

SDG Pulse 2024 UNCTAD TAKES THE PULSE OF THE SDGS

ARCHIVE



Foreword by SG Grynspan

In a world awash with information, credible data is the bedrock of effective strategies for sustainable especially as climate development. change. environmental challenges, the consequences of the pandemic, escalating wars and human conflict are impacting developing economies' ability to meet the Sustainable Development Goals (SDGs). The 2024 SDG Pulse report, a comprehensive analysis of our progress towards the SDGs, provides a vital snapshot – a 'pulse' - of our current reality, allowing us to zoom into the gaps, setbacks, and successes of countries to inform targeted actions.



This sixth edition paints a complex picture of global development, highlighting the stark disparities that persist despite significant advancements. On trade, for example, it shows that while the value of global trade in services has demonstrated resilience, growing by 8.9% globally in 2023 and even 9.5% in developing economies, merchandise trade has faltered, declining by 4.6% globally and 6.3% in developing economies. This disparity is particularly pronounced in Least Developed Countries (LDCs), whose share of global exports remains stubbornly at around 1%, a far cry from the SDG target of doubling it.

These trade imbalances are further exacerbated by the escalating debt burden of developing economies, which has more than doubled in the past decade. This alarming trend, coupled with a shortage of development finance and the increasing concentration of foreign direct investment, fuels inequalities both within and between countries, hindering progress towards achieving the SDGs on time.

Yet, amidst these challenges, there are signs of progress. The 2024 SDG Pulse presents early estimates of illicit financial flows for a related SDG indicator, developed with the United Nations Office on Drugs and Crime (UNODC) and the UN Regional Commissions. We also share progress in a joint project to assist countries in collecting and reporting their own data on South-South cooperation, based on a voluntary framework that seeks to change the development support narrative with data developed, compiled, and endorsed by the countries of the global South.

The report also delves into UNCTAD's data on trade in plastics, oceans trade, and biodiversitybased goods trade, emphasizing the urgency of the green transition and the need for equitable access to clean energy and sustainable solutions.

This SDG Pulse is structured around the four transformations of UNCTAD15's Bridgetown Covenant (UNCTAD, 2021): multilateralism and trade, sustainability and resilience, development finance, and diversification. It also features an In-Focus section on gender equality in international trade, based on a new set of indicators that reveal persistent disparities and highlight the need for targeted policies for women in trade.

This report serves as a call to action, urging policymakers, businesses, and civil society to leverage its insights to drive meaningful change. The upcoming United Nations Summit of the Future in September offers a unique opportunity to recalibrate our efforts and ensure the 2030 Agenda is put back on track. The time for data-informed action is now.

Rebeca Grynspan

Secretary General of UN Trade and Development

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Introduction

Welcome to the sixth edition of SDG Pulse – UNCTAD's annual statistical publication tracking developments related to the 2030 Agenda for Sustainable Development (United Nations, 2015) and the SDGs. As we pass the half-way mark of the 2030 Agenda, concerns about achieving sustainable development for all are mounting. Economic and social distress, particularly for those most in need, is exacerbated by the war in Ukraine, and in Gaza, leading to longer and more expensive trade routes, increased hunger and food insecurity, and rising CO₂ emissions, impacting developing countries' ability to meet the SDGs, and the need for reliable information becomes even more critical.

This report serves three main purposes: firstly, to provide an update on the evolution of selected official SDG indicators and complementary data and statistics; secondly, to report on progress in developing new concepts and methodologies for SDG indicators for which UNCTAD serves as a global custodian; and, thirdly, to showcase UNCTAD's support to member States in implementing the 2030 Agenda. Building on the previous edition, SDG Pulse continues to track progress according to four transformations identified at UNCTAD's intergovernmental meeting in Bridgetown (UNCTAD, 2021).

The report also delves into thematic issues relevant to the 2030 Agenda. This year's In Focus topic explores gender equality in trade. Despite global advancements, gender inequality persists, affecting women's lives through economic participation, education, health, and political empowerment worldwide. UNCTAD's new gender equality in trade indicator set helps illuminate gender gaps in trade to inform effective policy actions and accelerate just and equal development.

The report is arranged in a way that it can be read by theme, and by goal and indicator. In 2024, the online report will also be accompanied by an overview report to provide the key highlights of SDG Pulse.



Theme

In the thematic view, the data and analysis are organized according to the four themes outlined by the Bridgetown Covenant (UNCTAD, 2021). These include multilateralism and trade, development finance, diversification, and sustainability and resilience. UNCTAD's work contributes significantly to these themes and progress across a broad spectrum of related SDG indicators. Through this thematic lens, the report discusses recent trends in trade, including barriers to trade and efforts to enhance food security through trade. It also covers financial resource mobilization, South-South cooperation, investment, debt sustainability, and illicit financial flows. The theme of diversification discusses sustainable industrialization, transport resilience, digitalization, and productive capacities. Furthermore, environmental sustainability, risks, and vulnerabilities, including sustainable trade practices are at the core of the sustainability and resilience theme.



Goals and indicators

In the goals-and-indicators view, the content is organized according to SDGs and their related indicators. These are selected to align with UNCTAD's broad mandate in trade and development, investment, finance, and technology. The SDG indicators presented in this report are supplemented with additional data and official statistics to provide a comprehensive understanding of development. The SDG indicators presented in this report are:

GOAL 1

Goal 1: No poverty

- Indicator 1.5.1: Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population.
- Indicator 1.5.2: Direct economic loss attributed to disasters in relation to global gross domestic product (GDP).

GOAL 2

Goal 2: Zero hunger

- Indicator 2.1.1: Prevalence of undernourishment.
- Indicator 2.1.2: Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES).
- Indicator 2.b.1: Agricultural export subsidies.
- Indicator 2.c.1: Indicator of (food) price anomalies.

GOAL 8

Goal 8: Decent work and economic growth

Indicator 8.a.1 Aid for Trade commitments and disbursements.

GOAL 9

Goal 9: Industry, innovation and infrastructure

- Indicator 9.1.2: Passenger and freight volumes, by mode of transport.*
- Indicator 9.2.1: Manufacturing value added as a proportion of GDP and per capita.
- Indicator 9.2.2: Manufacturing employment as a proportion of total employment.
- Indicator 9.4.1: CO₂ emission per unit of value added.
- Indicator 9.5.1: Research and development expenditure as a proportion of GDP.
- Indicator 9.5.2: Researchers (in full-time equivalent) per million inhabitants
- Indicator 9.b.1: Proportion of medium and high-tech industry value added in total value added.
- Indicator 9.c.1: Proportion of population covered by a mobile network, by technology.

GOAL 10

Goal 10: Reduce inequality

- Indicator 10.a.1: Proportion of tariff lines applied to imports from LDCs and developing countries with zero-tariff*.
- Indicator 10.b.1: Total resource flows for development, by recipient and donor countries and type of flow.

GOAL 12

Goal 12: Responsible consumption & production

- Indicator 12.5.1: National recycling rate, tons of material recycled.
- Indicator 12.6.1: Number of companies publishing sustainability reports*.

GOAL 16

Goal 16: Peace, justice and strong institutions

Indicator 16.4.1: Total value of inward and outward illicit financial flows*

GOAL 17

Goal 17: Partnership for the goals

- Indicator 17.2.1: Net official development assistance, total and to LDCs.
- Indicator 17.3.1: Additional financial resources mobilized for developing countries from multiple sources*.
- Indicator 17.4.1: Debt service as a share of exports of goods and services.
- Indicator 17.5.1: Implement investment promotion regimes for LDCs^{*}.
- Indicator 17.6.1: Fixed Internet broadband subscriptions.
- Indicator 17.10.1: Worldwide weighted tariff-average*.
- Indicator 17.11.1 Developing countries and LDCs' share of global exports^{*}.
- Indicator 17.12.1: Tariffs faced by developing countries, LDCs and SIDS*.

This includes all indicators for which UNCTAD serves as a custodian or co-custodian. These indicators fall under goals 9, 10, 12, 16 and 17, encompassing topics such as trade, tariffs, development finance and South-South cooperation, debt, investment, illicit financial flows, maritime transport, and enterprise sustainability.

Custodian agencies of SDG indicators, including UNCTAD, are responsible for developing international standards and recommending methodologies for measuring SDG indicators. They are also tasked with compiling and verifying country data and metadata, and for submitting the data, alongside regional and global aggregates, to the Global SDG Indicator Database and Report, updated by the United Nations Statistics Division. The custodian agencies' role is to enhance the accuracy and consistency of SDG reporting worldwide to facilitate informed decision-making towards strengthening SDG achievement by 2030.

To see UNCTAD custodian indicators and find related SDG Pulse sections, click on the graph.





UNCTAD in Action

UNCTAD operates an extensive capacity development programme to support progress towards the 2030 Agenda. This report showcases case studies from UNCTAD's development programme through a statistical lens, presenting UNCTAD's activities and achievements in hard numbers. These case studies are pivotal as they exemplify the Results Based Management approach, adopted by UNCTAD, to improve our responsiveness and accountability to member States. In 2024, these case studies provide new insights into UNCTAD's activities in supporting measurement of South-South cooperation (SDG indicator 17.3.1) and illicit financial flows (SDG indicator 16.4.1), actively promoting ICT as a tool for development, and supporting enterprise sustainability reporting (SDG indicator 12.6.1).



Each year, the SDG Pulse focuses on a specific aspect of the 2030 Agenda, examining it through the lens of statistics. Following the UNCTAD ministerial meeting in Bridgetown (UNCTAD, 2021), policymakers emphasized the need to move beyond integrating a gender perspective and actively promoting the inclusion and empowerment of women and youth. Gender-disaggregated data was underscored as crucial for evidence-based policy-making. This SDG Pulse In Focus illustrates UNCTAD's commitment to this agenda, including the launch of the first ever set of gender equality in trade indicators.

The study utilizes indicators derived from international databases, such as employment and earnings by sex in tradable sectors, trade-intensive and tradedependent industries. For the first time, it provides insights into international trade from a gender perspective by country and globally.

This year's study reveals several key findings. It identifies opportunities for developing economies in Africa, Asia and Oceania to grow their service sectors, thereby expanding women's economic contributions. It also notes that high-skilled female workers face less gender inequalities. In 2023, UNCTAD and UN Women calculated that an additional \$360 billion per year is needed for 48 developing countries (included in the study) to achieve gender equality and women's empowerment. To effectively inform policy actions, further country-specific analyses are needed to understand the unique drivers and barriers affecting women's participation in trade in high value-added sectors. To this end, UNCTAD carried out pilot testing of data linking in six countries jointly with the Economic Commissions for Africa and Europe, and released Compilation Guidelines that enable such linking in all interested countries. Since 2015, over 2 200 people have been trained through UNCTAD's e-learning courses on trade and gender.

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The designations "developing" and "developed" are intended for statistical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process. UNCTAD's grouping of developing and developed economies is based on the former development status classification of the M49 standard, with some recent updates. For more details, see the UNCTADstat classification page.

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Notes

• * Indicator for which UNCTAD is a custodian or co-custodian agency.

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THEME 1

Multilateralism and trade

"Development requires direction and direction requires goals, which in turn necessitates statistics. Official statistics on trade, investment, finance and technology play a vital role in informing truly global and collective efforts towards inclusive and sustainable development."

> – Ms. Rebeca Grynspan, UNCTAD Secretary-General, 14 December 2023, Geneva

Attaining the SDGs through trade



SDG indicators

Goal 17: Partnerships for the goals

Target 17.11: Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.

Indicator 17.11.1: Developing countries' and least developed countries' share of global exports (Tier I)

The Bridgetown Covenant underlined trade as a powerful source of economic transformation, and an effective engine to reduce poverty (UNCTAD, 2021a). However, the impressive expansion of global trade and investment over the past decades has unfortunately not resulted in benefits for all. The LDCs, and 95 out of 142 developing economies are commodity dependent or tied to lower-value activities in manufacturing or services sectors (UNCTAD, 2023a).

