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Global trade update

Policy Insights

Services are reshaping global trade, but least developed countries lag in digital exports

HIGHLIGHTS

1. **Services accounted for 71 per cent of global intermediate inputs in 2022,** and their share of global exports rose from 23 per cent in 2015 to 27 per cent in 2025.

2. **Digitally deliverable services grew by an average of 7.1 per cent a year over the past decade and now represent 56 per cent of global services exports.** In least developed countries, they account for just 16 per cent of services exports, compared with 61 per cent in developed economies.

3. **Poor connectivity, costly cross-border payments and skills gaps restrict participation by developing countries.** Artificial intelligence may widen the gap because computing capacity, data, finance and expertise remain concentrated in a few economies.

4. **Multilateral rules have not kept pace with digital trade,** while divergent provisions in regional and bilateral agreements have increased regulatory complexity. Developing countries need better data, stronger digital infrastructure and greater capacity to shape emerging rules.

5. **Unlocking the benefits of servicification, the growing use of services as inputs across all sectors, requires targeted action** to strengthen data governance, digital infrastructure, regulatory frameworks and participation in trade negotiations, particularly for developing and least developed economies.

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Services increasingly underpin production and trade across sectors

Services account for a growing share of economic activity and trade, although their contribution to countries' gross domestic product (GDP) varies widely across economies. In developed economies, services account for roughly 70 per cent of GDP and a similar share of total employment. In developing economies, they generate more than half of economic activity with significant variations across country groups: from 66 per cent of GDP in small island developing States (SIDS) to just 42 per cent in least developed countries (LDCs). The share of services in GDP has slightly increased globally, from 63 per cent in 2013 to 65 per cent in 2023.[1]

Services have also gained ground in global trade. Their share of global exports rose from 23 per cent in 2015 to 27 per cent in 2025, despite a temporary decline in 2020-21 during the COVID-19 pandemic.[2]

1 World Bank, World Development Indicators.
2 UNCTADStat.

However, for development, what matters is not only the size of the services sector, but also its composition and linkages with the broader economy. Productive, tradable and knowledge-intensive services can act as catalysts for economic diversification by raising productivity, supporting innovation, creating higher-value jobs, and strengthening the competitiveness of firms across all sectors. As services become increasingly embedded in manufacturing, agriculture and other economic activities, their role extends beyond a standalone sector to a key enabler of structural transformation, resilience and sustainable development.[3]

Two related trends capture how services are becoming more central to production and trade. The first is *servicification*, the growing use of services as inputs across all sectors, from agriculture to manufacturing. Logistics, finance, design and data management are increasingly embedded in what firms produce and export, even when the final product is a physical good. The second is *servitization*, a shift in business models, where firms that previously sold goods now bundle services with their products or sell the services that products provide, such as maintenance contracts or performance guarantees, rather than the products themselves (Figure 1).

Figure 1
Not just inputs: services are transforming what firms make and sell

Source: UNCTAD based on Miroudot.[4]

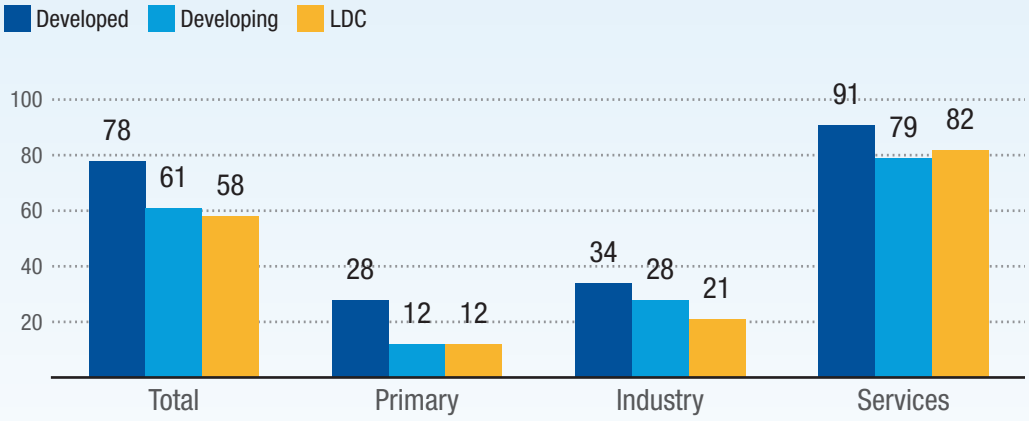
Servicification has emerged as a key driver of economic diversification, structural transformation and participation in global value chains. By 2022, services accounted for 71 per cent of global intermediate inputs, ranging from 78 per cent in developed economies to 61 per cent in developing economies (Figure 2).

[3] UNCTAD (2026), The least developed countries report 2025, Are services the new path to structural transformation?
[4] Miroudot, S., and C. Cadestin (2017), Services in Global Value Chains: Trade patterns and gains from specialization. OECD.

Figure 2

Services underpin production across all sectors

Services share of intermediate inputs for final demand by country group and sector, per cent, 2022



Source: OECD TiVA – Aggregation based on UNCTAD classification.

