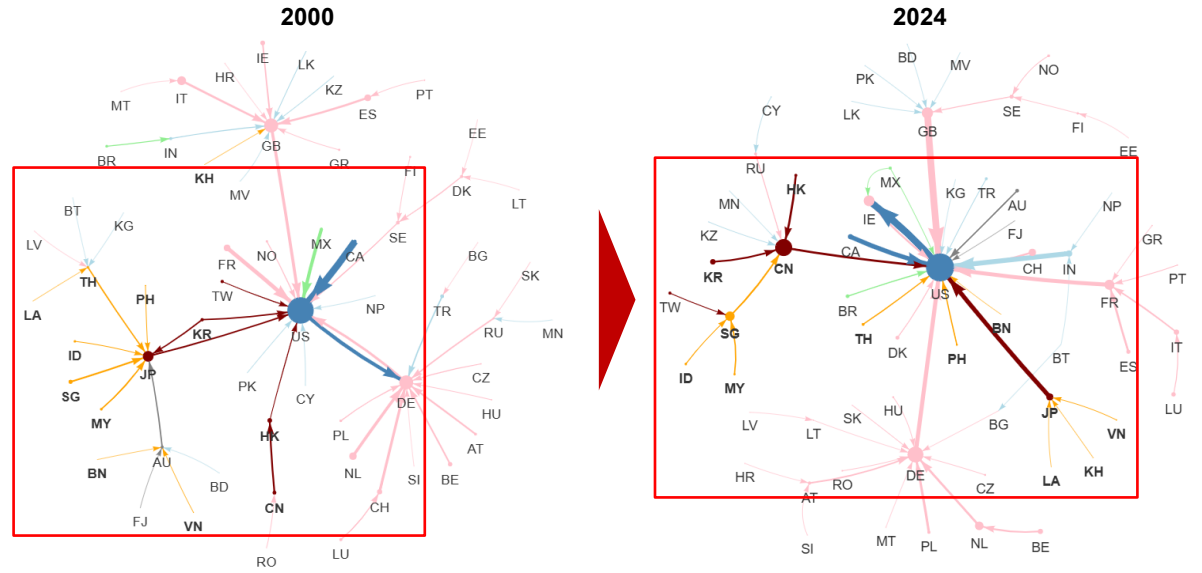
Figure 8. Global Demand Hubs of Value Added in Goods and Services



Source: Asian Development Bank Multiregional Input-Output Table; AMRO staff calculations.
Note: Only linkages that represent the largest value-added exports or more than 25 percent of the total value-added exports of the exporters are shown. The size of the bubble represents the share of an economy's value-added exports in the world's total value-added exports. The thickness of the linkage represents the share of value-added flow between each trading partner in the world's total value-added flow. Economies are labeled based on International Organization for Standardization 2 (ISO-2) codes. See Annex 4 for further details.

ASEAN's services trade patterns reflect similar but more gradual shifts toward greater integration with both Chinese and US markets. In 2000, the global services demand network featured a smaller Asian cluster centered on Japan, which maintained secondary linkages to the US as the world's dominant services demand hub (Figure 9). Within this structure, most ASEAN economies are connected to Japan. Thailand distinguished itself by serving as a services demand source for smaller economies beyond the Asian cluster, reflecting its early emergence as a regional services hub. By 2024, China had substantially expanded its role in global services demand networks, though the US retained its position as the world's largest services demand hub. This shift prompted significant realignments in ASEAN's services trade patterns, with Korea and Singapore redirecting their services exports toward Chinese markets. Meanwhile, the Philippines and Thailand pivoted from Japan to establish more direct linkages with the US, positioning themselves within the world's most significant services demand network. These evolving relationships have substantially increased the region's sensitivity to economic conditions in both China and the US while creating more diversified market access opportunities.

Figure 9. Global Demand Hubs of Services



Source: Asian Development Bank Multiregional Input-Output Table; AMRO staff calculations.
Note: Only linkages that represent the largest value-added exports or more than 25 percent of the total value-added exports of the exporters are shown. The size of the bubble represents the share of an economy's value-added exports in the world's total value-added exports. The thickness of the linkage represents the share of value-added flow between each trading partner in the world's total value-added flow. Economies are labeled based on International Organization for Standardization 2 (ISO-2) codes. See Annex 4 for further details.

Overall, ASEAN's position in global value chains has shifted markedly and is becoming increasingly embedded in Asia's production and demand networks. The past two decades have seen ASEAN's networks reconfigured around China, which has taken over Japan as the region's central supply hub and emerged as a dominant demand center alongside the US. These shifts also occurred alongside deepened ASEAN's connectivity to both regional and global markets, allowing member economies to access larger end-markets and more sophisticated inputs. Viewed against these dynamics alongside the analysis of Part I, ASEAN's outward orientation toward China and other partners in Asia is structurally consistent with the region's fundamentals and stage of development. Rather than pursuing "ASEAN-only" integration in isolation, leveraging these existing global value chain linkages can provide a pathway toward stronger intra-regional integration. Under the right conditions, such external ties can facilitate technology transfer, attract investment, and expand market opportunities, thereby supporting the development of productive capabilities across ASEAN.

Part III: Regional Integration Initiatives – A Summary

ASEAN has made steady progress in economic integration through successive initiatives over recent decades, with current efforts directed at overcoming remaining barriers. Important achievements include the near-complete elimination of tariffs and advances in trade facilitation, which together have lowered cross-border costs and supported the region's openness. Policy priorities are now shifting toward reducing non-tariff measures, advancing liberalization in services, and fostering greater investment attractiveness. Financial initiatives are also playing a growing role, with efforts to strengthen connectivity and improve the efficiency of regional flows. This section provides a brief synthesis of regional initiatives: the progress achieved and the priorities ahead, with a fuller review presented in Annex 5.

Tariff liberalization has been largely completed, and the policy focus has shifted toward reducing non-tariff measures. With the full implementation of the ASEAN Trade in Goods

Agreement (ATIGA), intra-ASEAN tariffs on almost all goods have been eliminated, complemented by measures to streamline customs procedures and improve trade facilitation. As tariffs have reached near zero, attention has turned to the more complex task of addressing non-tariff measures, which has risen in tandem with the reduction of tariffs. This is an explicit priority under the ASEAN Economic Community (AEC) Blueprint 2025, with initiatives ranging from the ASEAN Trade Repository, the simplification of rules of origin, and the convergence of technical standards, to the expansion of digital facilitation platforms such as the ASEAN Single Window. Together, these efforts are intended to lower compliance costs and create a more predictable trading environment, though their effectiveness will depend on consistent implementation across members and sectors.

Services liberalization has progressed more gradually, with the current agenda focused on easing restrictions and preparing for cross-border delivery of modern services. The ASEAN Trade in Services Agreement (ATISA), which came into force in 2021, provides the framework for progressively opening markets and improving regulatory transparency across sectors, as set out in the AEC Blueprint 2025. Implementation has been gradual and restrictions remain higher in ASEAN than in many peer regions, particularly in professional and digitally enabled services. In parallel, the proposed ASEAN Digital Economy Framework Agreement (DEFA) is expected to establish common rules for digital trade and data flows, support regulatory cooperation, and facilitate the regional scaling of digital service providers. Together, these initiatives signal ASEAN's current focus on developing a more integrated services economy, with liberalization efforts and digital frameworks moving forward on parallel tracks.

ASEAN investment initiatives have been directed toward making the region an attractive FDI destination, with limited focus on promoting intra-ASEAN investment. The ASEAN Comprehensive Investment Agreement (ACIA) created a common framework to liberalize and protect investment, while subsequent initiatives to improve facilitation have aimed to make the region more transparent and predictable for investors. More recently, ASEAN has moved toward collective promotion efforts, positioning the region as a single destination for global FDI through joint marketing and sectoral roadmaps. These measures have strengthened ASEAN's standing as one of the leading recipients of FDI globally. However, they have been primarily outward-oriented, focused on attracting international investors rather than fostering cross-border investment within ASEAN. Intra-ASEAN investment has yet to emerge as a central focus of the regional agenda.

Financial integration has advanced as a complement to trade and investment, with initiatives increasingly focused on lowering cross-border frictions and mobilizing regional savings. Regional cooperation has moved from broad commitments to more practical measures, including cross-border payment linkages, the promotion of local currency use, and the development of regional capital market frameworks. Bilateral fast-payment and QR-code systems are already in operation across several members, and work is underway to scale these into a wider network. Efforts to promote local currency settlement and expand capital market products are also progressing, alongside steps to strengthen banking links and advance sustainable finance standards. Policymakers have identified the next stage as scaling these bilateral arrangements into region-wide frameworks, harmonizing regulatory standards, and sequencing cooperation to broaden participation across the region.

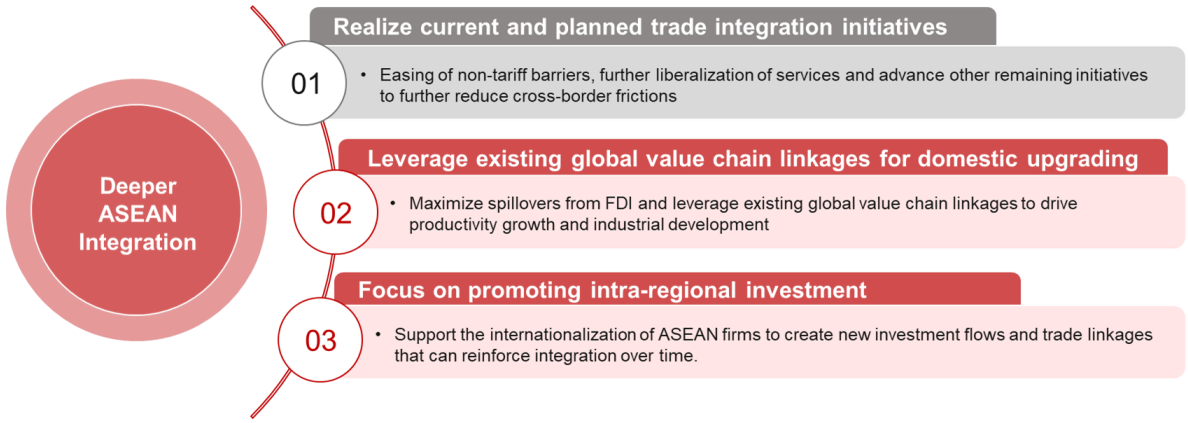
Taken together, ASEAN's initiatives reflect a consistent policy drive to broaden and deepen integration, while also adapting to newer priorities. They have laid an important foundation by opening markets and strengthening facilitation, and the policy focus is now turning toward

reducing non-tariff measures, advancing services liberalization, and embedding financial connectivity more deeply within the region. Nevertheless, as highlighted in the preceding analysis, these measures by themselves are unlikely to overcome the deeper structural constraints that continue to limit intra-ASEAN integration. Part IV turns to how these initiatives can be built upon and complemented by efforts that can address the underlying structural constraints, enabling ASEAN to move beyond the current trajectory toward a more durable form of integration