Since 2020, the world has been in a constant state of cascading crises that overlap and compound each other. Climate changes, the war in Ukraine, and now, the ongoing war in Gaza, other geopolitical tensions, food and energy insecurity are putting SDGs at risk, especially for the most vulnerable countries (UNCTAD, 2022, 2024d). This is evidenced by disruptions in trade flows and shipping, exposing fragile and lower-income countries to supply shocks and price fluctuations, and the shifting of bilateral trade preferences toward countries with similar geopolitical stances (UNCTAD, 2023c).

Trade in services resilient while goods trade declined in 2023

Over the past decade, exports of goods and services from developing economies, LDCs, and SIDS have fluctuated considerably. The COVID-19 pandemic had a particularly severe impact on LDCs given their vulnerability to external shocks and limited resilience. In 2020, their exports of goods and services in value terms saw a sharp decline by about 14 per cent, year-on-year, with a more moderate decline for SIDS at 8.9 per cent, while developing economies as a whole experienced a 9.3 per cent decrease (figure 1).

In 2023, developing economies' total exports of goods and services saw a 3.7 per cent dip to about \$12 trillion, following a record high of almost \$13 trillion in 2022. This downturn was primarily driven by a 6.3 per cent fall in the value of trade in goods. In contrast, trade in services of developing economies increased notably by 9.5 per cent. In 2023, global goods trade declined by 4.6 per cent, while world services exports went up by 8.9 per cent.

In 2023, **exports of goods** in developing economies **DOWN 6.3%**; exports of **services UP 9.5%**.

For LDCs, total exports of goods and services decreased by 2.5 per cent, amounting to \$307 billion in 2023. LDCs' exports of goods declined by 4.6 per cent, whereas services exports increased for the third year in

a row (10.6 per cent in 2023). SIDS experienced a sharper decline in exports of goods (8.3 per cent) compared to LDCs, while their services trade remained at the level of the previous year. SIDS' total trade was estimated at \$952 billion for 2023.



Source: UNCTADstat (UNCTAD, 2024a).

Note: Year 2023 figures are preliminary. Goods are measured according to the balance of payments concepts.

Developing economies' share of global trade remained flat

Developing economies did not manage to increase their share in global trade in 2023, and the trend was similar for LDCs and SIDS. SDG target 17.11 sought to double the LDCs' share of global exports from 1 per cent in 2011 to 2 per cent, as taken further by the Programmes of Action from Istanbul (United Nations, 2011) and Doha (United Nations, 2022), but so far LDCs have missed the ambitious two per cent target. Despite the growth of their exports in absolute terms, LDCs' share in world exports of goods and services has remained at around 1 per cent since 2012, a trend that persisted in 2023. In comparison, SIDS accounted for 3 per cent of global exports in 2023, while all developing economies collectively represented 40 per cent. Within LDCs' export share, goods accounted for 0.8 per cent and services for 0.2 per cent (figure 2).

In 2023, LDCs share of world exports of goods and services remained at 1% - SDG target to double the share not met.

Figure 2. LDCs are not on a track to reach SDG Target 17.11 to significantly increase their share in global exports.



Source: UNCTADstat (UNCTAD, 2024a).

Note: Year 2023 figures are preliminary. Goods are measured according to the balance of payments concepts.

Only a few developing economies significantly increased their share in world exports of goods and services from 2011 to 2023 (map 1). There was an eightfold increase for Djibouti and Timor-Leste and a sixfold for Guyana. Armenia and Guinea quadrupled their shares in global exports, and Cambodia, Georgia, Grenada, Lao People's Democratic Republic, Niue, Samoa, Sao Tome and Principe, and Viet Nam doubled their shares during the same period. As for China, it increased its share by 1.3 times, to 11.6 per cent from the 9 per cent base in 2011. Some developing countries, for example, Ethiopia, Gambia, Kiribati, Lesotho, Tonga, and Vanuatu, saw their shares decline since 2011.

By 2023, Djibouti, Timor-Leste, and Guinea considerably increased their shares in world exports of goods and services.



Map 1. Only a few developing countries cover a significant share of global exports of goods and services.



Note: Year 2023 figures are preliminary. Goods are measured according to the balance of payments concepts.

LDCs' export market destinations remain undiversified

In 2022, the United States of America and China were the two top merchandise export destinations for developing economies, LDCs, and SIDS. The United States of America was the destination for about 16 per cent of developing economies' exports, 9 per cent for LDCs, and 11 per cent for SIDS. China received a 12 per cent share of developing economies' exports, 24 per cent for LDCs, and 10 per cent for SIDS (figure 3). On average, about 65 per cent of LDCs' and SIDS' exports were directed to their top ten trading partners, compared with 55 per cent for developing countries as a group.

The United States and China: main export destinations for LDCs and SIDS.

Figure 3. LDCs' and SIDS' merchandise exports concentrated on fewer partners than developing economies', 2022.

Percentage of merchandise exports **Developing economies** United States of America China China, Hong Kong SAR Japan 50% India Korea, Republic of Netherlands (Kingdom of the) Singapore Germany Viet Nam LDCs China United States of America United Arab Emirates 50% India Switzerland, Liechtenstein Germany Thailand Spain United Kingdom Singapore SIDS United States of America China, Hong Kong SAR China 50% Malaysia Indonesia China, Taiwan Province of India Japan Korea, Republic of Australia 8 16 24 0 Source: UNCTADstat (UNCTAD, 2024a).

International trade decoupling continues

In 2023, the shifting of bilateral trade flows along geopolitical lines or friend-shoring continued (UNCTAD, 2023d). The United States' share in Chinese exports declined by about 5 percentage points between 2017 and 2023, following the import tariffs escalation in 2018 and 2019 between the two countries (figure 4). During the same period, China's share in the United States imports dropped by about 8 percentage points.

China and the United States trade **interdependence decreasing**.



Source: UNCTADstat (UNCTAD, 2024a). UN Comtrade Database (United Nations, 2023) *Note*: China export dependence on the United States is calculated as China exports to the United States over total China exports. The United States import dependence on China is calculated as United States imports to China over total United States imports. The overall trade interdependence is calculated as bilateral trade (imports + exports) of United States and China over the sum of total trade of the two countries.

Developing economies in Africa continue to struggle with trade diversification

In 2022, exports concentration index of developing economies stood at 0.10, notably higher than that of developed economies (0.07). From the regional perspective, Africa exhibited the highest export concentration at 0.24, followed by Asia and Oceania at 0.11. The export mix was more varied in the developing economies of the Americas at 0.10. LDCs showed an export concentration index of 0.20, and SIDS stood at 0.22. LLDCs demonstrated the highest trade concentration ratio among the groups, registering 0.26. In 2022, several Sub-Saharan economies were prominently engaged

In 2022, the **highest** export concentration index was recorded in LLDCs (0.26).

in exports of natural resources, with Mali (0.85), Guinea-Bissau (0.85), South Sudan (0.84), and Botswana (0.79) ranking among the top fifteen in the index. Notably, Tokelau (0.98), the Marshall Islands (0.92), and Iraq (0.91) ranked the highest (figure 5).



Figure 5. Export concentration, even though reduced since 2012, remains highest in Africa and LLDCs.



Source: UNCTADstat (UNCTAD, 2024a).

Note: The concentration is measured by the Herfindahl-Hirschman Index (HHI). An index value closer to one indicates that a country's exports or imports are highly concentrated in a few products. On the contrary, values closer to zero reflect a more homogeneous distribution of exports or imports among a series of products. The country grouping refers to the April 2023 classification, as specified in UNCTAD (UNCTAD, 2023b).

In 2022, manufactured goods accounted for 65.5 per cent of total merchandise exports from developing economies, up from 57.8 per cent in 2012. The share of fuels has reduced from about 26.1 per cent in 2012 to 18.3 per cent in 2022. Food accounted for 7.9 per cent of total exports of developing economies, followed by ores, metals, precious stones, and non-monetary gold (7.2 per cent) (figure 6). LDCs still remain highly dependent on commodities. Although the share of manufactured goods in total exports of LDCs increased from 22 per cent in 2012 to 35.1 per cent in 2022, their merchandise exports are largely focused on simple manufactured products, such as textiles and clothing. The remaining LDCs' exports are

Manufactured goods had the highest share -66% - in merchandise exports of developing economies, followed by fuels (18%).

concentrated in ores, metals, precious stones, and non-monetary gold (25.7 per cent), followed by fuels (24.6 per cent), and food items (12 per cent). In 2022, SIDS' exports contained a large proportion of manufactured goods (68.2 per cent), followed by fuels (18.1 per cent), and ores, metals, precious stones, and non-monetary gold (8.2 per cent) (figure 6).

Figure 6. Fuels' share in exports of developing economies and LDCs dropped significantly from 2012 to 2022, while the share of manufactured products increased.



Merchandise exports by product group, percentage

LDCs struggled to revive their services exports which depend highly on travel

Following the pandemic, developing economies have witnessed a robust recovery in services trade, particularly in travel receipts. In 2023, LDCs just reached their services exports value of 2019, while other developing economies surpassed it already by some 30 per cent. LDCs' services trade is predominantly driven by travel, which despite its remarkable percentage recovery in 2022 and 2023, still needs time to return to pre-pandemic levels.

Developing economies export **30% of global services**; LDCs only 0.6%.

In contrast to LDCs, services exports of developing economies and SIDS are dominated by sectors other than transport and travel, with digital trade playing a significant role. These other services include telecommunication and computer services, financial and insurance services, intellectual property-related services, audiovisual services and various business services like architectural, marketing, engineering, consulting, and trade-related, among others. However, it is noteworthy that SIDS located remotely and less integrated into global trade flows rely more heavily on international transport and travel receipts than the data for the group as a whole reveal (figure 7). Notably, Singapore's exports of other services cover almost 90 per cent of total SIDS' other services exports. In other SIDS, transport and travel dominate the services trade.

Figure 7. Services exports structure is linked with the faster recovery of developing economies and SIDS from the pandemic, and the slower recovery of LDCs.





Source: UNCTADstat (UNCTAD, 2024a).

Notes: Figures are based on joint UNCTAD-WTO trade in services dataset. Year 2023 figures are preliminary. Within the EBOPS services classification, travel does not include international transport of passengers, which is covered under transport.

Creative services trade booming

Over the past two decades, exports of creative goods increased by more than 3.5-fold, compared to a 3.8-fold increase for all exported goods (UNCTAD, 2024b). In the last decade, creative services exports grew 2.8-fold, surpassing the 1.5-fold increase for all services exports. These data have been calculated by UNCTAD based on identifying goods and services with a significant creative component from the EBOPS for services (experimental estimation) and based on the HS classification for goods.

In 2022, UNCTAD estimated that creative services exports reached a record \$1.4 trillion, nearly double the \$713 billion for creative goods exports (figure 8). Recently, creative goods and services exports have diverged due to a surge in software and R&D services exports and the digitization of some creative products.

Figure 8. Global exports of creative services increasing faster than creative goods.



The share of creative goods in total exports slightly decreased from 3.1 per cent in 2002 to 2.9 per cent in 2022. At the same time, the share of creative services in all services exports saw significant growth, rising from 12 per cent in 2010 to 19 per cent in 2022.

International trade in creative goods and services is highly concentrated, with a few product groups and key dominating economies. The top ten exporters account for 70 per cent of both creative goods and services exports. In 2022, the United States of America and Ireland were by far the largest exporters of creative services, with \$244 billion and \$231 billion, respectively. In Ireland, multinational companies strongly contribute to creative services exports, especially in computer services, as they report their global copyright and license income there.

Developing economies account for most creative goods exports, while developed economies account for most imports. Developed economies dominate creative services exports, accounting for around 80 per cent of the total in 2022, although the gap with developing economies has narrowed. In 2010, developing economies represented 10 per cent of global creative services exports, increasing to 20 per cent by 2022 (figure 9).

The creative economy could provide a feasible option for sustainable development and structural transformation for LDCs, if developments seen in some Asian LDCs, like Cambodia and Myanmar, could be facilitated in other LDCs as well.

Figure 9. Cambodia and Myanmar account for most creative goods exports by LDCs.