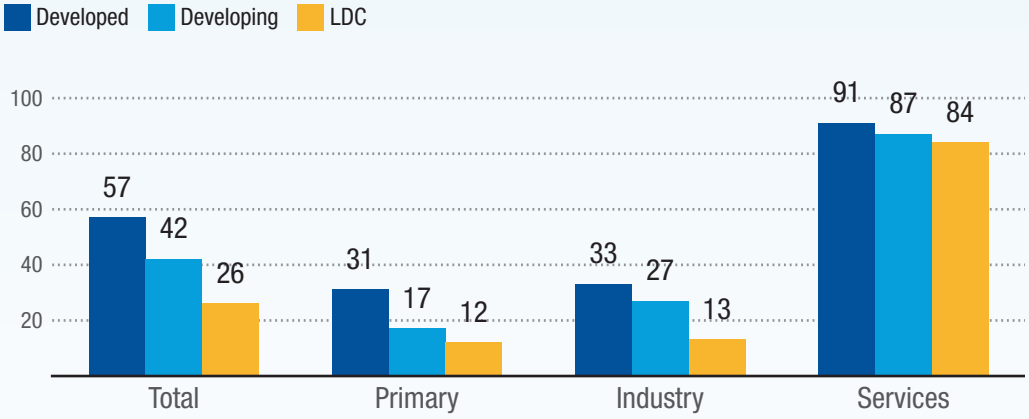
Note: OECD TiVA database covers 87 economies including 41 developed economies, 39 developing economies and 7 LDCs which are Angola, Bangladesh, Cambodia, Democratic Republic of the Congo, Lao People's Democratic Republic, Myanmar and Senegal.

Services are also traded indirectly as inputs embodied in exported goods. This hidden services content is substantial, but uneven: services represent 33 per cent of intermediate inputs in industrial goods exports in developed economies, in contrast to 27 per cent in developing ones and just 13 per cent in the LDCs covered by available data (Figure 3).

Figure 3

The services content of export value added is twice as high in developed economies as in least developed economies

Services share of intermediate inputs for value added in gross exports, by country group and sector, per cent, 2022



Source: OECD TiVA – Aggregation based on UNCTAD classification.

Note: OECD TiVA database covers 87 economies including 41 developed economies, 39 developing economies and 7 LDCs which are Angola, Bangladesh, Cambodia, Democratic Republic of the Congo, Lao People's Democratic Republic, Myanmar and Senegal.

Services should be viewed not only as a sector in their own right but also as critical inputs into the production and export of goods. The quality, cost and availability of services directly affect competitiveness and participation in global value chains across all sectors.

However, many developing countries and LDCs lack the data needed to assess the impact of servicification and identify service-related constraints to competitiveness. The role of services in developing countries' trade is often underestimated because the services embedded in goods exports are not adequately measured. Trade-in-value-added data can make these contributions more visible, however evidence remains uneven, especially for the least developed countries (LDCs). As a result, the true importance of services for trade and economic diversification remains unclear. Measurement challenges extend beyond indirect trade. Bilateral data, mode-of-supply breakdowns and sector-level details are missing for most developing countries, leaving a large part of trade in services invisible in trade statistics. Only a small number of developing economies regularly publish bilateral services trade data, and many do not report beyond basic service categories. Strengthening data collection and measurement is therefore critical for informed trade policymaking and economic transformation.

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Trade in digitally deliverable services is growing fast, but LDCs are not keeping pace

Over the past decade, world services exports expanded by about 6.7 per cent annually, outpacing goods exports, and marking an 8.3% increase in 2025. The expansion of digitally deliverable services[5] (DDS) has been an important driver of this growth, enabled by the spread of digital platforms, cloud computing and improved connectivity in some regions. DDS trade grew faster than total services, at an average annual rate of 7.1 per cent, and now represents 56 per cent of global services exports.

LDCs have benefited far less from this growth. Their services exports grew by only 3 per cent annually over the same period, while their share of global services exports, already below 1 per cent in 2010, declined further to just 0.6 per cent in 2025.[6] Although DDS exports have outpaced both goods and total services exports across all country groups since 2014, growth in LDCs has been the weakest. After 2020, their DDS export index showed little progress, widening the gap with the rest of the world (Figure 4).[7] This underperformance reflects a combination of structural constraints, including limited digital infrastructure, inadequate connectivity, weak regulatory frameworks and insufficient skills, which continue to hinder LDC participation in the fastest-growing segments of global services trade.