Part IV: Policy Pathways for Deeper ASEAN Integration

Going forward, sustained progress toward deeper ASEAN integration will depend on establishing the necessary economic fundamentals that trade and liberalization initiatives alone cannot achieve. The preceding analysis identified several structural factors that constrain deeper regional integration, including relatively lower and less diverse development levels that limit the capacity to trade differentiated products and build complementary specializations. Shallow intra-regional investment has further hampered the development of domestic productive capacities and regional production networks. In this section, two reinforcing policy pathways are outlined to complement ongoing efforts to realize trade and liberalization initiatives: first, leverage the existing linkages in the global value chain to build domestic capabilities and market depth, which are critical foundations for deeper intra-regional integration; and second, promote greater intra-regional investment and firm internationalization to densify production networks and embed commercial linkages across borders. Taken together, these pathways offer a pragmatic route to translate formal openness into deeper regional trade and investment ties over time (Figure 10)

Figure 10. Policy Pathways to Deeper ASEAN Integration



Source: AMRO staff

The realization of ASEAN's existing and planned integration initiatives remains a critical foundation for deeper regional integration. Looking ahead, the forthcoming AEC Strategic Action Plan 2026–2030 provides an opportunity to consolidate progress and sharpen focus on areas that matter most for the private sector – reducing non-tariff barriers, advancing services liberalization, and strengthening trade facilitation through consistent standards and interoperable processes. These initiatives hold significant potential to lower costs and uncertainty across markets, provided implementation is predictable and mutually recognized. Continued emphasis on the progressive streamlining of non-tariff measures, steady liberalization of modern, digitally delivered services, and more efficient cross-border procedures will be especially important. Such measures can provide the enabling environment

within which domestic capability upgrading, intra-regional investment, and firm internationalization can take root, positioning trade and liberalization initiatives as essential pillars that reinforce the broader pathways to sustained ASEAN integration.

Leveraging Existing Global Value Chain Linkages for Domestic Upgrading

Existing global value chain linkages offer a practical pathway for ASEAN to build the economic fundamentals necessary for deeper intra-regional integration. ASEAN's deep participation in global value chains and its role as a major destination for foreign investment provide practical existing channels to upgrade domestic industrial capabilities and, over time, develop the foundations for deeper integration – outcomes that liberalization measures alone are unlikely to secure. For instance, ASEAN's existing position in the global electrical and electronics sector and digital services value chains provides an opportunity for ASEAN to attract relevant FDIs in new growth areas, such as those relating to artificial intelligence, and develop new capabilities to move up the technological ladder. Yet, the extent to which such gains are realized depends on whether high-value FDI is matched by adequate domestic absorptive capacity. Human capital, institutional quality, openness in services, and financial development all play an important role in determining whether external linkages lead to broad-based productivity improvements or remain confined to enclave activities (Box 2).

Policy emphasis therefore falls on raising the yield from extra-regional FDI and guiding domestic upgrading toward a more complementary regional supply base. This involves attracting FDIs with high spillovers and network-embedded activities matched to local capability starting points, strengthening linkages between anchor firms and local suppliers, and fostering industrial ecosystems where capabilities can accumulate and diffuse over time. Particular attention should be given to the role of SMEs, whose integration into regional and global supply chains is essential for broadening the base of firms that benefit from spillovers. Differentiation across member economies, aligned with comparative strengths, would help emerging specializations reinforce one another rather than duplicate efforts. In this way, existing global value chain linkages not only build the fundamentals identified earlier but also prepare the ground for stronger intra-ASEAN investment and firm internationalization.

Box 2. Maximizing FDI Spillovers for Domestic Upgrading in ASEAN

Foreign direct investment (FDI) has been central to ASEAN's economic transformation, enabling integration into global value chains (GVCs) and domestic industrial upgrading. However, evidence consistently shows that the productivity gains from FDI are neither automatic nor uniform. Rather, it depends on how effectively economies capture spillovers through technology transfer, skill upgrading, and linkages with domestic firms. Maximizing these spillovers is therefore critical for ASEAN's development: it is the mechanism by which inward FDI builds domestic capacity. This box synthesizes literature findings and regional experiences to shed light on effective policy options for capturing FDI benefits.

A large body of literature highlights that FDI raises productivity most when two things meet: (i) FDI with high spillover potential, and (ii) sufficient domestic absorptive capacity (OECD 2023). Early cross-country studies found that a minimum threshold of human capital is essential to realize productivity gains from FDI (Borensztein and others 1998; Li and Liu 2005). Complementary factors such as trade openness, institutional quality, and services liberalization further enhance spillover effects (Blalock and Gertler 2008; OECD 2019). Financial sector development is also important: countries with deeper financial systems are better able to allocate capital to productive uses of FDI (Hermes and Lensink 2003; Alfaro and others 2004). The type of FDI also matters: investment in knowledge-intensive activities and export-oriented FDI embedded in global value chains generate stronger spillovers than market-seeking FDI focused mainly on local sales (Moran 2005).

More importantly, the key lies in how these two elements – FDI with high spillover and domestic absorptive capacity – are connected through effective linkages. Vietnam's experience with Korean investments in the electronics sector illustrates the challenge: Korea's massive investments initially generated limited local sourcing with domestic suppliers providing only packaging materials; stronger spillovers emerged only after proactive government intervention in establishing supplier development programs and organizing technology transfer workshops (UNIDO 2019). In Malaysia's manufacturing sector, while horizontal spillovers from foreign presence proved negative due to competition effects, backward linkages generated positive productivity gains for local suppliers – particularly among SMEs with sufficient absorptive capacity (Zhang and Yang 2022).

The findings and regional experiences point to four complementary policies for maximizing FDI spillovers:

1. Attract the "right" type of FDI. Prioritize investment in GVC-oriented, productivity-enhancing sectors such as advanced electronics, digital services, and green technologies. Knowledge-intensive FDI in R&D and advanced services yields higher spillovers than manufacturing assembly operations (Kemeny 2010). Investment promotion should prioritize sectors where the technology gap permits absorption rather than displacement.

2. Strengthen absorptive capacity. Invest in education, vocational training, and digital skills upgrading to enable local workers and firms to adopt advanced technologies. The returns to FDI are conditional on a minimum threshold of human capital (Borensztein and others 1998). Human capital development aligned with FDI-receiving sectors is therefore essential for spillover effects to materialize. Well-developed financial markets amplify these effects by channeling resources toward firms that can productively use foreign technology (Alfaro and others 2004).

3. Promote linkages through active intermediation. Backward linkages demonstrate the strongest and most robust spillover effects across empirical studies (Javorcik 2004). Supplier development programs that address capability gaps in quality systems, production planning, and cost accounting generate higher spillover coefficients than passive liberalization (UNIDO 2019). Technical assistance should target binding constraints that prevent local firms from meeting international firms' procurement standards (Du and Williams 2017).

4. Ensure conducive business ecosystems. Spillovers multiply when foreign and domestic firms interact frequently within well-functioning ecosystems. This requires both hard infrastructure, such as industrial clusters and research institutes, as well as soft infrastructure, including transparent regulations, competition policy, and intellectual property protection (World Bank 2021; OECD 2023).

Maximizing FDI spillovers requires both attracting high-quality investments and building the domestic foundations to absorb them. Case studies in ASEAN illustrate that technology transfer and industrial upgrading do not occur automatically but can be catalyzed through policies that strengthen human capital, promote linkages with local firms, and foster competitive ecosystems. As ASEAN deepens trade and investment integrations, embedding policies that effectively capture FDI benefits will be essential to build industrial capacity and a higher development level.

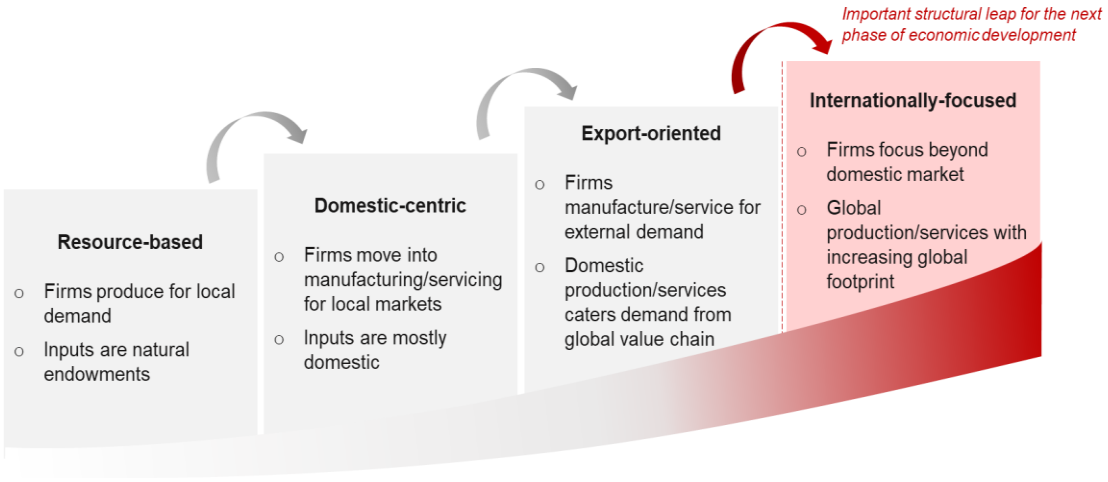
Promoting Intra-regional Investment and Firms' Internationalization

Strengthening intra-ASEAN investment is a critical step for deepening regional integration. Trade openness and global FDI have firmly embedded ASEAN in international production networks, yet the intra-ASEAN investment remains limited. This constrains the development of dense intra-regional supplier networks and the mutual interdependence that underpins thicker regional trade. Building such linkages requires not only maintaining attractive conditions for foreign capital but also enabling ASEAN's own firms to expand across borders. Outward investment by regional firms is the channel through which domestic capabilities are translated into regional production links, reinforcing trade flows and gradually building the

missing layer of intra-ASEAN investment that has proven critical in other integration experiences. More broadly, the limited depth of intra-ASEAN investment reflects structural gaps: without stronger two-way capital flows within the region, complementarities in demand and production remain partial.