With fostered digitalization, trade in services becomes increasingly relevant

Boosted by the pandemic, digital trade, encompassing products ordered or delivered remotely over computer networks, has surged in significance over the past decade. While services such as transport, travel or construction faced sharp declines with the pandemic, digitally deliverable services trade witnessed a notable uptick across all regions and country groups. In 2023, the exports of digitally deliverable services from developing economies were three times higher than in 2010, with SIDS experiencing a four-fold increase. Singapore, as the world's eighth-largest services exporter, boosted the SIDS' figures, yet many remote small islands face substantial barriers to integrating into international digital trade. Despite a 180 per cent increase from 2010

Exports of **digitally deliverable services more than tripled** in developing economies since 2010, but **LDCs lag behind**.

to 2023, LDCs' exports of digitally deliverable services expanded at a slower pace compared to other developing economies (figure 10).



Services trade is highly concentrated; only 3 developing economies among top 10 traders in 2023

Trade in services is highly concentrated, with certain countries consistently ranking as leading services exporters and importers. China, India, and Singapore were the top three developing-country exporters in 2023, collectively contributing to 13 per cent of global services exports. China, the foremost exporter among developing economies, secured the fifth position globally in 2023, while India ranked seventh. Singapore, which held the eleventh spot in 2010, significantly increased its market share to about 4 per cent, making it the eighth largest exporter of services in the world. From 2010 to 2023, the combined share of top 10 exporters increased slightly, rising from 53 to 55 percent (figure 11).

China, India and Singapore = Top 3 developing country exporters = 13% of global market.





Source: UNCTADstat (UNCTAD, 2024a). *Notes:* Figures are based on joint UNCTAD-WTO trade in services dataset. Year 2023 figures are preliminary.

In 2023 tourist arrivals near pre-pandemic levels in LDCs

In 2023, international travel receipts experienced a remarkable 56 per cent annual increase in developing regions. However, transport exports dropped by an estimated 17 per cent compared to the previous year, driven by the decline in freight transport value. Towards the end of 2023, freight transport costs increased, as climate change and armed conflicts forced merchant fleets to adopting longer shipping routes (see Sustainable transport).

Other services trade grew steadily in 2023, rising by 7 per cent for developing economies as a group. Provisional statistics suggest a decline in the exports of other services from LDCs in 2023 (figure 9). Many categories of these other services are digitally tradable. Overall, international trade in digitally deliverable services outpaced non-digitally deliverable services trade over recent years (UNCTAD, 2024a).

Transport exports from developing economies **17% DOWN** in 2023.

Figure 12. International travel receipts grew strongly in 2023, while trade in transport services declined.



Growth percentage of services exports by main service-category

Source: UNCTADstat (UNCTAD, 2024a).

Notes: Figures are based on joint UNCTAD-WTO trade in services dataset. Year 2023 figures are preliminary. Within the EBOPS services classification, travel does not include international transport of passengers, which is covered under transport.

Inbound tourist arrivals to developing economies saw steady growth until 2020, when the COVID-19 pandemic hit and tourist arrivals sharply declined to levels not seen in decades. While arrivals in LDCs fell just below their lowest levels of the 21st century, arrivals in SIDS and other developing economies plummeted even further. In 2023, SIDS reported a solid recovery with 72 million arrivals, though still 7 per cent below 2019 level. Developing economies collectively recorded 670 million inbound visitors, surpassing 80 per cent of the 2019 levels. Provisional statistics suggest that LDCs nearly matched their 2019 arrival numbers in 2023 (figure 13).

In 2023, LDCs

registered about the same number of **inbound tourist arrivals as in 2019**; other developing economies still to reach the 2019 tourist arrival levels.

Figure 13. LDCs near pre-pandemic levels in tourist arrivals in 2023, while developing economies in general lag behind.



Source: UNCTAD calculations based on UNWTO (UNWTO, 2024a). *Notes:* Year 2023 figures are preliminary.

Global inbound tourism earnings – including passenger transport and travel - recuperated globally in 2022 and 2023. In developing economies, international tourism receipts in 2023 surpassed 2019 levels by about 9 per cent. SIDS achieved this milestone already in 2022, with revenues in 2023 estimated to be 17 per cent higher than in 2019. The early estimates for LDCs indicate they have just reached the pre-pandemic international tourism earnings (UNWTO (2024b) and UNCTAD estimates based on UNWTO).

★ UNCTAD in Action ★

TrainForTrade has a global impact: over 20 000 trained from almost 220 countries or areas

Map 2. People from 219 countries participated in TrainForTrade activities, 2019-2023.



UNCTAD TrainForTrade provides bespoke technical assistance globally, with an emphasis on developing countries. It follows three goals:

- Build sustainable networks of support and knowledge exchange to enhance South-South cooperation and national ownership;
- Promote digital solutions and innovative thinking to strengthen the capacities of international trade players;
- Encourage development-oriented trade policy to reduce poverty and to promote transparency and best practices in trade.

To accomplish these objectives, TrainForTrade combines e-learning, face-to-face and hybrid activities: an environmentally friendly and cost-efficient approach, providing mass access to high-quality education while allowing the training of individuals chosen for their capacity to impact their communities. TrainForTrade currently covers three areas: Port Management, e-Commerce and Trade Statistics. Between 2019 and 2023, it held 163 events, in which over 20 000 people from 219 countries or areas took part (map 1 and table 1). These participants completed on average 7.6 days of training. Asia, Africa and the Americas accounted for the bulk of this capacity development, with respectively 37, 28 and 23 per cent of all attendees. TrainForTrade's team led face-to-face workshops in almost 30 countries, maintaining a strong field presence and an extended network.



Table 1. Over 20 000 participants trained by TrainForTrade between 2019 and 2023.

Year(s)	Number of participants	Share of women	Number of certificates delivered	Hours of training	Days of training	Number of countries or areas covered	Average score	Satisfaction rate
2019	2 936	47%	1439	127 670	22 281	170	77%	89%
2020	2 984	43%	1389	92 196	17 798	177	78%	88%
2021	4 449	43%	2546	143 639	28 389	184	79%	89%
2022	4 777	38%	2418	164 643	31 784	194	79%	90%
2023	6 206	42%	3019	212 401	41 038	188	79%	91%
2019- 2023	20 246	43%	10 835	740 550	141 290	219	79%	91%

Source: UNCTAD (2024c)

Note: For activities lasting longer than one year, the number of participants for each year is shown. For that reason, the number of participants does not add up to the 2019-2023 total. The number of certificates delivered should not be compared to the number of participants as not all activities lead to a diploma.

Building Port Resilience Against Pandemics was a very educative course. It empowered me and gave me the capacity of empowering others. I will share my knowledge and experience with fellow colleagues and the community at large.

– Ms Helena Newaka, Executive Secretary Commercial Department, NamPort, Namibia (2022)

Over the past five years, TrainForTrade has considerably boosted its global impact (table 1). The number of participants per year has been steadily increasing from 2019 to 2023, with the year 2023 seeing the highest figures. In 2023, TrainForTrade has reached over 6 000 participants of which over 3 000 obtained a certificate, attesting to the skills acquired. In the same year, TrainForTrade delivered over 40 000 training days or over 200 000 training hours. To achieve these results, TrainForTrade relied on the advantages of its longstanding e-learning experience and opened online courses to a broader audience. The Port Management category accounted for 54 per cent of all participants, while the Trade Statistics and e-Commerce activities represented 35 and 11 per cent, respectively.

Women's empowerment is a priority. Overall, 43 per cent of all participants were female: an impressive figure given TrainForTrade's activities related to sectors remaining largely male-dominant worldwide (i.e., port management). To multiply its impact and foster South-South Cooperation, TrainForTrade systematically trains future instructors who propagate their enhanced capacities and knowledge in their communities. Between 2019 and 2023, 315 high-profile candidates became "trainers" of the Port Management Programme, mostly in Africa and Latin America, after a series of intensive online and face-to-face seminars. With a satisfaction rate reaching outstanding level of over 90 per cent and an average score

approaching 80 per cent, TrainForTrade continues to promote achievement of SDGs (particularly goals 1, 5, 8, 9, 13, 14, 17) and aims to extend a world of opportunities for all.

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Tariff trends mostly downwards, but non-tariff measures increasingly used



SDG indicators

Goal 10: Reduced inequalities

Target 10.a: Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements

Indicator 10.a.1: Proportion of tariff lines applied to imports from LDCs and developing countries with zero-tariff

Goal 17: Partnerships for the goals

Target 17.10: Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.

Indicator 17.10.1: Worldwide weighted (Tier I)

Target 17.12: Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access. Indicator 17.12.1: Tariffs faced by developing countries, LDCs and SIDS

Multilateral and regional integration are complementary elements of the global trade system. The Bridgetown Covenant underlined the importance "to strengthen multilateralism and the rules-based, multilateral trading system, with an emphasis on ensuring that the system works effectively for
developing countries" (UNCTAD, 2021a). The role of regional integration in advancing cooperation in functional areas is central for "building productive capacities and achieving structural transformation for sustained development" (UNCTAD, 2021a).

Regional trade agreements have not only increased in numbers, but also in depth and scale

RTAs are a tool to facilitate countries' engagement in trade, encourage investment and limit trading costs. The number of RTAs in force has increased significantly, from 22 in 1990 to 365 as of March 2024 (WTO, 2024a) (figure 1). However, the sharp increases in numbers of RTAs in 1995-2005 and a peak in RTAs in 2021 are largely explained by other issues than the spread of regionalism, the former reflected the economic transformation of Eastern European countries and Balkan countries, and the latter was mainly due to the new agreements signed between the United Kingdom and its partners.

8 x more Regional Trade Agreements in force now compared to mid-1990's.



Source: WTO (2024a).

Note: Goods, services and accessions to an RTA are counted separately. The cumulative lines show the number of RTAs currently in force (by the year of entry into force).

However, RTAs have become "deeper" over time, increasingly including considerations related to the environment, migration, labour, investment, intellectual property rights, technological innovation, trade in services, and competition policy (UNCTAD, 2024a). Before the 1990s, except in the EU, such agreements addressed typically traditional policy areas, such as tariff liberalization and border

issues. While an average PTA in the 1970s covered less than ten policy areas, since the 2000s most new PTAs include between 10 and 20 policy areas (figure 2).

Since the 2000s, most new PTAs cover between **10** and **20 policy** areas.





Figure 2. In 2021, most new PTAs included between 10 and 20 policy areas

Source: World Bank (2024).

Note: Number of policy areas covered in an agreement is calculated as the count of policy areas included in a PTA, a maximum number of policy areas being 52.

Tariffs trended downwards in agriculture, manufacturing, and natural resources

Between 2012 and 2022, MFN and preferential tariffs registered a slight decline in agriculture, manufacturing, and natural resources. Simple-average MFN and preferential tariffs in agriculture have reduced by about 3 percentage points and 1.4 percentage points, respectively. Simple-average preferential tariffs in manufacturing declined by approximately one percentage point. Tariffs in natural resources trade reduced only slightly, and both in MFN and preferential terms, are the lowest among the three sectors at 2.6 and 1.2, respectively (figure 3). The increase in trade-weighted

averages tariffs in some instances are largely explained by retaliatory tariffs imposed by the United States of America and China on each other (UNCTAD, 2024a).



Figure 3. Tariffs on the preferential basis have declined faster than MFN tariffs



Percentage

Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b).

Agricultural trade is largely free from tariffs due to preferential access and reciprocal concessions, while the remaining tariffs are fairly high (almost 20 per cent) (figure 4). Preferential access remains significant for trade in manufacturing products, where the tariff on non-free trade averaged almost 10 per cent in 2022. For natural resources, preferential access is less important, as trade in these goods is largely tariff-free under MFN rates, and the remaining tariffs are generally very low (about 6 per cent).

Agricultural trade is mainly tarifffree, the **remaining tariffs are fairly high**.



Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b).

Globally, overall tariffs rates have remained unchanged in recent years. In 2022, in developing economies, the recorded levels ranged from 5 per cent for countries benefiting from MFN status to 3 per cent for those with preferential status (figure 5). The lowest levels of tariffs were observed in the EU for both measures, with the worldwide weighted tariffs averaging 0.6 per cent for countries with preferential status and 1.3 per cent for countries with MFN status.



Figure 5. Worldwide weighted average tariffs are highest in LDCs and lowest in the European Union, 2022

Percentage (SDG 17.10.1)



Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b).