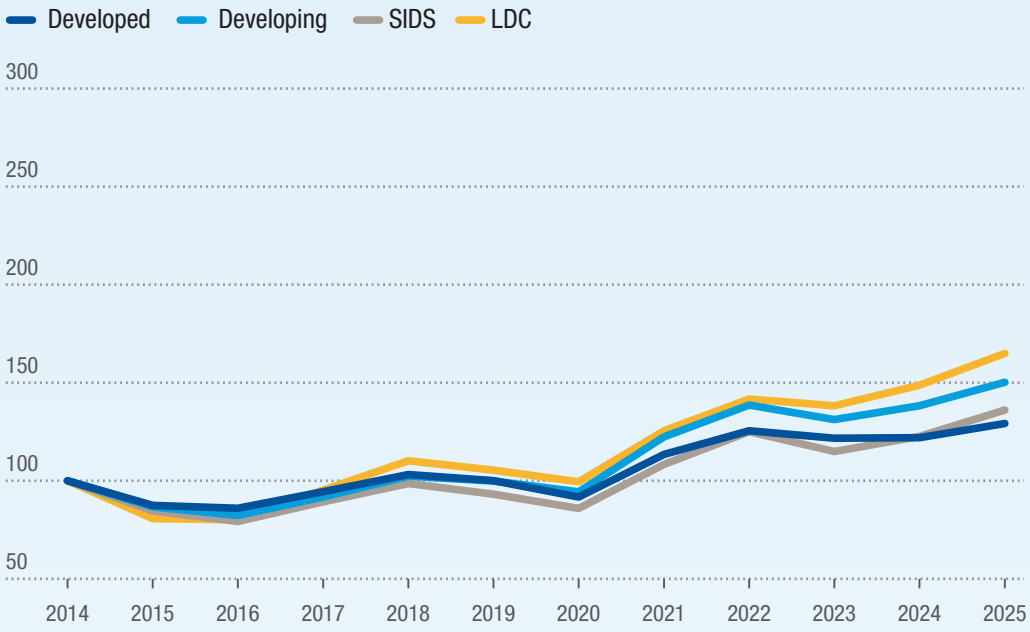
[5] Digitally deliverable services comprise those services which can be delivered remotely over computer networks. It is important to note that a product being digitally deliverable does not mean that it is always digitally delivered when traded internationally. Digitally deliverable trade will therefore be greater than trade that is actually digitally delivered. The following services categories are covered: insurance and pension services; financial services; charges for the use of intellectual property n.i.e.; telecommunications, computer and information services; research and development services; professional and management consulting services; architectural, engineering, scientific and other technical services; trade-related services; other business services n.i.e.; audio-visual and related services; health services and education services (excluding those consumed during international travel); heritage and recreational services.

[6] UNCTAD (2026), Global Trade Update, March 2026.

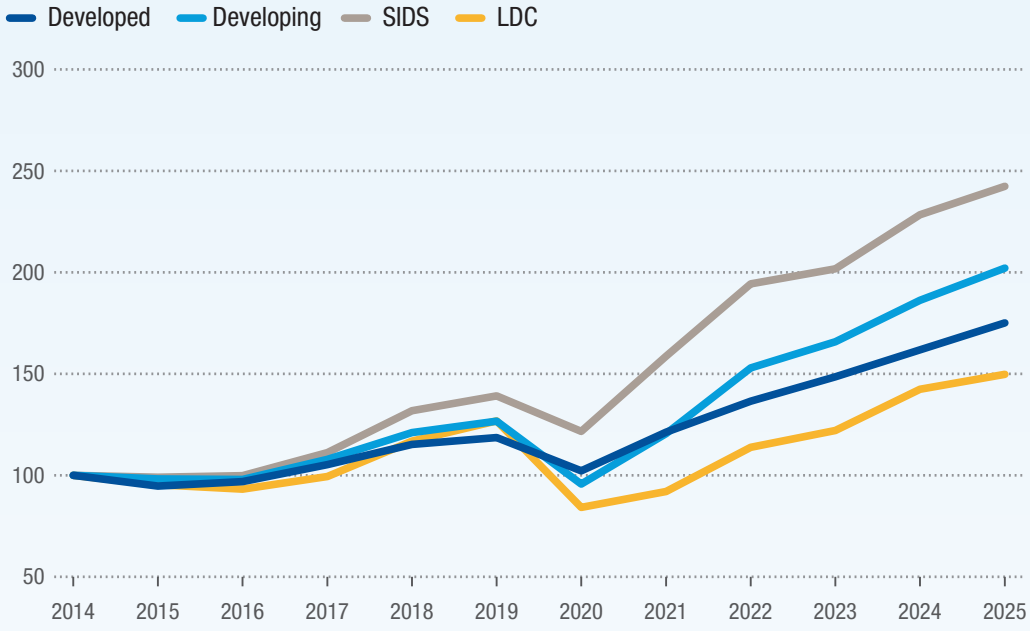
[7] UNCTADStat.

Figure 4
Trade is going digital, but not everyone is keeping up

Total goods exports, value index by country group, 2014=100, 2014-2025

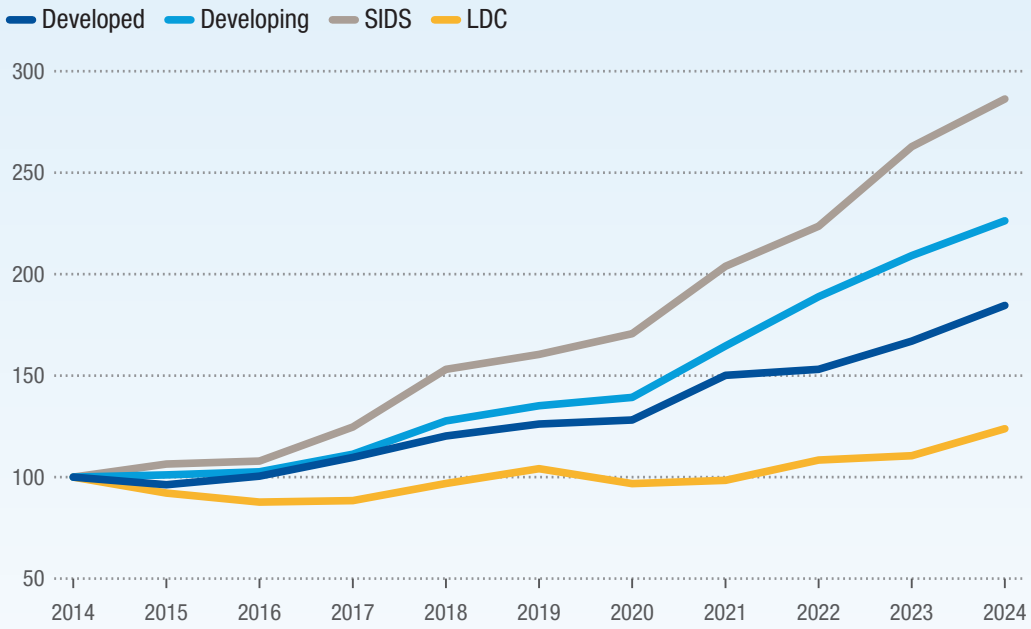


Total services exports, value index by country group, 2014=100, 2014-2025



Source: UNCTADstat.