Internationalization of ASEAN firms also represents the next stage of the region's structural transformation. Many member economies have advanced as recipients of foreign investment; the next phase is to nurture competitive domestic firms that expand across borders, embedding capabilities accumulated at home into regional production networks. This outward orientation not only reinforces integration but also supports the broader economic transformation needed for countries to move from middle- to higher-income status, as seen in past high-growth economies where outward investors drove industrial upgrading and productivity growth (Figure 11).[8] Small and medium-sized enterprises will be central to this process, bringing specialized capabilities into supply chains but requiring broader ecosystems – skills and managerial upgrading, recognition of standards, efficient regulatory frameworks, and access to finance and enabling services – that allow them to scale across markets. In this framing, external integration builds capabilities, while intra-ASEAN investment and firm internationalization embed them regionally, creating a reinforcing cycle between domestic upgrading and deeper regional integration.

Figure 11. Structural Transformation from the Perspective of Firm Development



Source: AMRO staff

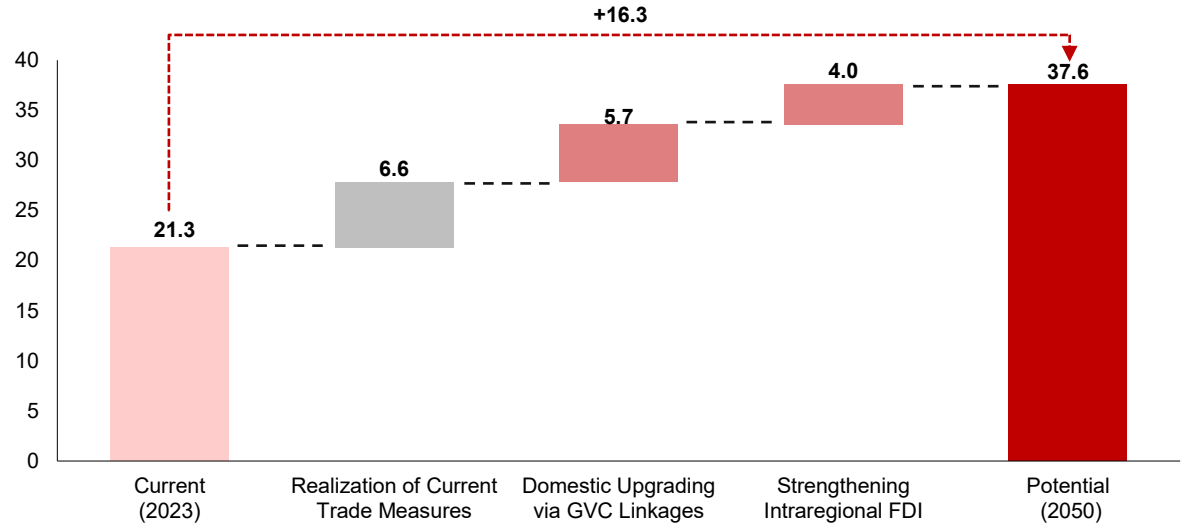
Finance-related initiatives can play a pivotal role in supporting the internationalization of ASEAN firms. As firms expand across borders, the availability of predictable and cost-effective financial services becomes an important enabler. Looking ahead, continued efforts to broaden cross-border payment linkages, promote the practical use of local currencies, deepen regional capital markets, and expand the regional reach of banking services can help create a more seamless environment for business expansion. For smaller enterprises in particular, such developments can reduce the frictions of operating in multiple jurisdictions and lower the risks associated with exchange rate volatility and working-capital constraints. In this way, financial cooperation complements the broader integration agenda by providing the foundations on

[8] Cherif and Hasanov (2019) find that economies that deliberately build internationally competitive firms in advanced industries achieve more than faster growth. Such strategies have transformed the entire structure of their economies, moving them up the value chain and enabling them to sustain high-income status.

which both large corporations and SMEs can participate more actively in regional production networks and investment flows.

ASEAN's intra-regional trade share could rise to nearly 40 percent by 2050 if efforts to build domestic capabilities and strengthen intra-regional investment are advanced. Model simulations indicate that, with all identified pathways advancing in tandem, intra-ASEAN trade could approach 40 percent by 2050, compared to only 25–30 percent under baseline projections, underscoring the scale of the opportunity (Figure 12). The potential gains reflect a reinforcing cycle: external investment helps build technological and managerial capacity; internationalizing firms embed these capabilities into regional networks; and stronger intra-ASEAN investment creates the mutual interdependence that attracts higher-quality capital and sustains more intensive trade. In this sense, ASEAN is in effect pursuing a narrowly defined region-wide industrial strategy – focused on capability formation and regional investment linkages – that complements its long-standing commitment to trade openness. By combining deeper regional integration with openness to the wider global economy, ASEAN can enhance its resilience, diversify markets, and foster more competitive regional supply chains while continuing to benefit from the external linkages that have long underpinned its economic transformation.

Figure 12. Potential Policy Impacts on Intra-ASEAN Trade Integration
(Percent)



Source: AMRO staff
Note: FDI = foreign direct investment; GVC = global value chains. See Annex 6 for further details.

Conclusion

ASEAN's economic openness and outward orientation have been the foundation of its remarkable transformation over recent decades. The region's integration into global value chains has enabled productivity growth, income gains, and greater resilience, while ASEAN's own frameworks have provided the institutional scaffolding for cooperation and progress. Sustaining this outward orientation remains vital, but the findings of this paper suggest that greater attention to deepening intra-ASEAN linkages can complement global openness and secure additional gains.

The external environment is shifting in ways that make the need to deepen regional integration both more challenging and more urgent. Global value chains are being reshaped by

geopolitical tensions, technological change, and more inward-looking trade policies. For ASEAN, these dynamics heighten exposure to external shocks and underline the importance of cultivating stronger intra-regional demand and production networks. Deeper integration within ASEAN is therefore not an alternative to global openness, but a necessary complement to it – broadening sources of resilience while preserving the external linkages that have long underpinned the region's prosperity.

The path forward will require ASEAN to complement its trade and liberalization initiatives with a sharper focus on domestic upgrading by leveraging its extra-regional linkages and fostering greater intra-regional investment. Model simulations suggest that successful progress on these fronts could raise intra-ASEAN trade shares from just above 20 percent today to nearly 40 percent by 2050, creating stronger complementarities across economies while sustaining the region's global role. By focusing on leveraging its extra-regional ties to strengthen economic fundamentals and deepening regional investment links, ASEAN can reinforce the outward orientation that has underpinned its success. A balanced strategy of deeper regional integration alongside continued global openness will enhance resilience, consolidate more competitive supply chains, and chart a path of shared prosperity in an increasingly uncertain world.

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Annexes

Annex 1: Intra-ASEAN Trade Dynamics

Part I employed the gravity model to analyze the intra-ASEAN trade dynamics. The gravity model was chosen for its robust foundation, with numerous studies confirming its ability to explain bilateral trade flows across a wide range of economies and time periods (Head and Mayer 2014). Fundamentally, the gravity model posits that trade flows between two economies are positively related to their economic sizes and inversely associated with their trade costs, such as distance:

$$T_{ij} = G \cdot \frac{Y_i Y_j}{D_{ij}} \quad (1)$$

where T denotes bilateral trade flow between two economies *i* and *j*, Y is the nominal GDP, D is the geographical distance between them, and *G* denotes a constant.

The gravity model allows for the incorporation of a vast range of trade determinants due to its flexibility. Ghosh and Yamarik (2007) showed that the structural factors – like shared language or historical ties – significantly influence bilateral trade. Policy-related variables, such as trade agreements, are also presumed to facilitate trade.

Here, two gravity models were used to compare trade shares based on economic fundamentals alone versus those incorporating policy-related variables. The first model includes only structural factors – such as nominal GDP of the trading partners, bilateral distance, common language, shared border, and colonial ties:

$$\begin{aligned} T_{ijt} = exp\,[&\alpha + \beta_1\, ln(Y_{it}) + \beta_2\, ln(Y_{jt}) + \\ &+\beta_3 \ln(Distance_{ij}) + \beta_4\, Language_{ij} + \beta_5\, Border_{ij} \\ &+\beta_6\, Colony_{ij} + \beta_7\ \ Common\ Colonizer_{ij} + \beta_8\, Current\ Colony_{ij}] \end{aligned} \quad (2)$$

The second model builds on this by incorporating policy variables that capture both the presence and depth of regional trade agreements, including their interaction terms
:

$$\begin{aligned} T_{ijt} = exp\,[&\alpha + \beta_1\, ln(Y_{it}) + \beta_2\, ln(Y_{jt}) + \\ &+\beta_3 \ln(Distance_{ij}) + \beta_4\, Language_{ij} + \beta_5\, Border_{ij} \\ &+\beta_6\, Colony_{ij} + \beta_7\ \ Common\ Colonizer_{ij} + \beta_8\, Current\ Colony_{ij} \\ &+\beta_9\, PSA_{ijt} + \ \beta_{10}\, FTA_{ijt} + \beta_{11}\, EIA_{ijt} + \beta_{12}\, CU_{ijt} \\ &+\beta_{13}\, PSA * EIA_{ijt} + \beta_{14}\, FTA * EIA_{ijt} + \beta_{15}\, CU * EIA_{ijt}] \end{aligned} \quad (3)$$

The definition of each variable in the two models is listed in Table A1.1. The first row of terms captures macroeconomic conditions via exporter and importer GDP. The second-row proxies structural trade costs, such as distance, common language, and colonial ties. The final terms introduce policy-related variables – different types of regional trade agreements (RTAs) – along with their interaction effects, to account for varying depth and overlap in trade facilitation.

Both models use a similar estimation method, the pseudo-Poisson maximum likelihood (PPML), which allows for inclusion of observations with zero trade flows, which are dropped in the alternative log-linear OLS (Silva and Tenreyro 2006). The PPML method also accounts for heteroscedasticity, which is often present in trade data. In addition, the specification

includes fixed effects to control for unobserved heterogeneity across economy pairs and over time.

The two models are estimated using bilateral trade data from UNCTAD's UN ComTrade database for 195 economies over 1995–2023 at the aggregate level. Structural variables are sourced from CEPII's GeoDist database, which provides dyadic geographic and historical linkages. Lastly, policy-related variables are taken from Mario Larch's Regional Trade Agreements Database, which includes all multilateral and bilateral regional trade agreements as notified to the World Trade Organization.