Although tariffs are generally low, high tariffs are in place for some agricultural products, apparel, textiles, and tanning. For example, tariffs above 15 per cent are applied on more than 8 per cent of global trade in food (which make 29 per cent of the products in this group) (figure 6). Similarly, about 9 per cent of the value of international trade in apparel and more than 16 per cent in tanning are subject to tariffs of 15 per cent or more. Tariff peaks for food products are often observed in developing countries of South Asia and Africa.

Tariff peaks concentrate on products exported by developing economies.

Figure 6. Tariff peaks concentrated on products exported by developing economies, 2022



Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b).

The tariff treatment provided by developed economies to exports from LDCs has remained relatively unchanged since 2015

In 2022, import tariffs (including preferences) and MFN tariffs applied by developed countries to all products from developing economies stood at 1.3 per cent for all products, 0.4 percentage point lower than in 2015, ranging from 7.3 for clothing and 6.4 per cent for agriculture to 0.8 for industrial products.

For LDCs, import tariffs (including preferences) and MFN tariffs applied by developed countries remained stable since 2015 and amounted to 2.4 per cent and 5.7 per cent, respectively. Tariffs varied across product groups, ranging from 5.7 per cent for clothing to 0.4 per cent for industrial products for countries that benefit from preferential status. MFN tariffs were lower for developing economies (2.5 per cent) than for LDCs (5.7 per cent). Compared to developing economies and LDCs, SIDS faced the lowest tariffs on all products, 1.5 per cent (figure 7).

The decline of tariffs for SIDS was also less pronounced, compared to other groups, amounting to 0.2 percentage points in the import tariffs (including preferences) and 0.1 percentage points in the MFN applied tariffs since 2015. In 2022, average import tariffs (including preferences) and MFN tariffs for clothing stood at 2.3 per cent and 11.6 per cent, and for agriculture – at 3.6 per cent and 7.2 per cent, respectively.

Among developing economies, SIDS face the lowest MFN and preferential tariffs on all products, 1.5%, and 0.3%, respectively.



Figure 7. Trade-weighted average tariff faced by developing economies are the highest in clothing and agriculture, 2022



Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b).

In 2022, LDCs were granted duty-free market access on 62.9 per cent of tariff lines¹, the share which remained relatively constant since 2015. In contrast, the share of exports of developing economies as a group entering duty free has increased by almost 6 percentage points and amounted to 55.2 per cent of tariff lines². The highest proportions of duty-free exports from LDCs, excluding oil, were found in trade in agricultural products (72 per cent) and industrial products (68.8 per cent).As for developing

In 2022, **LDCs** were granted duty-free market access on about 63% of tariff lines.

economies, 56.1 per cent of their exports of agricultural products and 57.6 per cent of industrial products entered the world markets duty-free. In 2022, duty-free access was granted to 74.3 per cent of product lines of SIDS, an increase of 12 percentage points from 2015. SIDS enjoyed duty-free access into developed economies' markets for 73.2 per cent of their exports of agricultural products, 75.9 per cent of industrial products, and 72.5 per cent of textiles.



Figure 8. Share of products enjoying duty-free market access substantially increased for SIDS, but declined for LDCs



Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b).

The importance of non-tariff measures rising

NTMs often impact trade more than border duties. Their effects on international trade and economic welfare are varied, and can be both negative or positive. Knowledge gaps on NTMs still exist, despite significant progress made by UN Trade and Development in data collection, - UNCTAD TRAINS database (2024b) has a coverage of about 90 per cent of global trade, - and the existing WTO notification mechanisms.

Technical NTMs, such as TBT, affect more than 30 per cent of product lines and almost 70 per cent of world trade (figure 9). The agricultural sector, where most of world agricultural trade is subject to SPS and TBT, is more regulated than manufacturing and natural resources.

Technical barriers to trade affect 70% of world trade.



Figure 9. International trade highly regulated through technical barriers to trade, 2022



Source: UNCTAD calculations based on UNCTAD (2024b), ITC (2024) and WTO (2024b). *Note:* The frequency index is defined as the percentage of HS 6-digit lines covered. Coverage ratio is defined as the percentage of trade affected.

Non-tariff measures increasingly used as a tool for climate action

According to a new report by UN Trade and Development and ESCAP (2023), only 2.6 per cent of all NTMs are related to climate change mitigation (UNCTAD and ESCAP, 2023). However, they are highly concentrated on the most traded goods, such as cars and vehicles, machinery, fuels, household appliances and electronics, wood-based products, and plastics, covering overall 26.4 per cent of global trade (figure 10).

About 26% of world trade is covered by climate changerelated NTMs.



Figure 10. Climate change-related measures target the world's largest traded and most CO₂ intensive sectors

Affected trade in billions of United States dollars, and percentage of total trade



Source: UNCTAD calculations, based on UNCTAD (2024b). *Note:* Trade is calculated as the sum of imports and exports and th

Note: Trade is calculated as the sum of imports and exports and the average between 2017 and 2021.

The South Asian, North American, East Asian and Pacific, and European and Central Asian countries apply climate change-related measures to about 30 per cent or above of their imports (figure 11). While the import coverage share of African countries and Middle East is low, this is mainly explained by their fewer imports of CO₂ intensive goods. The Sub-Saharan African countries exhibit the second highest share of climate change related NTMs, which demonstrates the regulatory efforts of these countries to climate change action.







Source: UNCTAD calculations, based on UNCTAD (2024b).

Notes

- Limitations of this indicator include the following: tariff-based measures are only a part of trade limitation factors; inability to comply with rules of origin criteria limits the utilization of preferential treatments; using data on zero-tariff lines assumes full utilization of benefits; low MFN tariffs mean that duty-free treatment is not always preferential). (United Nations, 2019)
- Proportion of total number of tariff lines applied to products imported from LDCs and developing countries is presented in per cent, corresponding to a 0 per cent tariff rate in HS chapter 01-97. This indicator allows observing how many products from developing countries and LDCs have free access to markets in developed countries.

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International trade in open and transparent markets may help alleviate the effects of shocks and ensure food security



SDG indicators

Goal 2: Zero hunger

Target 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

Indicator 2.1.1: Prevalence of undernourishment

Indicator 2.1.2: Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)

Target 2.b: Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round Indicator 2.b.1: Agricultural export subsidies

Target 2.c: Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

Indicator 2.c.1: Indicator of (food) price anomalies

Goal 2 of the 2030 Agenda aims to "End hunger, achieve food security and improved nutrition and promote sustainable agriculture" by 2030. Achieving this goal requires a multifaceted approach, including ensuring global market access to nutritious food through international trade and cross-border cooperation. Climate change threatens harvest predictability and regional crop sustainability, increasing the importance of food commodity trade. The Bridgetown covenant urges UNCTAD to address the challenges faced by commodity-dependent and net food-importing developing economies (UNCTAD, 2021).

Two SDG 2 targets focus on functional food markets. Target 2.c aims to reduce price volatility by improving market information access. Target 2.b seeks to eliminate market distortions by removing export subsidies and similar measures, in line with the Doha Development Round negotiations (WTO, 2001). A well-functioning global market

supports hunger alleviation, complementing efforts, such as increasing ODA and OOFs to the agricultural sector (see Development financing).

The goal to end hunger is falling further behind schedule

According to FAO (2023), between 691 and 782 million people, or nearly one in ten globally, were undernourished in 2022. Survey data indicates that 11.3 per cent of the world's population faced severe food insecurity, while an additional 18.3 per cent experienced moderate food insecurity (figure 1). Women are particularly vulnerable; with 80 million more women than men experiencing moderate or severe food insecurity in 2022 (FAO, 2024a). Indicators show increasing hunger over the past five years, though the trend did not worsen in 2022.



Source: FAO (2024a)

Note: Numbers are three-year averages with 2022 representing the period 2021–2023. Estimates of undernourishment are derived from the average dietary intake per person and its variation in a country. Experienced food security is based on surveys using the Food Insecurity Experience Scale (United Nations, 2024a).

LDCs are particularly exposed to food insecurity. In 2022, about 690 million people, or 61 per cent of their population, faced moderate or severe food insecurity, compared to around 46 per cent in SIDS and 8 per cent in high-income countries (figure 2). For LDCs, this marks a 9-percentage point increase from 2018. However, the prevalence of moderate and severe food insecurity varies significantly among LDCs, with an average of 89 per cent in Sierra Leone and 29 per cent in Myanmar (FAO, 2024a).



Prevalence of moderate or severe food insecurity in the total population, percentage (SDG 2.1.2)



Source: FAO (2024a)

Notes: Numbers are three-year averages with 2022 representing the period 2021–2023 and 2018 the period 2017–2019. For country group composition see FAO (2024a).

In 2023, at the height of extreme hunger, food crises affected 59 countries or territories, leaving a total 282 million people suffering from acute malnutrition or increasing mortality, and urgently needing assistance. This marks an increase of 24 million people since 2022. Conflicts have exacerbated the food crises. In Sudan, 6.3 million people were in an emergency situation, alongside 30 million others worldwide, and the war in Gaza doubled the number of people in a catastrophe to 705 000 (FSIN and Global Network Against Food

People in a food catastrophe spiking above 1 million in Gaza.

Crises, 2024). Over half of the population in Gaza, or 1.1 million people, were projected to be in catastrophe by spring 2024 (Global Network Against Food Crises, 2024a).

Efforts to alleviate hunger are underfunded. From 2017 to 2021, funding did not keep pace with the increasing number of people in acute food crises. While humanitarian food aid increased by 52 per cent in 2022, development assistance to food sectors remained stagnant, highlighting the need for sustainable improvements in food security (Global Network Against Food Crises, 2024b).

Conflicts and weather extremes are major drivers of food crises, contributing to increasing hunger, in addition to other conditions where people cannot afford to buy food in appropriate quantities and quality. Economic downturns and high food prices are increasingly making adequate nutrition out of reach for people with limited means (FAO et al., 2023).

Some economies are more resilient to food price shocks than others

Stable increases in prices allow consumers and producers to budget and plan, while volatile prices disrupt livelihoods. Sharp rises in food prices between 2007 and 2008, and again in 2011, highlighted the need for methods to track price volatility as advance warnings of food crises (Baquedano, 2015). Prices convey information about recent changes in supply and demand as well as expectations and risks regarding future food supply, and they can be observed frequently (Kalkuhl et al., 2016). Abnormalities in food prices are strong indicators of potential threats to food security and provide valuable warning signs, signaling the need for action. Consequently, food prices are closely monitored by the GIEWS (FAO, 2024b) and the AMIS (AMIS, 2024) which have been established as early warning systems to prevent food crisis outbreaks.



Figure 3. Many countries are still adjusting to higher food prices

Source: SDG Global Database (United Nations, 2024b) and UNCTADstat (UNCTAD, 2024a). *Notes:* The SDG indicator of food price anomalies (SDG 2.c.1) relies on identifying food prices with growth rates that differ from the historical average (United Nations, 2024a; Baquedano, 2015). The UNCTAD Commodity Price Index tracks the average development of prices, in United States dollars, of main primary commodities exported by developing economies. The sub-index of food excludes tropical beverages, vegetable oilseeds and oils. For more information, see UNCTAD (2018).

Almost two in five economies experienced abnormally high food prices in 2022, following several years of food price growth (figure 3). The COVID-19 pandemic and the war in Ukraine pushed food prices to historically high levels, disproportionally affecting countries and households already struggling (United Nations, 2022b). The rise in food prices, coupled with a strengthening United States dollar, has placed a *double burden* on net food-importing countries. International trade in open and transparent markets may help alleviate the effects of shocks and, among the policy actions that the situation requires, UNCTAD (2022) recommends maintaining international markets open and accelerating transport and trade facilitation initiatives.

Changes in global food prices can trigger food price shocks in an economy, but local supply challenges and the types of food a country relies on also play crucial roles. The war in Ukraine has put international trade in cereals in the spotlight,

as Ukraine and the Russian Federation are major exporters of grains (UNCTAD, 2023; United Nations, 2022b). Cereals and cereal preparations (excluding beverages) are significant in global trade. In 2021, they made up 14 per cent of basic food¹ imports in value terms (UNCTAD, 2024a), and provided 43 per cent of the calories available to the world's population (FAO, 2024a).

Globally, **43% of the** food supply is met by cereals.