Total digitally deliverable services exports, value index by country group, 2014=100, 2014-2024



Source: UNCTADstat.

In developed economies, DDS account for about 61 per cent of total services exports. In LDCs, that share is just 16 per cent. Although DDS exports from LDCs have grown in absolute terms, their share of total services exports has decreased over time, reflecting persistent digital divides (Figure 5). This gap reflects more than differences in digital infrastructure and connectivity. It also points to diverging export structures: LDCs remain heavily reliant on traditional services such as transport and travel, while developed economies and an increasing number of developing economies have moved into higher value-added knowledge-intensive and digitally deliverable services. As a result, LDCs are capturing only a small share of the fastest-growing segment of global trade.

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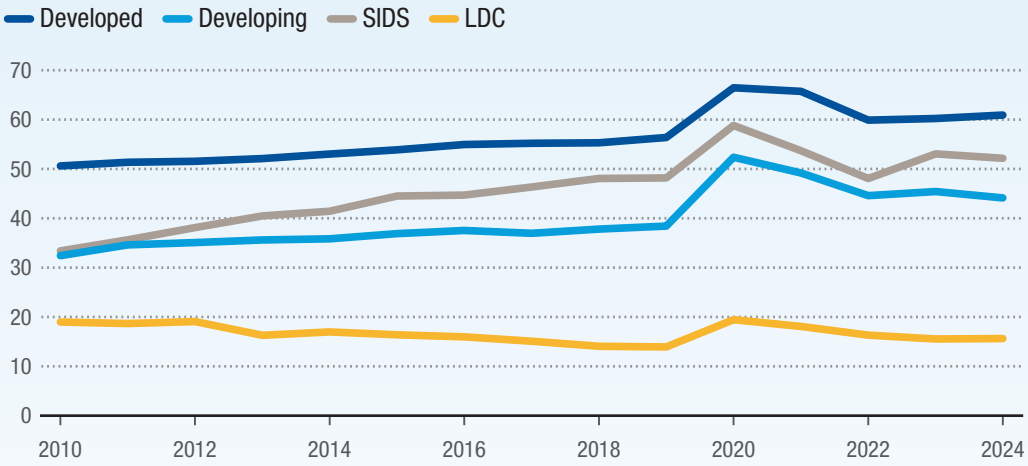
Figure 5

Digitally deliverable services represent only a small share of LDC services exports

Digitally deliverable services as a share of total services exports, by country group, per cent, 2010-2024



Source: UN Trade and Development (UNCTAD) based on UNCTADstat.

Note: Digitally deliverable services include: insurance and financial services, telecommunications, computer and information services, intellectual property charges, research-and-development services, trade-related, technical, managerial, consultancy, engineering, scientific and architectural services, audiovisual services, as well as health and education personal services, and cultural heritage and recreational services.

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Digital divides constrain participation and artificial intelligence may widen the gap

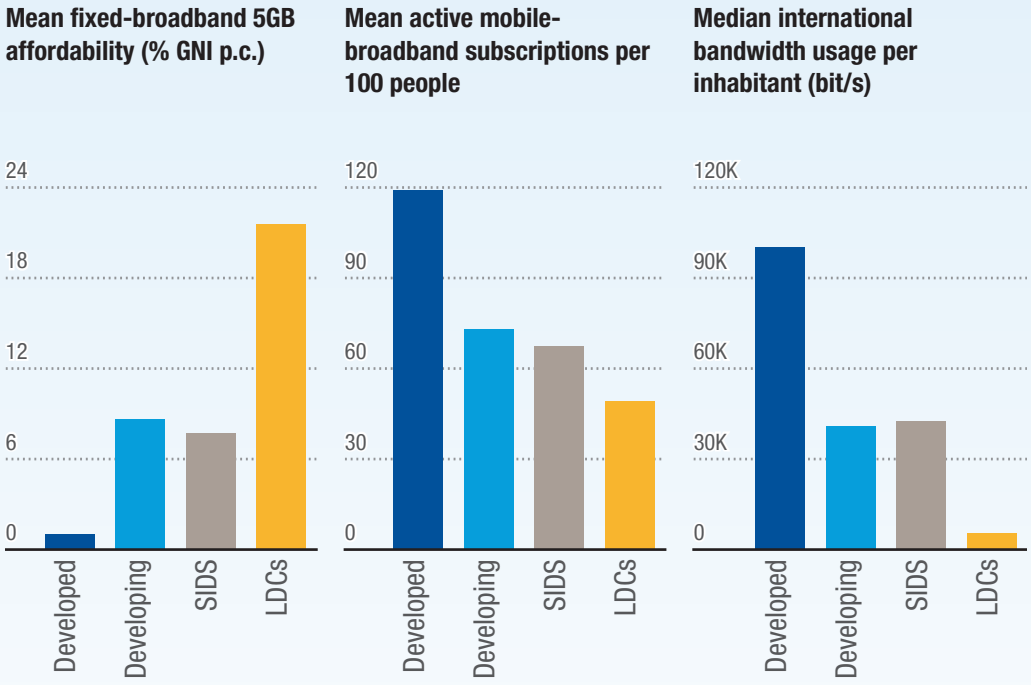
Effective participation in digital trade requires reliable, affordable and secure connectivity, seamless data and payment flows, digital skills, and predictable regulatory framework.[8] However, many developing countries, especially LDCs, continue to lag in digitally delivered services trade because of multiple, interconnected structural constraints. Among these, inadequate digital infrastructure remains a key barrier, reflected in persistent disparities in affordability and connectivity between developed and developing countries (Figure 6).