Table A1. 1. Definition of Variables

Variable	Definition
T_{ijt}	Bilateral trade flow between economy *i* and economy *j* at time t is computed as an average of export flows between both economies
$\ln(Y_{it})$	Natural log of nominal GDP of economy i at time t
$\ln(Y_{jt})$	Natural log of nominal GDP of economy j at time t
$\ln(Distance)$	Natural log of the geographical distance between the most populated cities for the pair
$Language$	Dummy variable; 1 if a common language is spoken by 9 percent or more of residents in both economies
$Border$	Dummy variable; 1 if the pair shares a land border
$Colony$	Dummy variable; 1 if both economies were ever in a colonial relationship
$Common\ Colonizer$	Dummy variable; 1 if both economies had a common colonizer after 1945.
$Current\ Colony$	Dummy variable; 1 if both economies are currently in a colonial relationship
PSA	Dummy variable; 1 if a Partial Scope Agreement (PSA) is in place.
FTA	Dummy variable; 1 if a Free Trade Agreement (FTA) is in place.
CU	Dummy variable; 1 if a Custom Union (CU) is in place.
EIA	Dummy variable; 1 if an Economic Integration Agreement (EIA) is in place.
$PSA * EIA$	Dummy variable; 1 if a PSA and EIA both apply to the pair
$FTA * EIA$	Dummy variable; 1 if a CU and EIA both apply to the pair
$CU * EIA$	Dummy variable; 1 if a FTA and EIA both apply to the pair

The estimated coefficients of columns (1) and (2), which represent the two gravity models respectively, are broadly aligned with expectations from existing gravity literature (Table A1.2). The inclusion of regional trade agreements (RTAs) and their interaction terms leads to a modest improvement in model fit. More importantly, the RTA-related coefficients are economically meaningful and statistically significant, suggesting that such agreements are associated with stronger bilateral trade within ASEAN, including through differential effects across member pairs.

These specifications are used to generate predicted bilateral trade flows, which are aggregated to calculate predicted intra-regional trade shares. Comparing outcomes from both specifications provides insights into the relative contribution of economic fundamentals versus trade policy in shaping ASEAN's intra-regional trade patterns.

Table A1. 2. Definition of Variables

	Dependent Variable: Average Bilateral Trade Flows	
	(1) Fundamentals	(2) Fundamentals & Policy
ln (Y_{it})	0.620***	0.596***
	(0.038)	(0.048)
ln (Y_{jt})	0.620***	0.596***
	(0.024)	(0.030)
ln $(Distance)$	-0.721***	-0.586***
	(0.034)	(0.033)
Border	0.553***	0.505***
	(0.097)	(0.084)
Language	0.313***	0.210***
	(0.084)	(0.073)
Colony	0.139	0.294***
	(0.120)	(0.087)
Common Colonizer	0.279**	0.313***
	(0.118)	(0.098)
Current Colony	1.613***	1.495***
	(0.399)	(0.356)
PSA		-0.027
		(0.083)
FTA		0.446***
		(0.073)
EIA		0.332***
		(0.118)
CU		0.564***
		(0.131)
*PSA*EIA*		-0.584***
		(0.094)
*FTA*EIA*		0.336***
		(0.038)
*CU*EIA*		0.544***
		(0.143)
Constant	-6.023***	-5.999***
	(1.307)	(1.720)
Observations	684,630	684,630
R-squared	0.942	0.947

Note: Clustered (country-pair) standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Annex 2: Trade Complementarity Index

Part I employed the Trade Complementarity Index (TCI) to evaluate how export structures within the ASEAN region align with import demand, providing a granular view of potential trade synergies. This index assesses the structural basis of trade integration beyond aggregate flows, offering insight into how well economies' trade baskets fit one another. Past studies applied the index to examine complementarities among developing countries and to identify unrealized trade potential (Michaely 1996; Chen and others 2020). UNESCAP (2007) and ADB (2021) leveraged the TCI to clarify the evolving trade patterns within Asia.

The TCI is calculated bilaterally for all ASEAN economy pairs using the UNCTAD formula:

$$TCI_{ij} = 100 * (1 - 0.5 \sum_{k} |X_{ik} - M_{jk}|) \quad (1)$$

Where:

- X_{ik} denotes the share of economy *i*'s exports in product *k*
- M_{jk} denotes the share of economy *j*'s imports in product *k*

The index ranges from 0 (i.e., no complementarity) to 100 (i.e., perfect match), thus capturing the extent to which one economy's export profile matches another's import demand across all products. Once dyadic TCI scores are computed for all ASEAN economy pairs, two regional averages are derived: (1) a **simple average** of all intra-ASEAN TCI scores, providing an unweighted view of complementarity; (2) a **trade-weighted average**, where bilateral TCI scores are weighted by total bilateral trade value (i.e., exports + imports), reflecting the relative economic significance of each pair. The same approach is extended to other key regional blocs – ASEAN+3, the European Union, and North America, comprised of the US, Canada, and Mexico – to conduct the regional comparison.

Export and import data is sourced from UNCTAD's UN COMTRADE database for the year 2023 at the Harmonized System 6-digit (HS6) product level.

The results suggest that trade complementarity in ASEAN remains lower than in other major regions (Table A2.1). The trade-weighted average TCI scores across the region stand at 34.0, compared with 43.3 for ASEAN+3 and 50.9 for Europe. Notably, Europe records the highest complementarity, especially when measured against its central trading hub, Germany, with a 68.5, indicating a high degree of intra-regional integration. These findings suggest ASEAN's relatively less aligned trade structure relative to its partners' import needs, potentially limiting the deepening of intra-regional trade without further diversification or structural shifts.

Table A2. 1. Trade Complementarity Index, 2023

Region	(1) Simple Average	(2) Trade-weighted Average	(3) Central Trading Hub
ASEAN	34.4	34.0	-
ASEAN+3	42.5	43.3	50.7
Europe	43.7	50.9	68.5

Additional analysis was also done to identify some of the key determinants of TCI. Some highlights that structural factors, such as the level of income and economic complexity of both the exporting and importing economies, play an important role in shaping trade complementarity. Higher-income economies tend to demand a more diverse and sophisticated range of products, while economies with higher economic complexity are better able to supply

such goods, thereby increasing complementarity between trading partners. A regression analysis was conducted to examine this relationship.

$$TCI_{ij} = \alpha + \beta_1 \ln(GDPpc_i) + \beta_2(\ln(GDPpc_j) + \beta_3 ECI_i + \beta_4 ECI_j \quad (2)$$

Where:

- TCI_{ij} refers to the trade complementarity index of the exporting economy i to the importing economy j.
- $ln(GDPpc)$ refers to the natural log of an economy's GDP per capita
- ECI refers to the normalized economic complexity index of the respective economies.

Income data, proxied to GDP per capita, were sourced from the IMF World Economic Outlook database. Economic complexity data were obtained from the Harvard Growth Lab's Atlas of Economic Complexity and normalized to a 0–1 scale to allow comparability across economies. The specification included both exporter and importer values for income and economic complexity, enabling the assessment of how supply- and demand-side characteristics influence bilateral TCI scores.

The results suggest that higher exporter and importer incomes are strongly associated with greater trade complementarity, with coefficients of 0.99 and 1.41, respectively, with statistical significance at the 1 percent level (Table A2.2). Exporter economic complexity also has a large positive effect, while importer complexity is positive but has less magnitude. This suggests that richer economies and more sophisticated exporters tend to align better with partners' import needs. However, the high correlation between income and economic complexity warrants caution due to potential multicollinearity.

Table A2. 2. Determinants of Trade Complementarity, 2023

	Dependent Variable: Trade Complementarity Index
$ln(GDPpc_i)$	0.991***
	(0.088)
$ln(GDPpc_j)$	1.410***
	(0.088)
ECI_i	7.706***
	(0.123)
ECI_j	0.207*
	(0.123)
$Constant$	-4.070***
	(1.141)
Observations	9,506
R-squared	0.547

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Annex 3: Foreign Direct Investments (FDI) and Trade

Box 1 employed a two-stage least squares (2SLS) regression using corporate tax differentials as an instrumental variable to examine the causal impact of foreign direct investment (FDI) on bilateral trade. Both stages of the model are estimated based on a linear regression framework using data from 2009 to 2023.

In the first stage, bilateral FDI flows between economy *i* and *j* at time *t* are regressed on corporate tax differentials – used as an instrument for FDI. Corporate tax differentials were selected as an instrument, given the assumption that statutory tax rate gaps influence investment location decisions but are unlikely to affect bilateral trade directly, except through their effect on FDI. This addresses potential endogeneity concerns – such as reverse causality or omitted factors – that may bias the estimated relationship between FDI and trade.

$$\begin{aligned} FDI_{ijt} &= \alpha + \beta_1 TaxDiff_{ijt} \\ &+\beta_2\, ln(Y_{it}) + \beta_3\, ln\left(Y_{jt}\right) \\ &+\beta_4 \ln\left(Distance_{ij}\right) + \beta_5\, Language_{ij} + \beta_6\, Border_{ij} \\ &+\beta_7\, Colony_{ij} + \beta_8\ \ Common\ Colonizer_{ij} + \beta_9\, Current\ Colony_{ij} \end{aligned} \tag{1}$$

In the second stage, the predicted values of FDI from the first stage replace actual FDI as the key regressor in the bilateral trade equation, using the same set of controls.

$$\begin{aligned} T_{ijt} &= \alpha + \beta_1 \widehat{FDI_{ijt}} \\ &+\beta_2\, ln(Y_{it}) + \beta_3\, ln\left(Y_{jt}\right) \\ &+\beta_4 \ln\left(Distance_{ij}\right) + \beta_5\, Language_{ij} + \beta_6\, Border_{ij} \\ &+\beta_7\, Colony_{ij} + \beta_8\ \ Common\ Colonizer_{ij} + \beta_9\, Current\ Colony_{ij} \end{aligned} \tag{2}$$

The definition of variables can be found in Table A3.1. The first row of terms captures macroeconomic conditions via exporter and importer GDP. The second-row proxies structural trade costs, such as distance, common language, and colonial ties. The final terms introduce policy-related variables – different types of regional trade agreements (RTAs) – along with their interaction effects, to account for varying depth and overlap in trade facilitation.