The type of cereal typically consumed in a country varies, as does the share of cereals in dietary energy supply. In the Democratic Republic of the Congo, for example, cereals cover 15 per cent of dietary energy supply, whereas in Bangladesh, they cover 72 per cent. Globally, 21 per cent of the volume of cereals supplied were imports in 2021. However, many countries are particularly vulnerable to market disruptions due to the importance of cereals in their diet combined with a heavy reliance on imports for the supply of cereals. In Lesotho and Yemen more than 56 per cent of calories supplied came from cereals, and over 90 per cent of these cereals were imported in 2021 (UNCTAD calculations based on FAO (2024a)).

In a world with a calory surplus, most economies are net-importers of food

Globally, in pure calorie terms, there is enough food to feed the world. The average person living on the planet needs a minimum of 1 830 kcal per day to avoid undernourishment and about 2 360 kcal per day for optimal health. In 2021, the food available per person amounted to 2 978 kcal per day, up from 2 854 kcal in 2011 (FAO, 2024a).

The factors affecting food production are unevenly distributed across time and space, highlighting the benefits of a diversified global food market. Trade between regions and country can help adjust to changing conditions affecting food production due to climate change (FAO, 2022b). Trade helps countries, especially LDCs, to increase both the total amount of calories supplied and diversify the available food for consumption (ITC, 2023). A well-functioning global value chain in the agro-food sectors creates opportunities for producers in developing economies, contributing to local economic development (FAO, 2020). The International Covenant on Economic, Social and Cultural Rights (United Nations, 1966) recognizes freedom from hunger as a fundamental right and mandates parties to the Covenant to take measures to ensure this right, including equitable distribution of the world's food supply.

The States Parties will take appropriate steps to ensure the realization of [the right to adequate food... taking] into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.

- International Covenant on Economic, Social and Cultural Rights, article 11

The importance of food in individual economies' import baskets varies considerably across countries. From 2018 to 2022, basic food¹ made up from as little as a couple of per cent of total imports in some economies, but up to 45 per cent in Haiti. In American Samoa, Yemen, Eritrea, and Somalia basic food exceeded 35 per cent of merchandise imports, with the median being 12 per cent (UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a)).

The **median country** imports **12%** of its merchandise as **basic food**. Two thirds of economies import more food than they export. During 2018–2022, the median net imports of basic food, after subtracting exports from imports, were 4.4 percent of total merchandise imports. South America has several net food-exporting countries, while many net food-importing countries, including many LDCs, are found in the Middle East and Africa (map 1). Several SIDS also had a relatively large negative trade balance in food, with the median net import of basic food among SIDS at 13 per cent of total imports.



Trade balance in basic food as a ratio to total imports, 2018-2022, percentage



Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a) *Notes*: The trade balance in basic food is calculated as exports minus imports of basic food excluding tea, coffee, cocoa and spices (SITC 0 + 22 + 4 less 07) between 2018 and 2022. The percentage displayed is reached by dividing this trade balance with total imports of all goods for the economy in the same period.

Examining the level of processing helps make the picture of trade in food clearer

In 2024, UNCTAD released a new dataset on trade in processed food (UNCTAD, 2024b), developed in collaboration with WHO. This project provided new data for better understanding of the role of trade in the complex areas of health, food and nutrient intake. The dataset includes 19 aggregated food categories and 7 categories of processing. Analysis shows that in 2022, 48 per cent of food imports and 37 per cent of food exports were raw products. The rest were processed in some form, such as cooking, drying, smoking, salting or combining into composite products. The trade also included ingredients not meant for consumption in their transported form and precursors used in food production, such as seeds, fertilized eggs and livestock.

Regarding food ready for consumption, developing regions have different trade profiles. Broadly, the global South is a net importer of cereals, with developed economies being the main net exporter. The relationship reverses for processed food. Developing Africa and Americas are net exporters of food excluding cereal, especially for raw food commodities other than cereals, which contribute significantly to the food trade surplus of the developing Americas. Developing Asia and Oceania, as a group, are net importers of raw food commodities and net exporters of food processed in any form (figure 4).



Figure 4. Processed food move south to north, cereals move north to south

Trade balance between regions for processed and unprocessed food, average 2020-2022, billions of United States dollars



We need a new SDG indicator to track market distorting policies

Many governments support domestic food production to ensure sufficient food supply and protect farmers from weather extremes and other uncontrollable events. However, this support can distort markets by pushing down prices, disadvantaging producers who do not receive subsidies (WTO, 2024a). This can lead to overproduction in some regions and hinder development of the agricultural sector in others. Economies that do not, or cannot, provide such support are disadvantaged in international trade and risk becoming more food insecure. Export subsidies for agricultural products, in particular, have a highly distorting effect on international food markets (WTO, 2024b, 2024c).

The WTO Agreement on Agriculture (WTO, 1994) set limits on export subsidies that distort agricultural trade. At the Nairobi Ministerial Conference (WTO, 2015) WTO members agreed to phase out remaining export subsidy entitlements to level the playing field between developed and developing economies. With a few exceptions, developed economies agreed to remove export subsidies immediately, while most developing economies agreed to do so by 2018. However, developing economies retained the flexibility to cover marketing and transport costs for agricultural exports until the end of 2023, and the poorest and food-import-dependent developing economies have been granted more time to reduce export subsidies (WTO, 2024b).

Notifications of agricultural export subsidies ranged between \$3 and \$4 trillion in the early 2000s, with the majority provided by the EU. These subsidies declined rapidly from 2005 and reached almost zero in 2021, with Mauritius being the only country reporting any amount that year (figure 5).





SDG 2.b.1, Notifications to WTO of agricultural export subsidy outlay in millions of United States dollars

Source: United Nations (2024b)

Notes: Only export subsidies notified by members who have commitments to notify WTO are included. Other members are not entitled to exports subsidies and are assumed not to have export subsidies. Values for members that have not made notifications cannot be estimated and are treated a zero (United Nations, 2024a).

Phasing out export subsidies was a key mandate of the Doha Development Round, referenced in SDG target 2.b, which also called for "substantial reductions in trade-distorting domestic support" (WTO, 2001) and continued negotiations on the amount and pace of these reductions (WTO, 2024d). WTO members are required to notify the WTO about all forms of domestic support for agriculture, including price support measures, defined as the product of food production and the gap between producer and market price (WTO, 2024e). The only SDG indicator tracking progress on target 2.b is related to notifications of export subsidies (figure 5). This indicator is a victim of its own success, as the target is clearly defined and largely met, though global vigilance is needed to prevent backsliding. This leaves a gap in tracking the elimination of "export measures with equivalent effect."

The debate on what should be tracked and how continues, and the global community should engage further. Export subsidies, as defined in SDG indicator 2.b.1, are not the only measures affecting global food markets. The OECD estimates positive market price support as the total of explicit and implicit transfers through policy measures creating a price gap between domestic prices paid to producers and the equivalent border price. From 2020 to 2022, positive market price support in the OECD and eleven emerging

Farmers receive 7% of their gross receipts thanks to market price support.

economies was estimated at \$333 billion per year, equivalent to 7 per cent of gross farm receipts (OECD, 2023) and 85 times higher than the notified export subsidies at any time during the 2000s.

Notes

 Basic food refers here to a category of food products that excludes beverages and tobacco, tropical beverages (such as coffee and tea) and spices. When SITC codes are used, the included codes are 0 - Food and live animals, 22 - Oil seeds and oleaginous fruits, 4 - Animal and vegetable oils, fats and waxes with the exclusion of 07 - Coffee, tea, cocoa, spices, and manufactures thereof. In the HS classification a comparable set of products would be included in chapters 1-24 excluding 05 - Products of animal origin, not elsewhere specifed or included, 06 - Live trees and other plants; bulbs, roots and the like; cut fowers and ornamental foliage, 09 - Coffee, tea, mate and spices, 13 - Lac; gums, resins and other vegetable saps and extracts, 14 - Vegetable plaiting materials; vegetable products not elsewhere specifed or included, 22 - Beverages, spirits and vinegar, and 24 - Tobacco and manufactured tobacco substitute.

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THEME 2

Development finance

"South-South cooperation is a form of cooperation that benefits all. And this is thanks to its most basic premise, which is that no country is ever too poor to teach, nor too rich to learn."

> – Mr. Pedro Manuel Moreno, UNCTAD Deputy Secretary-General, 4 June 2023

Cooperation and solidarity for progress towards the 2030 Agenda



SDG indicators

Goal 8: Decent work and economic growth

Target 8.a: Increase Aid for Trade support for developing countries, in particular least developed countries. Indicator 8.a.1 Aid for Trade commitments and disbursements.

Goal 17: Partnerships for the goals

Target 17.2: Developed countries to implement fully their official development assistance commitments. Indicator 17.2.1 Net official development assistance, total and to least developed countries.

Target 17.2: Mobilize additional financial resources for developing countries from multiple sources. Indicator 17.3.1 Additional financial resources mobilized for developing countries from multiple sources.

Supporting development is intricately linked to poverty eradication, a key element of inclusion and an overarching goal of the 2030 Agenda for Sustainable Development. "The great finance divide" (United Nations, 2023a) in the context of the "two-speed recovery" from the COVID-19 pandemic raises concerns relating to financing development, especially in the most vulnerable economies.

Given the overall lack of financing for sustainable development, compounded by the many crises, including the economic fallout from the COVID-19 pandemic, war, conflicts and related refugee costs, supporting developing economies' progress towards the 2030 Agenda requires significant rethinking, including since official international assistance still fails to reach its commitments. South-South cooperation with its focus on peer-to-peer partnership and in-kind support is becoming central and critical to sustainable development for all.

Despite new highs, ODA flows far from agreed targets

The Bridgetown Covenant (UNCTAD, 2021) reiterates the importance of ODA providers to "reaffirm their respective ODA commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/gross national income (GNI) and 0.15 to 0.20 per cent of ODA/GNI to the least developed countries, as outlined in the Addis Ababa Action Agenda".

ODA reached **recordhigh** for fifth consecutive year and **\$223.7 billion in 2023**.

ODA and OOFs remain relatively small when compared to domestic public

resources or private flows (see Investment flows). However, they play an essential role since they frequently function as "seed funds" or catalysers of additional resource mobilization in sectors or projects where other funding options are limited, or where investors are reluctant to participate. Furthermore, for some countries in vulnerable situations, official funds are frequently the only source of financing available. Thus, their importance is often highlighted in the 2030 Agenda. They are referred to in 11 targets, including sector-specific official support to agriculture¹, health², water and sanitation³, clean energy⁴, biodiversity⁵ and others.

In 2023, total ODA reached a record high of \$223.7 billion, amounting to a real-terms annual increase of 1.8 per cent (OECD, 2024a). Despite this being a fifth consecutive year for ODA to surpass its previous record levels, the share of ODA in GNI still lags significantly behind the committed 0.70 per cent by developed economies, as it only reached 0.37 per cent in 2023 (figure 1). As such, it remains at a level insufficient to support recipient countries in their efforts to recover from the long-term challenges planted by the pandemic and other compounding crises.

In 2023, preliminary data from DAC countries indicated a 9 per cent increase in net ODA to Ukraine in real terms compared to 2022, totalling \$20 billion. Within this amount, \$3.2 billion were allocated as humanitarian aid. Additionally, EU institutions disbursed \$20.5 billion for Ukraine, constituting 54 per cent of their total ODA, primarily in the form of highly concessional lending to support macro-financial stability in the country. The proportion of bilateral sovereign loans, on a grant equivalent basis, by DAC countries (which had risen to an average of 10 per cent of total bilateral ODA in 2020-2021 due to some exceptional loans in support of the COVID-19 pandemic) fell by 6.5 per cent in real terms compared to 2022, accounting for 8 per cent of bilateral ODA. However, sovereign lending by EU institutions surged by 63 per cent in real terms, attributed to increased lending to Ukraine, and represented 35 per cent of its bilateral ODA (OECD, 2024a).

Whereas ODA to developing countries exhibits a modest increase, ODA flows to LDCs for 2022 continued its downward trend: developed economies devoted just above 0.05 per cent of their GNI to ODA to LDCs (figure 1), below the over 0.08 per cent recorded in 2009 and falling short of their commitment to allocate from 0.15 to 0.20 per cent exclusively to LDCs.