[8] IMF, OECD, UNCTAD and WTO (2023), Digital Trade for Development; UNCTAD (2026), Servicification for economic diversification, TD/B/C.I/MEM.4/35.

Figure 6

Limited and costly connectivity restricts LDC participation in digital services trade

International connectivity indicators, by country group



Source: ITU - Aggregation based on UNCTAD classification.

Note: The figure reports unweighted group averages based on the latest available country-level observation for each indicator. The reference year may therefore differ across countries and indicators.
The ITU fixed-broadband 5GB affordability database includes 154 developing economies, 57 developed economies, 41 LDCs and 45 SIDS.
The ITU mobile broadband subscriptions per 100 people database includes 164 developing economies, 55 developed economies, 43 LDCs and 47 SIDS.
The ITU international bandwith usage per inhabitant database includes 148 developing economies, 52 developed economies, 43 LDCs and 46 SIDS. Only data from after 2016 were included in the analysis.

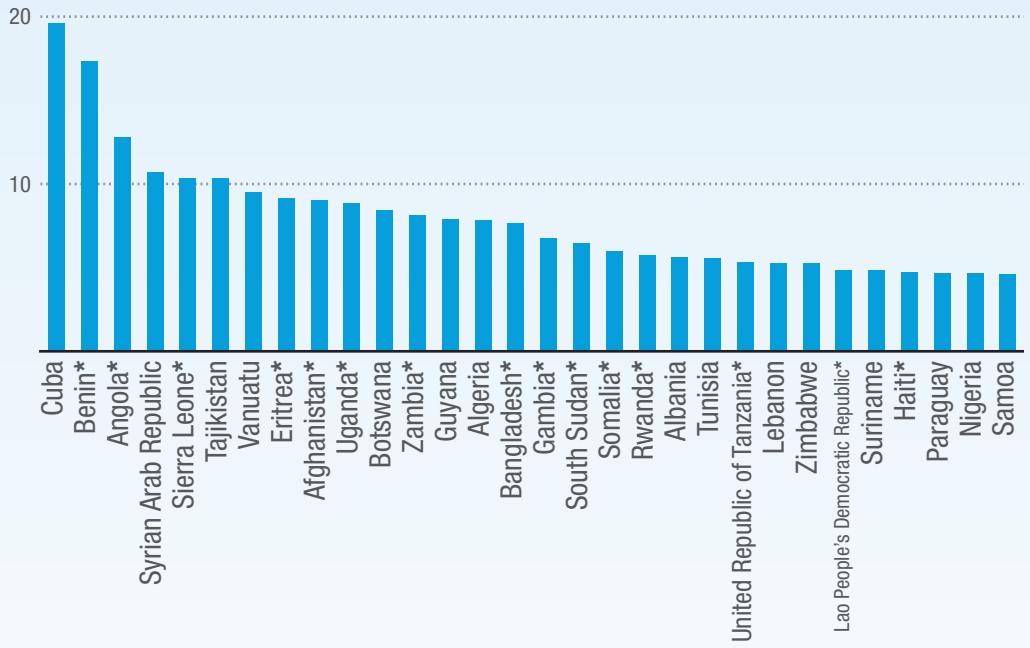
Access to international payment systems is essential for firms wanting to engage in digital services trade. High transaction costs, limited interoperability and fragmented systems constrain the ability of micro, small and medium-sized enterprises (MSMEs) and freelancers to make and receive cross-border payments. Concerns about online fraud and weak refund and dispute-resolution mechanisms can undermine trust. In some developing countries, digital payment platforms may not support local bank accounts, limiting firms' ability to transact with foreign customers and suppliers. Although systematic data on access to international platforms are unavailable, cross-border transfer costs provide a useful proxy for integration into global payment networks. Half of the countries with the highest remittance costs are LDCs (Figure 7). However, real progress has been made, particularly in Africa. Mobile money use among adults in sub-Saharan Africa rose from around 27 per cent in 2021 to about 40 per cent in 2024, and the Pan-African Payment and Settlement System (PAPSS) is helping to lower cross-border transaction costs and reduce reliance on offshore clearing.[9]

[9] UNCTAD (2025), Fast-tracking implementation of reforms enabling ecommerce and digital trade.

Figure 7

Transfer costs remain highest in least developed countries

Average transaction cost of sending remittances to a specific country, 2023, percent



Source: World Bank, World Development Indicators

Note: * Least developed countries

Beyond physical access and payment infrastructure, inadequate enforcement of intellectual property rights can further constrain participation in digital trade, particularly for enterprises whose products or services rely on trademarks, geographical indications, or creative content.