Table A3. 1. Definition of Variables

Variable	Definition
FDI_{ijt}	Bilateral FDI stock between economy i and economy j at time t
$TaxDiff_{ijt}$	Corporate tax differential between economy i and economy j at time t
T_{ijt}	Bilateral trade flow between economy i and economy j at time t
$\ln(Y_{it})$	Natural log of nominal GDP of economy i at time t
$\ln(Y_{jt})$	Natural log of nominal GDP of economy j at time t
$\ln(Distance)$	Natural log of the geographical distance between the most populated cities for the pair
$Language$	Dummy variable; 1 if a common language is spoken by 9 percent or more of residents in both economies
$Border$	Dummy variable; 1 if the pair shares a land border
$Colony$	Dummy variable; 1 if both economies were ever in a colonial relationship
$Common\ Colonizer$	Dummy variable; 1 if both economies had a common colonizer after 1945
$Current\ Colony$	Dummy variable; 1 if both economies are currently in a colonial relationship

Data for corporate tax rates were obtained from the Tax Foundation's historical corporate tax database. Bilateral corporate tax differentials were calculated as the absolute difference in statutory rates between each pair of economies. Bilateral FDI data were sourced from the IMF's Direct Investment Positions by Counterpart Economy using outward direct investment,

gross assets, covering all financial instruments, including debt instruments, and all entities. The bilateral FDI relationship was measured as the average of FDI in both directions between each pair.

The results support the view that FDI facilitates trade integration by strengthening production and supply-chain linkages (Table A3.2). Column (1) presents the first-stage regression, where bilateral FDI positions are regressed on corporate tax differentials and gravity model controls. The coefficient on tax differentials is positive and highly significant, confirming its relevance as an instrument for FDI. Structural gravity variables generally behave as expected: GDP in both the exporting and importing economies is positively associated with FDI, while distance exerts a negative effect. Historical linkages such as common language and colonial ties also appear to be significant drivers of investment relationships. Column (2) presents the second-stage results, where predicted FDI from the first stage is used to estimate its effect on bilateral trade flows. The coefficient on instrumented FDI is positive and statistically significant, indicating that higher FDI stocks are associated with greater trade between economies. Most control variables retain their expected signs, with GDP positively influencing trade, while distance exerts a weaker negative effect compared to the first stage.

Table A3. 2. FDI 2SLS Regression, 2009-2023

	Dependent Variable:	
	(1)	(2)
	Average Bilateral FDI	Average Bilateral Trade Flows
	Stage 1	Stage 2
$TaxDiff_{ijt}$	0.045***	-
	(0.015)	
ln (FDI_{ijt})	-	$7.38*10^{8}$**
		$(3.36*10^{8})$
ln (GDP_{it})	0.854***	$9.10*10^{8}$**
	(0.075)	$(3.73*10^{8})$
ln (GDP_{Jt})	0.628***	$1.21*10^{9}$***
	(0.042)	$(3.14*10^{8})$
ln $(Distance)$	-0.962***	$-3.89*10^{8}$
	(0.093)	$(3.78*10^{8})$
Border	0.279	$9.43*10^{9}$***
	(0.217)	$(2.77*10^{9})$
Language	1.472***	$1.09*10^{9}$
	(0.203)	$(7.42*10^{8})$
Colony	1.087***	$-3.13*10^{9}$***
	(0.202)	$(1.05*10^{9})$
Common Colonizer	0.342	$5.03*10^{8}$
	(0.252)	$(3.54*10^{8})$
Current Colony	2.224***	$1.30*10^{8}$
	(0.566)	$(1.28*10^{9})$
Constant	-27.511***	$-5.24*10^{10}$***
	(2.315)	$(1.52*10^{10})$
Observations	84,182	84,182
R-squared	-	0.150

Note: Clustered (country-pair) standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Annex 4: Network Analysis for Global Value Chain

The network analysis in Part II follows the approach of Li, Meng, and Wang (2019) to identify supply and demand hubs from importer and exporter perspectives. Supply hubs are defined as the economies from which most economies source most of their imports. Demand hubs are economies to which most economies direct most of their exports.

The size of the node represents the share of the economy's exports or imports by other economies in the world's total exports or imports. The thickness of the linkage represents the share of export or import flow between each trading partner in the world's total export or import flow. The arrow of the linkage shows the direction of the trade flow. The supply hub network uses import data, as it shows the trading pattern from the importer's perspective. Conversely, the demand hub network is based on the export data, as it displays trading patterns from the exporter's perspective.

To simplify the visual, a linkage between the two economies appears if (1) economy A takes the largest share in economy B's exports or imports, or (2) economy A comprises more than 25 percent of economy B's exports or imports. The first criterion is the "Top1" threshold widely used in network analyses to identify the most important linkages. The second criterion is used to adjust the density of the network to avoid losing other important linkages.

Gross and sectoral exports and imports are computed using the statistical package exvatools built by Feas (2024), based on the 35-sector classification of the Asian Development Bank Multiregional Input-Output Tables at constant 2010 prices, covering 62 economies and the rest of the world from 2000 to 2023. The 62 economies are converted to ISO-3 names. The rest of the world node is omitted from the network charts for visual clarity.

Annex 5: An Overview of ASEAN's Integration Initiatives

ASEAN has progressively expanded its policy architecture to support the vision of a single market and production base. Over the past two decades, initiatives in goods and services trade, investment, and finance have built a framework for openness and cooperation. While outcomes often depend on the depth of implementation, the direction of reform has been consistent, and the ASEAN Economic Community (AEC) Strategic Plan 2026–2030 provides the next reference point for strengthening commitments. This annex provides a summary of the main initiatives across these areas and how they could inform the direction of intra-regional integration going forward.

Goods Trade Initiatives

Tariff liberalization has been the foundation of ASEAN's integration, with facilitation measures gradually being implemented to further reduce trade friction. The ASEAN Trade in Goods Agreement (ATIGA), which entered into force in 2010, consolidated tariff reductions under the AEC agenda and brought duties on nearly all intra-ASEAN goods close to zero, with later entrants completing their schedules in the mid-to-late 2010s. Building on this baseline, ASEAN has introduced facilitation measures to reduce day-to-day frictions. The ASEAN Single Window – fully connected by 2024 – enables electronic exchange of customs documents and certificates of origin, while a region-wide self-certification scheme allows approved exporters to streamline origin procedures. These initiatives have not altered the tariff regime itself but have sought to improve predictability and lower administrative costs for firms trading within the region.

With tariffs now minimal, the reduction of non-tariff measures (NTMs) has become an important focus for the region. The decline in tariffs over the past two decades has coincided with a steady increase in the number of NTMs, underscoring the shift in binding constraints (Figure A5.1). Businesses frequently cite requirements linked to standards, licensing, and certification as sources of added cost and uncertainty. Transparency tools such as the ASEAN Trade Repository and national repositories have helped, but implementation remains uneven across countries and sectors. The ongoing "ATIGA upgrade", launched in 2022 under the AEC framework, seeks to address these issues by modernizing rules of origin, expanding digital facilitation, and strengthening disciplines on NTMs. Progress is likely to be incremental, but greater consistency and recognition will be important for sustaining the credibility of ASEAN's goods integration as the region moves into the AEC 2026–2030 period.

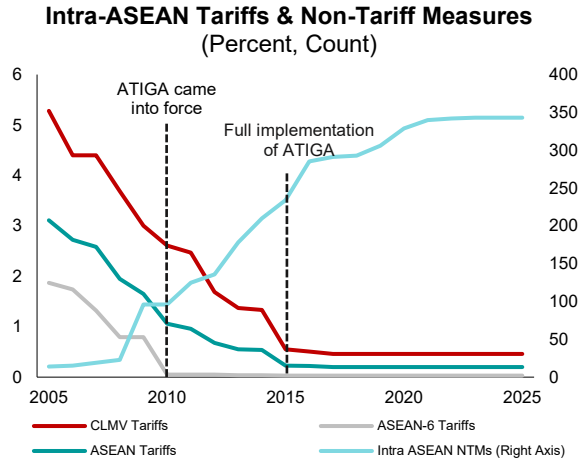
Services Trade Initiatives

Integration of services has advanced in phases, with more recent frameworks aiming to provide broader and more transparent coverage. The ASEAN Framework Agreement on Services (AFAS), launched in 1995, provided the initial basis for liberalization but left many sectors only lightly committed. The ASEAN Trade in Services Agreement (ATISA), signed in 2019, replaced this patchwork with a negative-list approach that covers all sectors except those explicitly reserved. This shift has aligned ASEAN more closely with international practice and has provided a clearer baseline for further liberalization under the AEC 2026–2030 agenda.

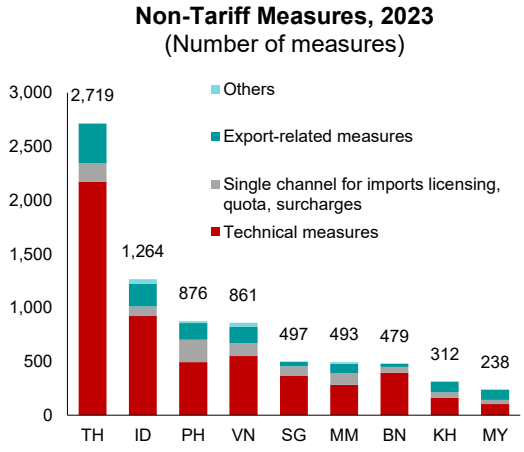
Implementation, however, has been gradual, and the region continues to have scope for deeper convergence. Restrictions on foreign equity ownership, licensing, and movement of professionals continue to limit the extent to which firms can supply services across borders (Figure A5.2). Sectoral initiatives in areas such as logistics, financial services, and

telecommunications have delivered progress, but differences in national regulation and procedures remain significant. Compared with more advanced economies, such as OECD members, ASEAN's level of services integration is still at an earlier stage. The AEC Strategic Plan 2026–2030 highlights this gap and prioritizes further convergence in selected sectors and stronger disciplines on domestic regulation – providing a pathway for ASEAN to gradually close the distance with global benchmarks.

Figure A5. 1. Tariffs and Non-Tariff Measures Indicators of ASEAN

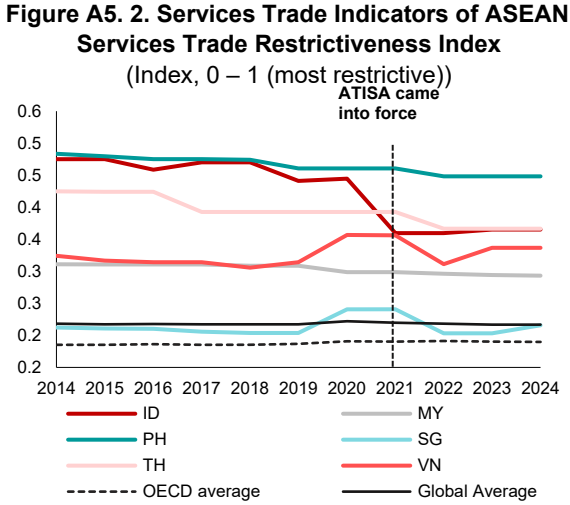


Source: ASEAN Secretariat; UNCTAD Trains; AMRO staff calculations
Note: Non-Tariff Measures (NTMs) count does not include data from Lao PDR, due to data unavailability. Percent refers to average tariff rates for intra-ASEAN trade. ATIGA = ASEAN Trade in Goods Agreement. CLMV = Cambodia, Laos, Myanmar, Vietnam; ASEAN-6 = Brunei, Singapore, Thailand, Indonesia, Philippines, and Malaysia.