Figure 1. While ODA flows to developing countries slightly increased, flows to LDCs have been slowly decreasing

Percentage of GNI (SDG 17.2.1)



Source: UNCTAD calculations based on OECD (2024a).

In-donor refugee costs remain high

After a significant increase in debt relief reported in ODA in 2020 (0.87 per cent of total ODA), it contracted to 0.16 per cent as a share of total ODA in 2022 (figure 2). ODA debt relief has reached its lowest point in over a decade, plummeting from 6.2 per cent in 2011. In 2022, net debt relief remained low at \$61.8 million (OECD, 2024a).

In recent years, many donor countries rechannelled their ODA domestically to assist refugees fleeing war and conflicts⁶. In-donor refugee costs peaked at 14.1 per cent of total ODA in 2016 during the Syrian refugee crisis. However, the war in Ukraine led to a new record high in in-donor refugee costs, reaching 17.7 per cent in 2022 (figure 2). Preliminary data indicate that ODA for in-donor refugee costs fell by 6.2 per cent in 2023 compared to 2022 and amounted to \$31 billion, representing 13.8 per cent of DAC member countries' total ODA. For seven countries, in-donor refugee costs still represent more than 25 per cent of their ODA in 2023 (OECD, 2024a).





UN Secretary-General Guterres has urged "all countries to reconsider making cuts that will affect the world's most vulnerable" (United Nations, 2022a, 2022b). Finally, "DAC members still have the option to decide that such costs are additional to their planned development budgets. This is what for example Austria and Germany have done in their preliminary 2022 ODA reporting – meaning that these costs did not have a negative effect on already budgeted ODA programmes and contributions" (Staur, 2023). These considerations are not to be taken lightly to ensure no one is left behind in efforts to progress towards the 2030 Agenda.

Aid for trade disbursements reached a new high in 2023

The Aid for Trade initiative⁷ (WTO, 2005) supports developing countries, particularly LDCs, in building capacity to benefit from WTO agreements and engage in international trade. Assistance targets enhancing national trade policies and regulations, developing infrastructure, and building productive capacity. Positive impacts of Aid for Trade have been identified by studies, such as the OECD and WTO (2013) and OECD and WTO (2019), Razzaque and te Velde (2013), and Gnangnon (2019). The 2024 global review of Aid for Trade will prioritize supporting food security, digital connectivity, and trade mainstreaming (WTO, 2024).

In 2022, Aid for Trade reached a new high, with over \$55.3 billion disbursed to developing economies out of the \$69.6 billion committed (figure 3). Aid for Trade commitments for developing economies rose by 15 per cent in 2022 compared to 2021. However, the Aid for Trade Gap increased again after a significant drop in 2021, slightly surpassing the long-term average at \$14.4 billion. Aid for Trade disbursements have more than tripled since 2002, and represent about one third of total ODA, according to OECD (2024c).

Aid for Trade disbursements to LDCs totalled \$15.1 billion in 2022, 2.8 times higher than in 2006 when the initiative was launched. It reached a new peak in 2022, following the previous peak in 2019 at \$15 billion. The Aid for Trade gap for LDCs remained at \$5.6 billion in 2022, leaving disbursements 27 per cent short of commitments.





Billions of United States dollars in constant 2021 prices (SDG 8.a.1)

Source: UNCTAD calculations based on data from OECD (2024c) *Notes:* Aid for Trade gap is calculated as the difference between Aid for Trade commitments and disbursements.

New framework enables the quantification of South-South cooperation alongside other development support

The Bridgetown Covenant (UNCTAD, 2021) emphasized the crucial role of strengthening South–South and triangular cooperation to leverage relevant experience and expertise in development cooperation, enhancing its effectiveness. SSC encompasses political, economic, social, cultural, environmental, and technical domains among countries in the global South, complementing North-South cooperation by narrowing the technological and knowledge gap.

South-South cooperation is

political, economic, social, cultural, environmental, and technical.

As reiterated by the 21st session of the High-Level Committee on South-South

Cooperation (United Nations, 2023b), SSC is "an important element of international cooperation for development and as a complement to, not a substitute for, North-South cooperation". It signifies solidarity among peoples and countries of the South, based on their shared experiences and objectives, aligning with the commitments to the 1978 Buenos Aires Plan of Action (United Nations, 1978), and the outcomes of the High-Level United Nations Conferences on South-South Cooperation, held in Nairobi in 2009 (United Nations, 2009) and in Buenos Aires in 2019 (United Nations, 2019), as well as the Addis Ababa Action Agenda (United Nations, 2015).

In March 2020, the UN Statistical Commission established a Working Group on Measurement of Development Support to agree on a methodology to measure it in SDG indicator 17.3.1. The Working Group set up a dedicated sub-group to develop methods to measure SSC in a process led by the global South and with representation from all regions. Countries invited UNCTAD to provide the secretariat to this effort. The result is the initial, voluntary Framework to Measure South-South Cooperation (United Nations, 2021b) developed by and for the global South.

The Framework stands as a significant milestone, empowering each country for voluntary data collection and reporting in alignment with national development plans and priorities. It empowers the global South to provide "South-South Data" developed, compiled and endorsed by the global South and reflecting their realities. It recognizes the diverse modalities of South-South Cooperation, including financial and in-kind contributions:

"South-South Data" are **developed**, **compiled and endorsed** by the countries of the South.

- Group A: Financial modalities of South-South cooperation (reported directly through monetization)
- Group B: Non-financial modalities of South-South cooperation (including items that may be monetized)
- Group C: Non-financial modalities of South-South cooperation (the same items as in Group B, subject to quantification by non-monetized methods).

The Framework advocates for the inclusion of all forms of cooperation which supports sustainable development between developing economies, as achieved within the Framework itself.

After the historic development and agreement on a voluntary Framework to Measure South-South Cooperation, further support will be essential for enabling data collection and reporting to fill the Framework with data and inform SDG indicator 17.3.1 on development support, including with data on South-South cooperation. Member States at the 53rd United Nations Statistical Commission (E/2022/24), in March 2022, requested for 'further work on the initial voluntary Framework to Measure South-South Cooperation, including on global reporting and capacity-building, be enabled by the custodianship of the UNCTAD and led by countries from the global South, building on country-led mechanisms, and included under indicator 17.3.1 in the future'. Moreover, the 78th session of the General Assembly (A/RES/78/167) requested UNCTAD, 'to strengthen capacity-building' based on country-led mechanisms, and 'recommend that the United Nations development system support the efforts of the UNCTAD'.

Since UNCTAD became the co-custodian of indicator 17.3.1 and a custodian of the Framework to Measure South-South Cooperation, it has engaged in UN-wide collaboration, especially with the UN Regional Commissions, the UNOSSC and UN Statistics Division to support countries of the South and established a project to enable pilot testing of the Framework by eight countries in total across four regions. Two inter-regional meetings on the measurement of SSC were organised by the UNCTAD and hosted by Brazil, for the first one, in July 2023, and by Qatar, for the second one, in June 2024 (see Solidarity at the roots of South-South cooperation).

Participating countries discussed among other things data collection, analysis, and reporting on South-South cooperation, in a country-led approach, requiring enhanced coordination among national development cooperation agencies, national statistical offices, and relevant ministries, and close collaboration with UNCTAD and partner organizations. Countries also considered the possibility of establishing an institutional arrangement hosted by UNCTAD with support from the UNOSSC and other United Nations entities as appropriate, for regular consultation and exchange among developing countries on common and voluntary statistical concepts, methodologies, tools, and technologies for measuring South-South cooperation, in alignment with national official statistics quality standards. This would also enable informing the debates of the High-level Committee for South-South Cooperation, Financing for Development Fora, and the General Assembly with the data of the global South to amplify their voices.

Solidarity at the roots of South-South cooperation

UNCTAD, alongside its close partners, the UN Regional Commissions, organised several events on the importance of measuring SSC for sustainable development. During the Development Account project, two activities were focusing on bringing together experts from Southern countries to discuss the feasibility and challenges of measuring SSC, as well as exchange on lessons learned and knowledge among countries of the South.

The first inter-regional expert meeting on the statistical measurement of SSC was hosted by the IPEA, in association with the ABC, in Brazil, in July 2023. It laid the groundwork for the pilot testing and requested the development of a Manual to support countries fill their data in the Framework. 16 Member States joined the event, in person or online, namely: Argentina, Brazil, China, Colombia, Ecuador, Egypt, Ghana, Jordan, Kenya, Malaysia, Mexico, Namibia, Nigeria, Peru, Qatar, South Africa. In addition to the UNCTAD, 10 international organisations also participated in the event in person or online, namely: ECA, ECLAC, ESCAP, ESCWA, IsDB, OECD/TOSSD, PAHO, SEGIB, UNOSSC and UNSD.

Member States at the Brasilia meeting requested the UNCTAD to promote capacity building approaches and develop information systems and tools that support countries develop national data ecosystems allowing reporting for multiple purposes, as relevant for and decided by each country. They also underlined the need to pursue early reporting of SSC data to UNCTAD to inform the global SDG indicator.

Brazil, Colombia and Mexico expressed their readiness to report data by early 2024 in time for the global data collection for the UNSD Global SDGs Indicators Database. Since the meeting in Brasilia, the three countries, with the UNCTAD support, have produced a draft Manual for the Framework to measure SSC for pilot testing. The three countries tested the Framework and shared their feedback with the UNCTAD on the challenges of reporting in-kind flows.

The second inter-regional expert meeting was hosted by the Ministry of Foreign Affairs of Qatar, in Doha, in June 2024, bringing together over 70 member States which shows the increased momentum to bring the voices of the global South to the development support debates, where the Manual as well as the reporting challenges have been presented and discussed. The meeting was divided into three segments:

- A preparatory expert meeting discussing development of methodologies and tools with pioneering and pilot countries.
- A high-level segment involving dignitaries of Southern countries and international organizations to discuss the strategic importance of country-owned data to amplify the voice of the global South.
- A two-days technical capacity development workshop to guide Southern countries on how to apply the Framework and its Manual.

In total, 158 people participated in the expert meetings held in Brasil and in Qatar. The high-level segment of the Qatar meeting brought together 146 people from 71 countries to discuss and share on the importance of SSC.



Table 1. 71 countries met during thehigh-level segment of Qatar meeting

146 people from 71 countries met at the high-level segment

of Qatar meeting.

Type of meeting	Number of countries	Number of organisations	Total number of participants	Total share of women
1st Inter-regional expert meeting, Brazil, July 2023	16	10	51	45%
2nd Inter-regional expert meeting, Qatar, June 2024				
- Pre-expert meeting	17	9	43	35%
- High-level segment	71	15	146	28%
- Training workshop	35	15	107	47%

Source: UNCTAD

Note: Table refers to in-person and online participation in both Brazil and Qatar meetings.

At the meeting, countries stressed the importance of scaling up support to strengthen national capacities for data collection, analysis, and reporting on South-South cooperation, emphasizing a country-led approach, particularly to support countries with limited statistical capacities. In this context, the countries requested UNCTAD to develop harmonized tools for data collection, analysis, and reporting, as well as mechanisms for global data reporting, including support for development of interoperable national data systems. Participants also used words such as solidarity, development, and cooperation to describe the meaning of SSC to the countries of the South (figure 4).



Among other activities, ECA, in collaboration with ESCWA and the UNCTAD organised an event during the monthly StatsTalk-Africa webinar on the measurement of SSC, joined by 90 people. The event updated heads of NSOs and international cooperation agencies across Africa as well as other participants of the StatsTalk-Africa webinar on progress and challenges regarding the measurement of SSC, as part of the new SDG indicator 17.3.1. After the event, Namibia and Nigeria confirmed their interest to become pilot countries to test the Framework during the Development Account project.

Notes

- 1. SDG indicator 2.a.2: Total official flows (official development assistance plus other official flows) to the agriculture sector.
- 2. SDG indicator 3.b.2: Total net official development assistance to medical research and basic health sectors.
- 3. SDG indicator 6.a.1: Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan.
- 4. SDG indicator 7.a.1: International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems.
- 5. SDG indicator 15.a.1: Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems.
- 6. OECD DAC rules allow DAC members to report in-donor refugee costs as ODA. When specific instructions were first introduced in 1988, it was agreed that "the first-year costs of sustaining developing country refugees arriving in donor countries could be reported as ODA. The rationale behind this agreement is to reflect the financial effort of hosting refugees and the sharing of responsibility with developing countries who host the vast majority of the world's refugees" (Staur, 2023).