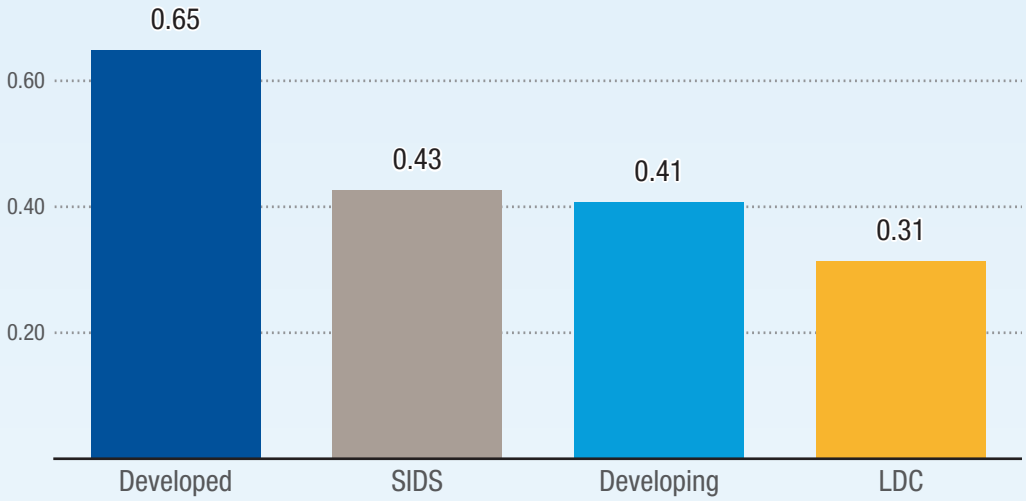
UNCTAD's ongoing technical cooperation project with CARICOM countries[10] documents these barriers in practice: creative services exporters in Caribbean SIDS are excluded from major digital payment platforms and face weak intellectual property rights enforcement, constraining their ability to monetise digital exports. These challenges, however, are not unique to them.

Finally, artificial intelligence (AI) may widen existing digital divides both within and between countries, with important implications for participation in digital services trade. AI deployment relies on a combination of advanced digital infrastructure, large-scale computing capacity, access to data, investment capital, and highly skilled workers. These resources are overwhelmingly concentrated in a small number of economies and firms, creating a risk that the benefits of AI-driven productivity gains will accrue disproportionately to those already at the technological frontier (Figure 8). AI is expected to transform a growing range of service activities by increasing productivity, enhancing innovation, and reducing the cost of producing and delivering digital services. At the same time, it may automate routine and lower-skilled tasks that have provided important entry points into global services markets for many developing countries. As AI becomes increasingly embedded in business processes and digital platforms, the competitiveness of firms and countries will depend not only on digital connectivity, but also on their ability to access and effectively use AI-related infrastructure, data, talent and finance.

[10] Strengthening capacity for evidence-based policymaking and the economic resilience of CARICOM, see: https://unctad.org/project/unda-2427K-trade-in-services-in-caricom

Yet many developing countries remain poorly positioned to benefit from these opportunities. Less than one third have adopted national AI strategies[11], and significant gaps persist in digital infrastructure, skills development, research capabilities and access to computing resources. Without domestic policies to build AI readiness, supported by international cooperation to to expand access to infrastructure, technology, finance and knowledge, AI could reinforce existing patterns of concentration in digital trade and further marginalize countries that are already underrepresented in digital services trade. While uncertainty remains regarding the pace and distribution of AI's effects, the direction of risk is clear: unless the foundations for broad-based AI adoption are strengthened, the technology may deepen rather than narrow existing development gaps. Ensuring that AI contributes to more inclusive digital trade will therefore require deliberate policy action at both national and international levels.

Figure 8
AI readiness varies sharply across country groups
Average AI Preparedness Index Score by UNCTAD Group (Unweighted), 2023



Source: IMF.

Note: The AI Preparedness Index assesses the level of AI preparedness across 174 countries, based on a set of macro-structural indicators that cover the countries' digital infrastructure, human capital and labor market policies, innovation and economic integration, and regulation and ethics. The index runs from 0 to 1, with higher scores indicating greater readiness.

[11] UNCTAD (2025), Technology and Innovation Report.

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Multilateral services trade rules have not kept pace with the digital economy

Multilateral services trade rules were largely designed before the digital era, creating uncertainty over how existing disciplines apply to an increasingly data-driven global economy.

The WTO's 1998 Work Programme on Electronic Commerce has a broad mandate to address trade-related issues related to electronic commerce, including issues relating to goods, services, intellectual property and development. It kept a moratorium on customs duties on electronic transmissions under ministerial consideration. The programme has provided a forum for discussions across WTO bodies, contributed to the understanding that existing WTO agreements, including the General Agreement on Trade in Services (GATS) framework may apply to electronically delivered services and helped identify a range of unresolved legal and policy questions.[12] At the same time, it has resulted in limited clarification of the applicable multilateral rules and has not generated new market-opening commitments. Alongside the Work Programme, WTO Members repeatedly renewed the moratorium on customs duties on electronic transmissions. However, the 14th WTO Ministerial Conference (MC14) held in March 2026 failed to reach consensus on extending the moratorium, leading to its expiry.

[12] The work programme is contained in WTO document WT/L/274. For services in context of the Work Programme, see for instance, WTO document S/L/74, 27 July 1999.

Consistent with the limited evolution at the multilateral level, most favored nation-based services trade restrictiveness[13] in selected digitally deliverable services remained relatively unchanged between 2016 and 2022, with some exceptions.[14] Developed economies are relatively less restrictive in most digitally deliverable services categories, but there is considerable variation within developing regions and among LDCs (Figure 9). Some countries may apply restrictions to key strategic services to develop their domestic industries or preserve their cultural heritage; that is the case of some audiovisual services.