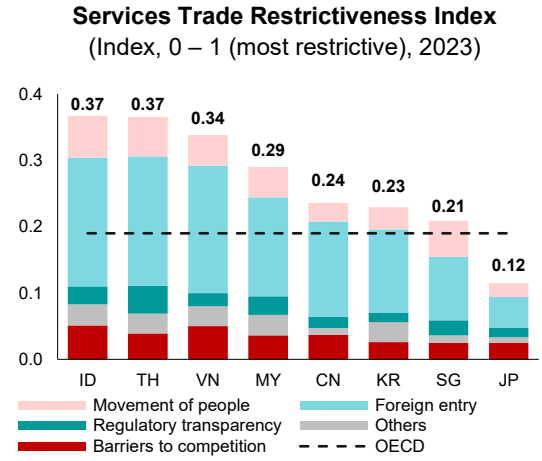


Source: UNCTAD Trains; AMRO staff calculations
Note: Non-Tariff Measures (NTMs) count does not include data from Lao PDR, due to data unavailability. Data refers to NTMs applied in general and to at least one ASEAN country. BN = Brunei; ID = Indonesia; KH = Cambodia; MM = Myanmar; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; VN = Vietnam

Figure A5. 2. Services Trade Indicators of ASEAN



Source: Organization for Economic Co-operation and Development (OECD). AMRO staff calculations.
Note: Global average covers 38 OECD and 13 Non-OECD economies. ID = Indonesia; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; VN = Vietnam; ATISA = ASEAN Trade in Services Agreement.



Source: Organization for Economic Co-operation and Development (OECD); AMRO staff calculations.
Note: OECD average covers 38 OECD economies. CN = China; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

Structural shifts toward modern services are widening the scope of integration and underlining the importance of new initiatives. Growth in ICT, finance, insurance, and professional services has outpaced that of traditional sectors, and intra-ASEAN trade in these "modern services" is expanding rapidly. This reflects a shift away from more traditional and travel-related services toward digital delivery modes, where ATISA's liberalization framework is particularly relevant. Realizing these gains will depend on the gradual strengthening of facilitation measures. The

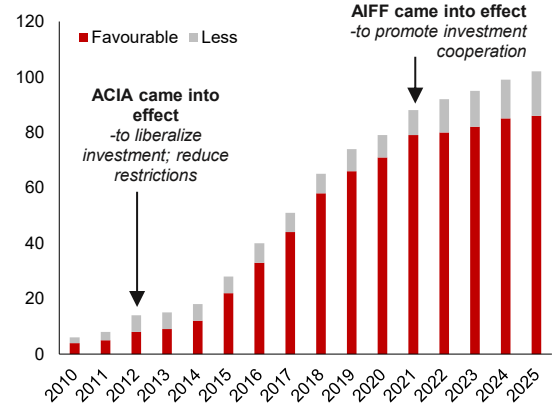
ASEAN Digital Economy Framework Agreement (DEFA) is expected to complement ATISA by establishing common digital standards and supporting regulatory cooperation in modern services. Together, ATISA and DEFA provide a dual foundation: liberalizing market access while facilitating a more seamless regional digital economy.

Regional Investment Initiatives

ASEAN's investment regime has become more open and predictable, though liberalization remains uneven. The ASEAN Comprehensive Investment Agreement (ACIA), signed in 2009 and in force since 2012, established the legal baseline through negative-list scheduling, national treatment, and investor protections. More recently, the ASEAN Investment Facilitation Framework (AIFF), endorsed in 2021, has sought to improve administrative efficiency, transparency, and coordination, while the ASEAN Regional Investment Promotion Action Plan (RIPAP) for 2025–2030 sets out a more coordinated approach to outreach among national promotion agencies. These steps have improved predictability and supported ASEAN's position as a leading destination for global investors. Nevertheless, FDI restrictiveness indices suggest that ASEAN remains more constrained than OECD economies in certain sectors, reflecting equity limits and screening processes that continue to weigh on openness and contribute to uneven implementation across members (Figure A5.3).

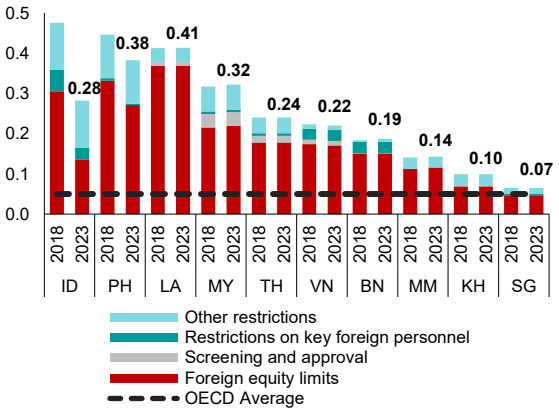
Figure A5. 3. Investment Restrictions Indicators of ASEAN

Policies on Entry and Establishment
(Number added, 2010-2025)



Source: UNCTAD Investment Policy Monitor; AMRO staff calculations
Note: ACIA = ASEAN Comprehensive Investment Agreement; AIFF = ASEAN Investment Facilitation Framework

FDI Regulatory Restrictiveness Index
(open=0; closed=1, 2018 vs 2023)



Source: OECD FDIRRI; AMRO staff calculations
Note: OECD average covers 38 OECD economies. BN = Brunei; ID = Indonesia; KH = Cambodia; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

However, intra-regional investment remains less explicitly supported and has not continued to be a focus for the region. Existing frameworks have been largely outward-facing, emphasizing general openness rather than specifically facilitating ASEAN-to-ASEAN flows. Recent concepts such as the ASEAN Industrial Projects-Based Initiative (AIPBI) and the ASEAN Business Entity (ABE) proposal aim to create more direct channels for cross-border projects and regional corporate operations. These remain at an early stage, but they mark a shift toward more operational tools that, if implemented, could make regional frameworks more relevant for ASEAN-to-ASEAN flows. Looking ahead, progress is likely to depend on bringing a clearer intra-regional lens into existing agreements, operationalizing an initial pipeline of AIPBI projects, and gradually embedding a workable ABE regime. Together, these steps would help move ASEAN's investment integration beyond general openness toward deeper regional production linkages (Box A5.1).

Box A5.1. Investment Initiatives in ASEAN: Progress and Gaps

ASEAN's investment initiatives have played an important role in supporting ASEAN as a global FDI destination, but efforts to foster intra-regional investment remain nascent.

ASEAN's investment architecture has developed in stages, with liberalization preceding facilitation and promotion. The ASEAN Comprehensive Investment Agreement (ACIA), signed in 2009, provided the legal foundation by consolidating earlier commitments and moving the region toward negative-list scheduling and broader national treatment. In practice, this meant, shifting from listing what was allowed to listing what remained restricted, with schedules updated over time as members liberalized specific subsectors. The ASEAN Investment Facilitation Framework (AIFF), endorsed in 2021, then focused on implementation: establishing focal points, publishing clearer guidance and timelines, promoting time-bound service standards, and encouraging risk-based approvals and digital portals for submissions. Together, these instruments raised predictability and reduced procedural frictions, even as the pace and depth of adoption continued to vary across members.

Promotion has become more coordinated in recent years, with a clearer regional proposition. Under the ASEAN Regional Investment Promotion Action Plan (RIPAP) for 2025–2030, national investment promotion agencies will be expected to align messaging around a coherent "single-market" narrative while retaining space for country strengths and sectoral niches. The plan envisages more systematic investor outreach – shared roadshows, coordinated participation in major forums, and a common set of materials that highlight regional supply-chain linkages. The emphasis is on building a visible pipeline that investors can evaluate against comparable criteria, and on improving operational coordination – for example, by standardizing information requests, aligning contact points, and using shared tracking to reduce duplication and slippage across agencies. These efforts are reinforced by the broader AEC Strategic Plan 2026-2030, which positions enhanced regional investment attraction as a core objective (Table B2.1).

Table B2. 1. ASEAN Regional Investment Initiatives

	ACIA (2012) *ASEAN Comprehensive Investment Agreement*	**AIFF** *ASEAN Investment Facilitation Framework*	***SAP 2030*** *Strategic Action Plan (2026-2030)*	**RIPAP** *ASEAN Regional Investment Promotion Action Plan (2025-30)*
Summary	Legally binding regional treaty consolidating prior ASEAN investment agreements.	Non-binding framework to streamline investment facilitation practices.	Roadmap of ASEAN's investment priorities by 2030.	Operational action plan to strengthen ASEAN's investment promotion capacity.
Objective	Liberalize, protect, and promote FDI flows by reducing barriers and reservations.	Enhance transparency, reduce red tape, and simplify investor–government interactions	Align ASEAN integration with global megatrends	Market ASEAN as a single investment destination; strengthen IPAs' cooperation.
Relevance to Intra-regional Investment	Covers all FDI - **no distinction for intra-ASEAN flows**	Improves investment climate, **no specific preferential policies** for ASEAN investors	Sets regional roadmap, but **without intra-regional emphasis**	Markets ASEAN outwardly; **intra-regional flows not prioritized**

Source: ASEAN Secretariat; AMRO staff compilation

The prevailing architecture remains open and nondiscriminatory, which supports ASEAN's overall attractiveness but not specifically intra-regional flows. ACIA and AIFF were designed to lift the general quality of investment regime for the region for all investors, and RIPAP similarly promotes ASEAN as a whole. This orientation has been appropriate for anchoring global investment, yet it also means that instruments tailored for ASEAN-to-ASEAN investment – such as mechanisms that simplify multi-jurisdiction establishment, recognize common documentation, or fast-track approvals for cross-border expansions – are less prominent within the core frameworks. Near-term evolution of these initiatives will likely focus on consolidation: updating ACIA schedules, institutionalizing AIFF service standards, and giving RIPAP a regular rhythm of joint outreach and pipeline development. Building on this, a clearer intra-regional lens can be overlaid through practical instruments that ease multi-jurisdiction operations and curate cross-border projects. This could help the open architecture develop more tangible, within-ASEAN linkages without altering its outward stance.