7. The Aid for Trade initiative was launched at the 2005 WTO Ministerial Conference in China, Hong Kong (SAR) (WTO, 2005) to help developing countries, particularly LDCs, build the supply-side capacity and trade-related infrastructure to assist them in benefiting from WTO agreements and engaging in international trade.

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Bridging the financing gap to achieve SDGs requires mobilization of various financing sources



SDG indicators

Goal 10: Reduced inequalities

Target 10.b: Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes

Indicator 10.b.1: Total resource flows for development, by recipient and donor countries and type of flow

Goal 17: Partnerships for the goals

Target 17.5: Adopt and implement investment promotion regimes for least developed countries

Indicator 17.5.1: Implement investment promotion regimes for LDCs

Passing the half-way point of the 2030 Agenda, it becomes increasingly clear that national policies aimed at fostering an investmentfriendly environment can steer both private and public capital flows, including foreign direct investment, towards the achievement of national development objectives and the SDGs (UNCTAD, 2021). However, bridging the financing gap to achieve the SDGs and facilitate long-term economic transformation requires effective mobilization and utilization of various financing sources.

These sources encompass government borrowing from international development finance institutions, private capital markets and flows, and international official support, among others. It's crucial to recognize that different economic flows can yield vastly different impacts on short and long-term development, depending on their source, type, and volume. Hence, financing efforts should align with the national priorities of recipient countries and their efforts to implement the SDGs.

Many developing economies face challenges in mobilizing sufficient funds, often hindered by their inability to secure affordable borrowing for investment. Consequently, finding the appropriate mix and terms of financing is key to lasting effects on individuals, households and communities with the most pressing needs. Portfolio flows, given their volatile nature, pose particular challenges in this regard. As countries transition to higher income groups, losing eligibility for concessional finance (or part thereof) can exacerbate these challenges, creating a greater reliance on private financial markets.

Resource disbursements for development more volatile in recent years

Sufficient financing remains a critical challenge for progress towards the 2030 Agenda. SDG target 10.b seeks to "encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest".

LDCs, LLDCs and SIDS confront heightened challenges in achieving their development goals (figure 1). Total resource flows to LDCs and LLDCs exhibited slow growth post-2008, with heightened volatility during and after the COVID-19 pandemic, recording their highest values ever in 2020. Despite a significant decline since then, total resource disbursements remained higher in 2021 than pre-COVID-19-levels, totaling \$60.4 billion for LDCs and \$37.2 billion for LLDCs. Funding for SIDS was more modest at \$4.2 billion in 2021 with greater volatility observed around the peak in 2007. Since then, SIDS' external financing has steeply declined, turning negative in 2013 and 2018 before

Total resource disbursements in 2021 amount to \$60.4 billion for LDCs and \$37.2 billion for LLDCs.

rebounding somewhat in 2019. This was largely influenced by Mauritius which serves as an outward investment hub for the region. The decline and stagnation of external financing in 2020 and 2021 were less severe for SIDS compared to LDCs and LLDCs.





Foreign direct investment to developing economies down by seven per cent in 2023

According to the World Investment Report (UNCTAD, 2024a), global FDI fell by 2 per cent to \$1.3 trillion in 2023 amid an economic slowdown and rising geopolitical tensions. FDI flows to developing economies fell by seven per cent in 2023 with respect to 2022, to \$867 billion. By region, FDI flows to developing Asia decreased by 8 per cent and by three per cent to Africa, while dropping only by one per cent to Latin America and the Caribbean. FDI flows to LDCs rose to \$31 billion, or 2.4 per cent of global flows.

The number of international investment projects in sectors relevant to the SDGs – including infrastructure, renewables, water and sanitation, food security, health and education – declined by 10 per cent, especially in agrifood systems, and water and sanitation. Additionally, SDG-relevant international project finance, crucial for infrastructure development, declined by 26 per cent.

Conversely, the number of SDG-related greenfield projects rose by two per cent. Growth was concentrated in developing economies, where the number of projects was up by 15 per cent, while in developed economies new project announcements were down 6 per cent. Greenfield project announcements in developing economies were highly concentrated; South-East Asia accounted for almost half, West Asia for a quarter and Africa registered a small increase, while Latin America and the Caribbean attracted fewer projects.

Looking ahead, a modest increase in FDI flows in 2024 appears possible, as projections for inflation and borrowing costs in major markets indicate a stabilization of financing conditions for international investment deals. However, significant risks persist, including geopolitical risks, high debt levels accumulated in many countries, and concerns about further global economic fracturing (UNCTAD, 2024a).

In the post-pandemic world, developing economies remain in need of capital to fund their development and achieve the SDGs. However, capital is often scarce compared to the needs of countries. The box plots of figure 2 effectively summarize the distribution of external financing needs of countries by income level. A negative value denotes a lack of capital, while a positive value indicates a surplus, which countries can either hoard (reserves) or spend in the future. Despite some outliers, the majority of the distribution, including the median and average, shows a significant deficit in financing. For LICs, external financing needs average about \$350 million per quarter or \$1.5 billion per year. For lower-middle income developing countries, the average stands at about \$700 million per quarter or \$2.8 billion per year. These figures account for remittances and ODA already received. Though these amounts may seem modest to developed economies, they are crucial for poorer developing economies.

As discussed in the chapter on Financing development, ODA amounted to \$223.7 billion in 2023, approximately half of the 0.7 per cent of GNI commitment by developed economies. Meeting the commitment would make a tremendous difference.

Figure 2. External financing needs for low-income and lower-middle income developing countries Millions of United States dollars Low income developing countries Lower middle income developing countries 2 000 2 0 0 0 1000 1000 -1000 -1 000 -2 000 -2 000 -3 000 -3 000 202101 202701 202201 202301 202303

Source: UNCTAD calculations based on IMF (2024)

Median • Average

Note: In descriptive statistics, box plots display the five number summary of a set of data (minimum, first quartile, median, third quartile and maximum). Here the simple average has been added to highlight the non-symmetric distribution. It is a convenient way to show skewness and the degree of dispersion and how data distribution varies over time in this case. Data for 2023 is partial and preliminary. The external financing needs are measured in terms of the current account deficit. In other words, it is the accounting sum of capital and financial accounts, the use of foreign reserves, and errors and omissions from the balance of payment.

- Median • Average

Volatility of net capital flows to developing economies continues

Net capital flows to developing economies have remained extremely volatile (figure 3) since the 2008 crisis, with fluctuations exceeding \$50 billion quarter over quarter. Since China launched the Road and Belt Initiative, it has become a significant supplier of capital for the countries of the global South, as reflected in the large outflows from 2014 onwards.

For low- and middle-income countries of the global South, the G20 Debt Suspension Initiative and the allocation of new SDRs by the IMF in the third quarter of 2021 provided considerable relief following the COVID-19 pandemic. Although capital flows rebounded at the end of 2022, preliminary data for 2023 indicate a slowdown in capital inflows. The current global financial conditions remain challenging for many developing economies. The recent postponement of interest rate cuts by the United States Federal Reserve has compelled some developing economies to maintain higher interest rates for longer than anticipated to prevent capital flight.

China has become a **larger supplier of capital** for countries in the South since 2014.





Billions of United States dollars

Outward investment promotion instruments increasingly integrate sustainability criteria

SDG target 17.5 encourages countries to promote investment in LDCs. While most outward FDI promotion regimes do not prioritize specific destination countries, some investment instruments from national promotion regimes limit eligibility to investments in developing countries. According to (UNCTAD, 2024b) in 2023, at least 50 countries globally promote OFDI, including towards developing economies and LDCs (figure 4). OFDI promotion initiatives are prevalent in developed economies (79 per cent of them), and an increasing number of developing economies (14 per cent) are also supporting their firms to invest overseas. This reflects the increasing role of developing economies as capital provider and the strengthening of South-South relations.

Globally, **50 countries** had outward investment policies in 2023, among them 19 developing countries. Globally, the most common mechanisms to support OFDI include investment facilitation services (41 economies), followed by fiscal and financial support (38 economies), investment guarantees (31 economies), and state equity participation in foreign investment projects (23 economies) (figure 4).

Figure 4. In 2023 outward FDI promotion schemes towards developing economies, including LDCs, are predominantly provided by developed economies



Most OFDI promotion initiatives do not differentiate between destination economies (figure 5). Among the 50 economies with established OFDI promotion mechanisms, only 18 developed economies (58 per cent) and 5 developing economies (26 per cent) have at least one instrument specifically designed to encourage OFDI in developing economies, including LDCs.

Several developed economies, especially in Europe, have integrated OFDI promotion schemes into their broader development assistance strategies. These countries actively engage their private sector in development cooperation initiatives, leveraging their strengths and capabilities to advance development goals, while promoting the growth and global competitiveness of domestic firms. Consequently, OFDI promotion schemes often incorporate eligibility criteria that emphasize benefits to the host country, particularly as regards investments targeting developing economies. Such criteria are featured in over half of the OFDI promotion instruments by developed economies and in 16 per cent of those in developing economies.

Figure 5. Among the criteria for accessing OFDI promotion mechanisms in 2023, "Home country benefits" remains the most important



Percentage of countries with an OFDI mechanism in place



A long way towards aligning global investment flows with SDGs

The need for investment in SDGs, productive capacity, and climate mitigation and adaptation is pressing. According to UNCTAD's World Investment Report (2024a) international investment in SDG-relevant sectors in developing countries increased in 2023, with more projects in infrastructure, agrifood systems, health and education. However, progress remains modest compared to 2015 when the SDGs were adopted. A review at the midpoint of the 2030 Agenda reveals that the investment gap across all SDG sectors has widened from \$2.5 trillion in 2015 to more than \$4 trillion per year in 2023. The largest gaps are in energy, water, and transport infrastructure.

The investment gap

across all SDG sectors has increased from \$2.5 trillion in 2015 to **more than \$4 trillion per year**.

The growing SDG investment gap in developing economies contrasts with positive sustainability trends in global capital markets (UNCTAD, 2024a). The sustainable finance market reached a value of \$7 trillion in 2023. Sustainable funds saw positive net inflows, but with a reduced amount of \$63 billion in 2023 (versus \$161 billion in 2022). Sustainable bond issuance has also surged, growing five-fold over the past five years. The cost of achieving SDGs is not insignificant, requiring substantial efforts and dedication to bridge the gap (UNCTAD, 2024c). Key priorities for the market are increasing exposure to developing economies and addressing greenwashing concerns.

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Escalating debt challenges are inhibiting achievement of the SDGs



SDG indicators

Goal 17: Partnerships for the goals

Target 17.4: Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.

Indicator 17.4.1: Debt service as a proportion of exports of goods and services (Tier I)

Cascading crises and a challenging global macroeconomic environment, characterized by tightening financial conditions, higher interest rates, US dollar appreciation, growth slowdown, and falling commodity prices, have made it harder for developing economies to service their debts and mobilise domestic resources for sustainable development.

In this context, debt challenges and related development crisis in the developing world have intensified. High debt costs are draining vital public resources needed for development. The number of economies where interest spending accounted for 10 per cent or more of public revenues increased from 29 in 2010 to 50 in 2022. At least 3.3 billion people live in economies that spend more on interest than on health and education (United Nations, 2023a). According to the joint IMF-World Bank Debt Sustainability Framework (IMF, 2024a) for countries eligible for the Poverty Reduction and Growth Trust (IMF, 2024b), as of February 2024, helf of them (24 out of 60) were either at high right or elegable in debt distance.

3.3 billion people live in countries that **spend more on interest** than on health and education.

2024, half of them (34 out of 68) were either at high risk or already in debt distress (IMF, 2024c).

This chapter highlights the increasing tension between costly debt servicing and expenditure on the SDGs. An ambitious and comprehensive multilateral response, as discussed ahead of the Summit of the Future, is essential to avoid a systemic debt crisis that is looming on the horizon for those 34 countries, which would deepen the existent development crisis, putting several developing economies further away from the 2030 Agenda. As such, actions on transforming multilateralism as well as how development is financed are set out in Bridgetown Covenant (UNCTAD, 2021).