More recent progress in digital trade rulemaking has largely shifted away from the multilateral arena toward plurilateral and regional initiatives. At MC14, 66 WTO members advanced the Agreement on Electronic Commerce, with participating members seeking its incorporation into the WTO legal framework. After MC14, 24 members separately pledged to maintain the moratorium on customs duties on electronic transmissions and agreed, for the first time among themselves, on a common definition of such transmissions. Yet participation in these initiatives remains uneven, with many developing economies, particularly from Africa and among LDCs, remaining outside these emerging rulemaking processes even as regional agreements continue to push ahead with more ambitious digital trade provisions.

[13] Services trade restrictiveness indices (STRIs) measure applied policy across discriminatory measures (i.e., caps on foreign providers and equity restrictions) and non-discriminatory domestic regulations (i.e., licensing requirements and local presence obligations). They can both constrain firms' ability to access the services inputs needed for GVC participation and servicification gains. Restrictive services policies can also constrain exports, by reallocating resources away from export-oriented activities.

[14] World Bank-WTO Services Trade Policy Database (STPD) and Services Trade Restrictions Index (STRI).

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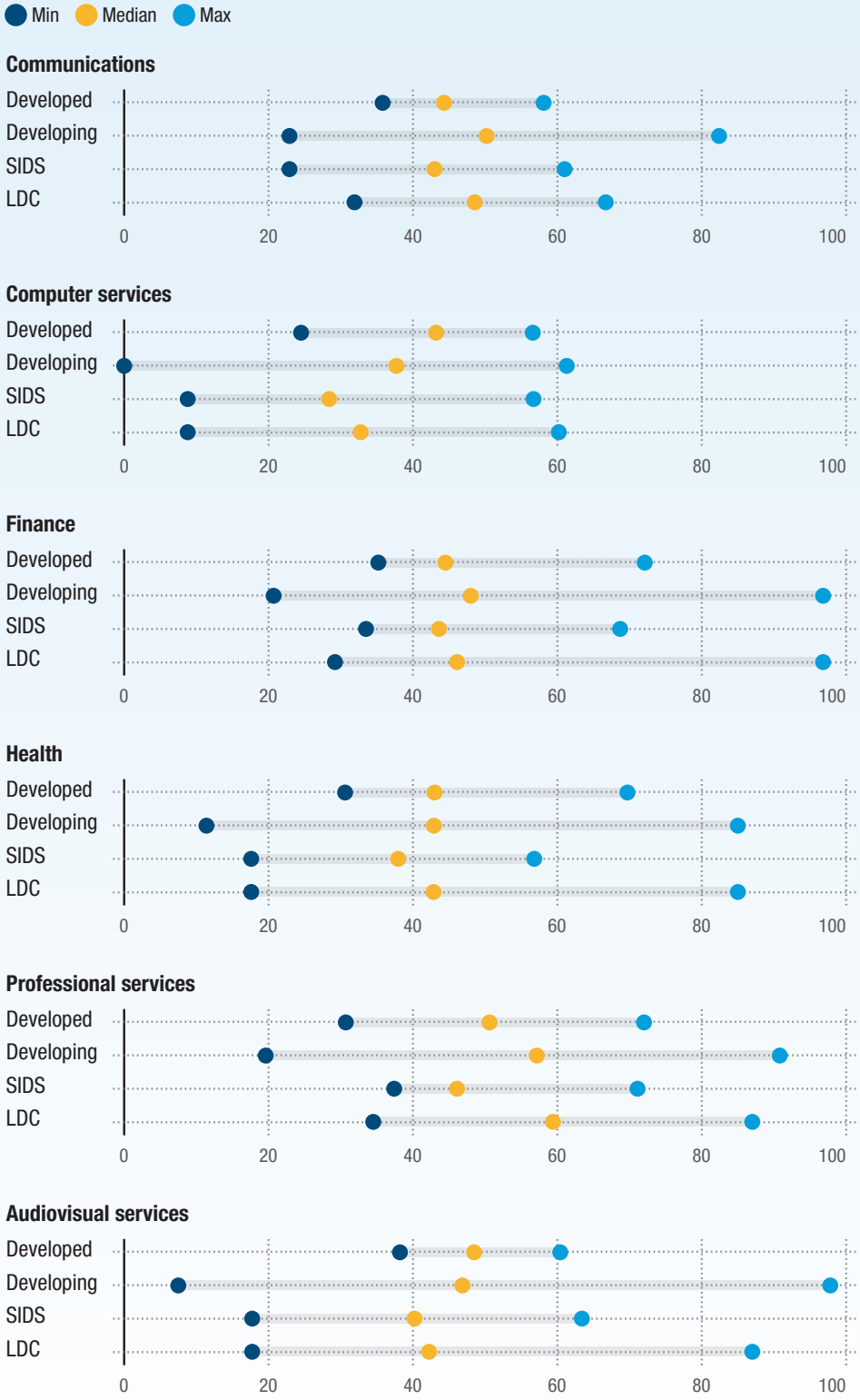
Figure 9

Professional services face the highest trade barriers across all regions

Services Trade Restrictiveness Index range by UNCTAD group, latest available year



Source: WB and WTO STRI database.