New concepts have been introduced to address the intra-regional gap, though they are at an early stage. The ASEAN Industrial Projects-Based Initiative (AIPBI), advanced in 2025, sets out an implementation framework for identifying and preparing multi-country projects – typically involving at least two member states and anchored in supply-chain linkages. Early activity is expected to focus on pipeline curation and process learning. In parallel, the ASEAN Business Entity (ABE) concept – proposed by the ASEAN Business Advisory Council – seeks to provide a recognized status that eases multi-jurisdiction operations within ASEAN. This is achieved through more consistent documentation, streamlined onboarding with authorities, and clearer rules for establishing branches or affiliates across borders. Both initiatives signal a shift from broad frameworks to more operational instruments, with design, eligibility, and governance details still to be clarified before fuller roll-out (Table B2.2).

Table B2. 2. ASEAN Intra-regional Investment Initiatives

	ASEAN Industrial Projects-Based Initiative (AIPBI)	ASEAN Business Entity (ABE)
Objective	Advance cross-border industrial cooperation across ASEAN by enabling regional collaboration projects and creating regional industrial champions	Establish a recognized regional corporate status to unlock cross-border operational flexibility
Key requirements	• Project must involve ≥2 ASEAN countries • Must address roadblocks in intra-ASEAN market access and integration • Must positively impact ASEAN's social and environmental ambitions • Commitment to SDGs	• Presence in ≥4 ASEAN countries • ≥30% ASEAN shareholder base • Operates in priority sectors (e.g., services, energy, transport) • Commitment to SDGs
Key offerings	• Facilitation of movement of goods (tariff & non-tariff coordination) • Streamlined visa and talent mobility • Blended finance platform for concessional lending • Industrial policy coordination across AMSs	• Easier movement of skilled labor • Back-office outsourcing across borders • Free capital movement • Higher shareholding limits for ASEAN entities
Status	Framework endorsed and developed with support from ASEAN Secretariat & BCG	Proposed by ASEAN-BAC

Source: ASEAN-BAC; ASEAN Secretariat. AMRO staff compilation

A practical way forward is to make the intra-regional lens more explicit within existing workstreams and move a modest set of pilots to execution. Incorporating targeted intra-regional objectives in ACIA schedules and review processes, embedding time-bound service standards under AIFF for cross-border expansions, and using RIPAP to curate and publish a small, regularly updated set of "investment-ready" cross-border opportunities would help align liberalization, facilitation, and promotion around the same outcome. For the newer instruments, sequencing that prioritizes a limited AIPBI cohort in 2025–2026 – paired with simple, transparent progress reporting – can build credibility and reveal where procedures need adjustment. A basic recognition regime for ABE, starting with narrow eligibility and standard documentation, would allow learning-by-doing before widening scope. Throughout, steady coordination among focal agencies and a light peer-review mechanism can sustain implementation momentum. Complementary efforts to reduce routine transaction frictions can proceed in parallel, but the central task remains clear: translate existing frameworks into a visible pipeline and predictable execution for intra-ASEAN investment.

Financial Integration Initiatives

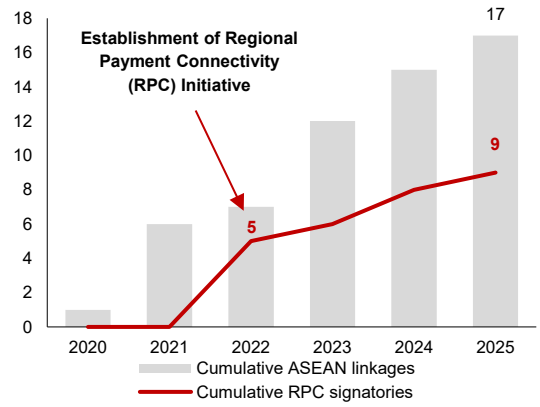
Finance-related initiatives can facilitate – though not by themselves deliver – deeper trade and investment integration in ASEAN. Two macroeconomic channels have been central. On the payments side, lower transaction costs, faster settlement, and greater predictability reduce the uncertainty premia that can weigh on intra-regional trade and supplier entry, while also freeing working capital and raising the velocity of commerce. On the financing side, mobilizing regional savings into bank credit and capital-market instruments – preferably in local currencies – lowers the cost of capital, mitigates currency mismatches, and supports scale investment in tradable capacity and logistics. These priorities were reflected in ASEAN's

earlier blueprints for financial integration but are increasingly pursued through practical arrangements that connect policy openness with firm-level usage.

Recent years have seen tangible progress, particularly in payment connectivity, with complementary advances in capital markets and banking. Since 2022, regional payment connectivity has expanded from pilots into a growing network of fast-payment and QR linkages, with common identifiers and modern messaging standards introduced to cut errors, costs, and onboarding time for SMEs and larger firms (Figure A5.4). In 2023, local-currency transactions are elevated so that these same rails can carry settlement in currencies aligned with firms' revenues and costs. In capital markets, the adoption of a common sustainability taxonomy and an ASEAN fund-passport framework has widened channels to mobilize regional savings into logistics, energy, and digital projects that underpin trade, even if issuance and distribution remain concentrated. Banking access has advanced through targeted arrangements under the ASEAN Banking Integration Framework, allowing banks to follow clients across borders and provide trade finance, cash management, and risk services. Collectively, these strands have begun to translate policy intent into firm-level usage and to strengthen the financial underpinnings of regional integration.

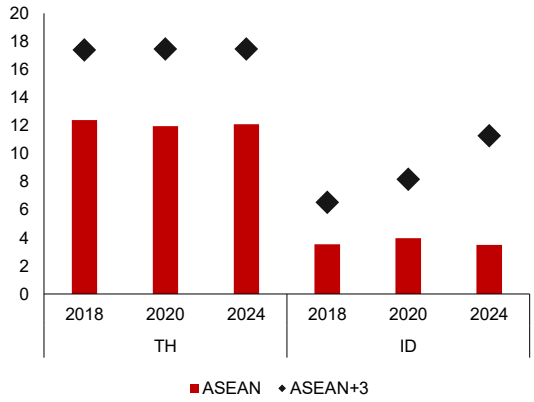
Figure A5. 4. Cross-Border Payment Indicators of ASEAN

Cross-Border QR Payment Linkages
(Number of linkages; number of economies)



Source: AMRO staff calculations

Trade Settlement in Regional Currencies
(Percent share of total trade)



Source: National authorities; AMRO staff calculations
Note: ASEAN currencies refer to BND, KHR, IDR, LAK, MYR, MMK, PHP, SGD, TBH, VND. ASEAN+3 currencies refer to ASEAN currencies and CNY, HKD, KRW, and JPY. ID = Indonesia; TH = Thailand.

The challenge looking ahead is to consolidate these gains into predictable, region-wide networks that underpin the next phase of integration. The AEC Strategic Plan 2026–2030 identifies regional payment connectivity, local-currency use, and capital-market development as central to deepening integration and situates them alongside broader goals of digitalization and sustainability. Progress in these areas is unlikely to be sudden, but through steady scaling – moving from bilateral corridors toward multilateral connectivity, from pilot recognition schemes to wider distribution frameworks, and from selective supervisory cooperation to more routine cross-border arrangements – finance can gradually lower frictions and provide a more reliable foundation for trade and investment. In this way, the financial track complements other integration pillars by ensuring that regional openness is matched with the practical rails needed for firms to transact and invest with greater confidence (Table A5.1).

Taken together, ASEAN's initiatives in goods and services trade, investment, and finance have established the core architecture of regional integration. Liberalization has provided the

baseline, facilitation measures have gradually reduced frictions, and promotion or enabling frameworks are beginning to shape usage. Progress has been steady but uneven, and the next phase under the AEC Strategic Plan 2026–2030 will likely be defined less by new commitments than by how existing frameworks are consolidated, scaled, and applied with a clearer intra-regional lens that could elevate intra-regional integration to the next level (Table A5.2).

Table A5. 1. ASEAN Finance Track Initiatives and Trade-Investment Linkages

Initiative	Trade/FDI linkages	Status	Future areas of work
Regional payment connectivity *(Fast-payments & QR)*	• Cuts cross-border payment costs and delays • Enables services exports, tourism and SME trade	• Multiple bilateral corridors live • Adoption of proxy identifiers and ISO 20022 progressing • Design work to move beyond one-off bilateral agreements	• Move toward multilateral connectivity with common scheme rules • Harmonize KYC/AML, liability and consumer-redress • Publish corridor-level cost/speed/availability metrics to drive usage • Embed local-currency quote/settle options in checkout and invoicing flows.
Local-currency use in cross-border transactions	• Reduces FX conversion and rollover risk • Supports supplier onboarding and working-capital finance	• Policy backing in leaders' statements • Operational frameworks in place • Take-up uneven and hedging capacity thin	• Improve price discovery and access to hedging in key pairs • Integrate currency choice directly into payment rails and e-invoicing so LCY becomes the practical default where viable • Continue practical cooperation to chip away at "dollar gravity."
Capital-market connectivity *(Sustainable-finance standards; fund passporting)*	• Channels regional savings into trade-enabling projects • Lowers cost of capital for cross-border firms	• ASEAN Taxonomy v3 effective • 11 CIS passport operating • Sustainable issuance rising but concentrated	• Broaden product distribution and investor base • Advance mutual recognition of disclosure/verification • Mainstream taxonomy-aligned instruments for logistics/energy/digital projects to anchor a visible pipeline and crowd-in private capital.
Banking access *(Bilateral arrangements under regional framework)*	• Allows banks to "follow firms" regionally • Strengthens trade finance, cash-management and risk services	• Framework acknowledged in the new AEC plan • Progress via selected bilateral arrangements	• Sequence regulatory-coherence steps and supervisory MoUs where readiness allows, prioritizing trade-finance corridors and SME access • Link bank services to the data generated by connected payments to scale regional working-capital solutions.

Source: ASEAN Secretariat; AMRO Policy Paper 2025; Various central bank reports; AMRO staff compilation.

Table A5. 2. ASEAN Integration Initiatives

Policy Framework	Implementation Status	Key Achievements	Remaining Gaps	Next Steps (Strategic Action Plan 2026-2030)
Economic Blueprint				
ASEAN Economic Community (AEC) 2025	Adopted in 2015	ASEAN GDP USD3.6 trillion (5th largest globally); 650 million+ consumer market; intra-ASEAN trade: 22.4 percent of total (2022); potential GDP gains USD280-625 billion by 2030	Non-tariff barriers (NTB) persistence; weak enforcement mechanisms; development disparities across member states	Comprehensive NTB elimination program; labor mobility enhancement; institutional strengthening mechanisms
Financial Integration				
Asian Bond Markets Initiative (ABMI)	Adopted in 2002 In force in 2003	USD1.6 trillion in outstanding LCY bonds (Q2 2024); USD13.3 billion issued in green bonds; ASEAN Taxonomy V3 released in 2024	Market development disparities; limited cross-border investment appetite; uneven taxonomy adoption	By 2030, implement ASEAN Taxonomy V3 across supervisors
ASEAN Capital Markets Forum (ACMF)	Adopted in 2001 In force under the 2021-2025 Action Plan	11 Collective Investment Schemes (CIS) Funds and CIS Passports in SG, MY, PH, and TH; ACMF total NAV grew 3-folds to US$321 billion in 2023	Fragmented market rules (funds, listings, disclosure); limited cross-listing and fund passport uptake	By 2030, deepen capital-market connectivity, enforcing mutual recognition of disclosures/prospectuses; broaden CIS Passport scope
Investment				
ASEAN Comprehensive Investment Agreement (ACIA)	Adopted in 2009 In force in 2012	1,012 reservations filed as of 2024; annual FDI inflows averaged USD170 billion (2016-2023), nearly double pre-2015 levels	Restrictive investment regimes; lack of investor protection; persistent gaps in financial market development between member nations	Progressive reduction of ACIA reservations, to align with ATISA by 2030; operationalize an ASEAN Investment Facilitation Framework (single contact points, time-bound approvals); strengthen investment protection/mediation and transparency portals; upgrade and consolidate ASEAN's investment promotion efforts
ASEAN Investment Facilitation Framework (AIFF)	Adopted in 2021; implementation ongoing across member states	Enhanced transparency and streamlined procedures; reduced administrative bottlenecks; benefits from single digital windows and technology integration	Uneven implementation across member states; varying capacity in establishing single contact points; limited awareness among investors	By 2030, full operationalization across all member states with standardized single contact points and time-bound approval processes; enhanced digital integration and transparency mechanisms
ASEAN Regional Investment Promotion Action Plan (RIPAP) 2025-2030	Adopted in October 2024	*Awaiting implementation*	*Awaiting implementation*	By 2030, establish an integrated regional investment promotion platform; enhance coordination between national IPAs; develop targeted campaigns for intra-ASEAN investment; strengthen sustainable investment guidelines

Trade				
ASEAN Trade in Goods Agreement (ATIGA)	In force in 2010 ATIGA 2.0 anticipated in October 2025	99 percent of goods at 0 tariff; intra-ASEAN trade: 22.9 percent of total exports (USD717 billion in 2022); ASEAN Single Window (ASW) established	Increase in non-tariff measures (NTMs); residual sensitive/highly-sensitive lists; complex Rules of Origin (ROO) systems	By 2030, enforce measures for NTMs declaration and transparency; phased expansion of tariff reductions to Regional Comprehensive Economic Partnership (RCEP) members; expand ASW system to all permits and certificates; harmonized regional classification of commodities
ASEAN Trade in Services Agreement (ATISA)	Adopted in 2020 In force in 2021	National treatment commitments scheduled (Brunei, Indonesia, Malaysia, Singapore, and Thailand submitted initial non-conforming measures); Mutual Recognition Arrangements (MRAs) established for 8 professions; 120 subsectors liberalized on average per economy	Limited enforcement and utilization of MRAs; uneven licensing transparency and regulatory coherence	By 2030, expand MRA coverage; implement the ASEAN Service Facilitation Framework

Source: ASEAN Secretariat. AMRO staff compilation

Annex 6: Potential Policy Impacts on Intra-regional Trade Integration

Part IV employs gravity-based model simulations to quantify ASEAN's untapped potential for deeper intra-regional integration and to assess how policy choices shape that trajectory. The simulations compare a "current-trajectory" baseline – driven by a potential increase in GDP alone – with an upside scenario that layers in three pathways: (i) realization of existing trade measures; (ii) domestic upgrading via external integration; and (iii) strengthening intra-regional FDI.

I. Realization of Existing Trade Measures

The payoff from leveraging existing trade policies is quantified by comparing two gravity models in Annex 1. Aggregating bilateral trade flows to the ASEAN level for 2023 to derive the predicted intra-regional trade share, the gap between the two models is interpreted as the potential gain from fully realizing existing trade policies.

II. Domestic Upgrading via External Integration

GDP

GDP projections were derived via a standard Cobb-Douglas production function approach with constant returns to scale, where output depends on total factor productivity (TFP), capital, labor, and human capital. Capital stock is derived from Penn World Tables and projected using the perpetual inventory method with gross fixed capital formation trends and a constant depreciation rate. Labor input combines employed persons and working hours, with demographic projections taken from United Nations population scenarios. Human capital is represented by an index of years of schooling with capped returns, while TFP is back-calculated from output, capital, and labor shares. Baseline projections incorporate historical growth trends, convergence effects, and adjustments to exclude crisis years. The convergence effect, measuring how fast economies catch up to the frontier economies proxied among the Organization for Economic Co-operation and Development members, is estimated through beta-convergence regression.

For the upside scenario, a stronger productivity growth is assumed by aligning convergence rates for TFP, human capital, and capital accumulation with the historical experience of leading ASEAN+3 economies such as Hong Kong, Japan, Korea, and Singapore. This effectively assumes that economies sustain faster catch-up to the productivity frontier.

Trade Complementarity Index

Under the baseline scenario, the Trade Complementarity Index (TCI) is assumed to rise gradually by translating projected income growth into TCI using the exporter- and importer-side income elasticities estimated in Annex 2.

Under the upside GDP scenario where productivity converges to the regional frontier by 2050, trade structures are assumed to diversify and upgrade in tandem, narrowing the mismatch between ASEAN exporters' supply profiles and intra-regional demand. In this scenario, the TCI is assumed to converge to the ASEAN+3 benchmark by 2050, reflecting deeper production sharing, finer specialization, and fuller integration of intermediate goods networks. The premise is that sustained productivity catch-up enables movement into higher-value tradables, expanding the overlap of export baskets with regional import needs and strengthening intra-industry linkages.

III. Strengthening Intra-regional FDI

Bilateral FDI projections are generated using the FDI gravity model, incorporating level of income and proximity, historical and cultural linkages, and institutional quality (e.g., regulatory quality, rule of law). Core demand-side drivers enter via GDP per capita for source and host economies.

$$\begin{aligned}\ln(FDI_{ijt}) &= \alpha + B_1 \ln(GDPpc_{it}) + B_2 \ln(GDPpc_{jt}) \\ &+B_3 \ln(Distance) + B_4 Language + B_5 Border + B_6(Tech\ Gap) \\ &+B_7 Colony + B_8 Common\ Colony + B_9 Current\ Colony \\ &+B_{10} Politcal\ Distance + B_{11} Regulatory\ Quality_j + B_{12} Rule\ of\ Law_j \\ &+B_{13} US * ASEAN + B_{14} US * Plus3 + B_{15} China\end{aligned} \quad (1)$$

The definition of each variable in the two models is listed in Table A3.1. The first row of terms captures macroeconomic conditions via exporter and importer income. The second and third row proxies structural trade costs, such as distance, common language, and colonial ties. The fourth row captures the institutional quality of the FDI-receiving economy and the political distance between the two economies. The final terms capture the unique dynamics of the role the US and China assume as a source of FDI.

Table A6. 1. Definition of Variables

Variable	Definition
$\ln(FDI_{jt})$	Natural log of the bilateral FDI stock of economy *i* in economy *j* at time *t*
$\ln(GDPpc_{it})$	Natural log of the host economy's nominal GDP per capita
$\ln(GDPpc_{jt})$	Natural log of the recipient economy's nominal GDP per capita
$Distance$	Geographical distance of the most populated cities between the pair
$Language$	Dummy variable; 1 if a common language is spoken by 9 percent or more of residents in both economies
$Border$	Dummy variable; 1 if the pair shares a land border
$Tech\ Gap$	Index measuring the technological gap between the host and recipient economy
$Colony$	Dummy variable; 1 if both economies were ever in a colonial relationship
$Common\ Colonizer$	Dummy variable; 1 if both economies had a common colonizer after 1945.
$Current\ Colony$	Dummy variable; 1 if both economies are currently in a colonial relationship
$Political\ Distance$	Political distance between the pair based on the United Nations General Assembly voting preference
$Regulatory\ Quality_j$	Index measuring the ability of the government to formulate and implement policies that promote private sector development of the recipient economy
$Rule\ of\ Law_j$	Index measuring the extent to which agents have confidence in and abide by the rules of the society of the recipient economy
$US * ASEAN$	Dummy variable; 1 if the source of FDI is the US and the receiving economy is an ASEAN nation
$US * Plus3$	Dummy variable; 1 if the source of FDI is the US and the receiving economy is a Plus-3 nation
$China$	Dummy variable; 1 if the source of FDI is China

Tech gap is measured using World Intellectual Property Organization (WIPO) Global Innovation Index, calculated as the source–recipient difference. Political distance is estimated from UN General Assembly roll-call votes using a dynamic ordinal ideal-point (IRT) model. Each year, countries' political positions are inferred from their Yes/Abstain/No responses to all resolutions; bilateral political distance is the absolute difference between ideal points, linearly rescaled to 0–1, where larger values indicate greater divergence (Bailey and others 2017). Institutional quality variables, such as regulatory quality and rule of law were obtained from the World Bank's Worldwide Governance Indicators, which were then normalized to have values from 0 to 1. For the upside scenario, institutional quality is assumed to converge gradually to the regional frontier by 2050 within historically plausible bounds.

The estimated coefficients from the results in Table A6.2 were used to project bilateral FDI through 2050 separately under both baseline and upside scenarios. The projected intra-regional FDI share for ASEAN was then computed as intra-regional FDI divided by total ASEAN inward FDI.

Table A6. 2. FDI Regression, 2009-2023

	Dependent Variable: Natural Log of FDI Stock
$ln(GDPpc_i)$	1.079***
	(0.014)
$ln(GDPpc_j)$	0.716***
	(0.018)
$Distance$	-0.502***
	(0.014)
$Language$	1.604***
	(0.031)
$Border$	1.819***
	0.048
$Tech\ Gap$	2.244***
	0.073
$Colony$	1.444***
	0.052
$Common\ Colonizer$	0.353***
	0.045
$Current\ Colony$	-0.303**
	0.144
$Political\ Distance$	-0.243***
	0.065
$Regulatory\ Quality$	2.686***
	0.195
$Rule\ of\ Law$	0.493***
	0.174
$US * ASEAN$	3.419***
	0.257
$US * Plus3$	4.212***
	0.112
$China$	2.895***
	0.079
$Constant$	-11.611***
	(0.188)
Observations	76,252
R-squared	0.363

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

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