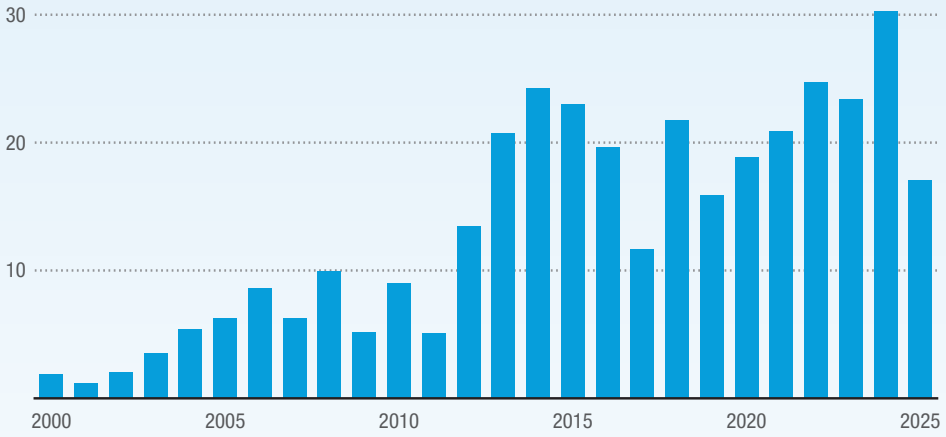
Digital trade provisions have become common in bilateral and regional agreements, with commitments varying in depth and scope. Of the 487 preferential trade agreements (PTAs) signed between 2000 and 2025, 55 per cent include e-commerce or digital trade provisions, 39 per cent include provisions on digital trade exceptions, and 38 per cent on personal data protection.[15] Digital trade provisions picked up steadily from 2013, reflecting the rapid expansion of the digital economy (Figure 10).

Since 2020, 90 per cent of developed countries, 62 per cent of all developing countries and 66 per cent of LDCs have engaged in preferential trade agreements with digital trade provisions, reflecting growing but asymmetric participation across country groups.

Figure 10

Digital trade provisions have proliferated in preferential trade agreements

Average number of digital trade provisions in preferential trade agreements, by year signed, 2000-2025



Source: Trade Agreement Provisions on Electronic-commerce and Data.

Note: The figure reports the average number of non-IP digital trade provisions per PTA, by year of signature. The calculation excludes IP variables. Accessions are excluded, and each PTA is counted once, without weighting by the number of parties.

The proliferation of bilateral, regional and plurilateral digital trade agreements has created an increasingly complex regulatory landscape. Countries may be subject to multiple sets of digital trade rules that differ in scope, coverage and implementation requirements, making them more difficult to navigate, especially, for MSMEs. Translating commitments into tangible development gains requires carefully designed, sequenced and appropriately paced reforms that take account of national regulatory objectives, institutional capacity and development priorities. Strengthening the analytical and negotiating capacity of trade ministries in developing countries is therefore critical to assessing the implications of digital trade commitments. and ensuring that they align with broader development goals.

[15] Mira Burri, Maria Vasquez Callo-Müller and Rodrigo Polanco, TAPED: Trade Agreements Provisions on Electronic Commerce and Data.

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Turning servicification into opportunity requires targeted action

Services trade is of growing importance for economic diversification, productivity growth, technological upgrading and integration into global value chains. Yet many developing countries, especially LDCs, remain only marginally integrated into these opportunities. Realizing the development potential of services trade will require action on three fronts: better data, stronger digital foundations, and more inclusive international cooperation.

First, better measurement is essential for better policymaking. Developing countries cannot formulate effective services strategies, assess the contribution of servicification to competitiveness, or negotiate trade agreements from an informed position without reliable data. However, many developing countries lack the firm-level, bilateral and trade in value added statistics needed to assess how services contribute to trade and development. Governments need to strengthen the collection of fully disaggregated services trade data by partner and sector, invest in capacity to measure trade by mode of supply, and make better use of existing administrative data sources such as tax records and enterprise surveys. At the international level, technical assistance and capacity-building for national statistical offices, including financial support, digital tools and South-South exchanges of best practice, are central to closing these gaps.

Second, infrastructure and skills are indispensable for expanding participation in modern services trade. Affordable and reliable broadband connectivity, digital payment systems, digital identification frameworks, and digital skills increasingly determine whether firms can access and compete in digital markets. National strategies should therefore prioritize connectivity and digital skills alongside regulatory frameworks that facilitate digital transactions. For many developing countries and LDCs however, weak institutional capacity and financing remain major constraints. Development assistance and international cooperation can support investment in digital infrastructure and skills, while helping governments assess the development implications of digital trade commitments, ensure alignment with domestic regulation and sequence implementation in line with national capabilities.

Third, international cooperation remains essential to ensuring that the global digital economy evolves in an inclusive manner. As digital trade rules increasingly emerge through regional and plurilateral initiatives, greater transparency, regulatory cooperation and interoperability can help reduce policy fragmentation while preserving legitimate public policy objectives. At the meantime, developing countries and in particular the LDCs need meaningful participation in these processes so that emerging rules reflect different levels of development needs, institutional capacities and regulatory priorities. An inclusive approach to rulemaking is a prerequisite for a more coherent and predictable global digital trade environment.

Services trade is expanding, but the opportunities are unevenly distributed. Better data, stronger infrastructure and skills, and more inclusive participation in international trade rulemaking will be critical if developing countries, especially LDCs, are to translate the growing importance of services into sustained gains in productivity, competitiveness and development.

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