External debt stocks of developing economies more than doubled in a decade

The external debt stocks of developing economies reached \$11.4 trillion in 2023, more than double the value recorded a decade ago (figure 1). Since 2009, the total external debt stocks of developing economies has increased on average by 7.6 per cent per annum, similar to the average annual growth rate in the decade before the Global Financial Crisis (2000-2008). However, the pace of growth has markedly slow down after 2019 at 3.2 per cent per annum, three times less than the growth rate of 2009-2018 at 9.9 per cent per year. The total

Total external debt of developing economies grew by 7.6% annually since 2009.

external debt stocks for developing economies excluding China, reached \$8.9 trillion in 2023, representing an increase of 2.7 per cent compared to 2022. In 2022, developing economies, when possible refrained from borrowing externally as interest rates increased and preferred to pay back part of their debt.



Figure 1. Total external debt of developing economies continues to rise

Source: UNCTAD calculations based on data from the World Bank (2024), IMF (2024d) and national sources. Data for 2023 are estimated.

Meanwhile, the risk profile in terms of exposure to short-term debt worsened. From 2009 to 2023, short-term debt increased at an average annual growth rate of 8.3 per cent, outpacing the 7.4 per cent growth rate of long-term external debt. Although long-term external debt still made up most of the external debt stocks in developing economies (70.2 per cent in 2023), the share of short-term debt in the total increased from 23.8 per cent in 2009 to 26.2 per cent in 2023¹.

In 2023, PPG debt accounted for more than half (51.4 per cent of the total) of long-term external debt, while PNG debt made up 48.6 per cent. From 2011 to 2018, the share of PPG debt in total long-term external debt was smaller than that of PNG. However, since 2019, the share of PPG debt has been increasing and has now surpassed the share of PNG debt.

...and debt servicing costs have risen at an even faster rate for the poorest economies

Rising external debt stock, increased risk profiles, and prolonged higher global interest rates have translated into significantly higher debt servicing costs. SDG indicator 17.4.1 (external debt service as a proportion of exports of goods and services) is a crucial measure of an economy's external debt sustainability, as it reflects the government's ability to meet external creditor claims through export revenues. An increase in this ratio can result from reduced export earnings, higher debt servicing costs, or a combination of both. A persistent deterioration of this ratio signals an inability to generate sufficient foreign exchange income to meet external creditor obligations on an economy's PPG debt, indicating potential debt distress without multilateral support or effective sovereign debt restructuring.



Long-term external PPG debt service, percentage of government revenue



Source: UNCTAD calculations based on data from the World Bank (2024), IMF (2024d) and national sources. Data for 2023 are estimated.

As figure 2 shows, the ratio of debt service on long-term external PPG to exports has increased over the past decade for all income categories, except high-income economies. For LICs the increase has been most dramatic, rising nearly six-fold from 2.8 per cent in 2008, just before the Global Financial Crisis, and to 15.7 per cent in 2023. A similar trend was observed for LDCs, with the ratio increasing significantly from 2.9 per cent in 2008 to 13.2 per cent in 2023. Only HICs have maintained a stable ratio of external long-term PPG debt service to export revenues, hovering around two to four per cent over the last decade. For MICs, this ratio has also been on an upward trend, nearly doubling since 2010. This figure highlights a diverging pattern among studied groups since the Global Crisis era after 2009.

Another indicator of external debt sustainability is the ratio of debt service on long-term external PPG as a percentage of government revenue. As figure 3 illustrates, the ratio of debt service on long-term external PPG debt has risen sharply in recent years, especially for the poorest developing economies such as LICs and LDCs. In 2023, these two groups of countries spent nearly 20 per cent of government revenues to meet external public debt obligations, a four-fold increase over the last decade. For MICs, this ratio increased by about 30 per cent over the 2013-2023 period, although it has decreased in the last couple of years. These statistics

highlight the substantial diversion of domestic resources from sustainable development to servicing external debt obligations in the most vulnerable developing economies, exacerbating the development challenges as interest rates also remain relatively high.

LICs and LDCs spent nearly 20% of government revenues on servicing external debt in 2023, up 4x since 2013.

Figure 3. Long-term public debt servicing as a percentage of government revenue continues rising sharply for LDCs and LICs

Long-term external PPG debt service, percentage of government revenue



Source: UNCTAD calculations based on data from the World Bank (2024), IMF (2024d) and national sources. Data for 2023 are estimated.

Are we in an SDG financing crisis?

The worsening of these two external debt sustainability indicators for LICs and LDCs is concerning. As they cut expenditures to free up resources for external debt payments, pressure on essential public spending will increase, pushing countries further away from achieving the SDGs. Simultaneously, the capacity to generate export revenues and government income to service external debt will shrink further as global growth is estimated to slow from a pre-pandemic rate of 3.2 per cent to 2.6 per cent in 2024, just above the 2.5 per cent threshold commonly associated with a recession, according to UNCTAD's economists' forecasts (UNCTAD, 2024).

With resources diverted to servicing debt, several developing economies face an increasing likelihood of unsustainable debt burdens. As creditors continue to be paid, the SDGs become increasingly out of reach, with these economies striving to avoid default. This jeopardises the delivery of existing international commitments, including the 2030 Agenda and the Paris Climate Agreement. The debt overhang has become a major obstacle to development efforts in several developing economies.

As the UNCTAD Bridgetown Covenant (UNCTAD, 2021), the SDG Stimulus Plan (United Nations, 2023b) and the Trade and Development Report 2023 (UNCTAD, 2023) put forward, achieving the SDGs requires the international community's

commitment to transform the global financial architecture by prioritising the needs of developing economies. Economies need to be empowered to serve their SDG investment needs, for instance by international and domestic rules for a standstill on debtors' obligations in case of climate, health and other external crises, such as climate-resilient debt clauses and the approach spearheaded by the World Bank, as initial steps that could benefit all sovereign borrowers needing to invest in the SDGs.

 \bigstar UNCTAD in Action \bigstar

DMFAS strengthening debt management for good governance and transparency

SDG Target 17.4 recognises the importance of assisting developing countries to attain long-term debt sustainability and reduce the risk of debt distress. Similarly, the Addis Ababa Action Agenda (United Nations, 2015) stresses the value of prudent borrowing as a tool for financing investment needed for development, and of the critical role of sound debt management in conjunction with debt relief and debt restructuring.

The Bridgetown Covenant (UNCTAD, 2021) also recognizes the importance of continued inclusive dialogue and cooperation with international financial institutions to advance discussions on debt transparency, data quality and debt management capacity. To this end, UNCTAD continues its analytical and policy work and technical assistance on debt issues, including DMFAS.

Debt data are a prerequisite for effective debt management

Many governments lack the appropriate human and technical capacity to handle public resources and liabilities effectively, as well as to prepare risk analysis and debt strategy. Weak capacity for debt recording and reporting is a significant challenge for developing countries especially. The DMFAS Programme helps governments to address these problems.

DMFAS showed a high level of overall effectiveness in the 2020-2021 period. [...] DMFAS Programme enables countries to mobilize debt financing to address the needs of developing countries

- Independent Evaluator, Mid-Term review of the DMFAS Programme 2022

Mandated by the UN General Assembly (United Nations, 2023c) and UNCTAD member States, the UNCTAD DMFAS programme advises developing economies in debt management and helps them to record and report reliable debt statistics for policymaking. The programme offers countries a set of practical solutions for the management of public liabilities and the production of debt statistics, supported by the DMFAS debt management and financial analysis software, capacity development and

61 countries use the DMFAS software on a daily basis to manage their public debt.

advisory services. After its inception in the 1980s, DMFAS software is now used by 61 countries and 86 institutions

around the world for debt management (map 1). The software is available in four languages (English, French, Russian and Spanish).



UNCTAD has trained 7 155 officers in debt management procedures and best practices between 2014 and 2023. In addition, on average, 380 experts participated in each UNCTAD Debt Management Conference held every second year since 2011 – except for 2021 due to the COVID-19 pandemic. The participant numbers show a remarkable increase in female participants reaching 42 per cent in 2023 compared to 33 per cent in 2018. Nevertheless, this share still falls slightly short of the equal distribution observed in 2016 (table 1).



Table 1. Women are on average well represented in DMFAScapacity development

	2016	;	2018	•	2020)	2022	2	2023	3
Capacity development category	Total participants	Share of women								
Capacity development for debt offices	751	50%	697	33%	361	45%	609	48%	552	42%
- Training in debt validation, reporting, analysis and procedures	282	54%	209	35%	72	32%	211	52%	244	45%
- Functional training in using DMFAS	244	56%	216	37%	91	55%	236	48%	232	47%
- IT related training and advisory services	152	43%	132	17%	54	50%	62	34%	33	18%
- Other advisory services	73	33%	140	39%	144	44%	100	45%	43	23%
UNCTAD Debt management conference	-	-	-	-	-	-	431	44%	-	-

Number of participants and share of women

Source: UNCTAD.

Debt data transparency and quality of reporting increasing

Over the last ten years, the use of DMFAS software by new countries and comprehensive reporting within the system have increased. In 2023, 93 per cent of countries recorded comprehensive external debt instruments in DMFAS and 80 per cent comprehensive domestic debt records.

The DMFAS capacity building also supports disseminating debt statistics and debt analysis. The number of DMFAS user countries that publish debt statistics bulletins and debt portfolio reviews on a regular basis has Number of **countries publishing debt statistics** bulletins increased in 2023 to **43**.

increased during the last ten years (figure 4), despite a setback in 2020 mainly due to the disruptions related to the COVID-19 pandemic.





Notes

1. The use of IMF credit accounts for the other 3.6 per cent of total external debt stock

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Efforts to track illicit financial flows need scaling up



SDG indicators

Goal 16: Peace, justice and strong institutions

SDG target 16.4: By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime

SDG indicator 16.4.1: Total value of inward and outward illicit financial flows (in current United States dollars) (Tier II)

In Bridgetown, member States (UNCTAD, 2021a) expressed their great concern over the negative impact of IFFs on sustainable development, especially in developing countries. Beyond the half-way point to 2030 and in the conditions of compounding crises, it is more urgent than ever to pursue SDG target 16.4 to *significantly reduce illicit financial (and arms) flows by 2030, strengthen the recovery and return of stolen assets, and combat all forms of organized crime.* UNCTAD, as a custodian of SDG indicator 16.4.1 on the "*total value of inward and outward illicit financial flows*" with UNODC, supports member States' efforts to track and curb IFFs.

IFFs are believed to cause the loss of staggering amounts of global wealth to corruption, illicit activities and tax evasion, transnational organized crime and money laundering, but official estimates have been largely missing. If redirected to the official economy, illicit flows could serve as a vital source of funding for sustainable development initiatives, helping to bridge the financing gap (United Nations, 2021a). IFFs drain resources not only when they leave a country (outflows), but also when they enter a country (inflows) by fuelling money laundering and corruption and thus undermining the rule of law and the stability.

Thanks to capacity support by UNCTAD and UNODC, jointly with the UN Regional Commissions, the first official estimates of IFFs were released in 2023 by UNODC (2023), in the SDG Pulse (UNCTAD, 2023a) and Global SDG Indicators Database (United Nations, 2024).¹ To date, only a handful of economies report data on IFFs globally. This reflects the need for support to countries in applying the recommended methodologies, guidance and tools. To date, 22 countries on three continents have tested the measurement of IFFs and compiled their first national IFF estimates by analysing existing datasets on customs transactions, tax and law enforcement authorities' records, and other sources. At the start of the process in 2017, there was no agreed definition of IFFs, or any agreed data sources or robust methodologies. Progress achieved shows the impact of international cooperation of experts, in a country-led process, to agree on concepts and develop methods so that now IFFs can be measured.

Furthermore, the United Nations General Assembly (2023) (A/RES/78/140) recognized this significant progress and availability of concepts and tested methods to measure IFFs. They noted the outcomes of pilot studies across three continents showing that measurement of these flows is possible, while challenging, and requires strengthened support, and called for increased transparency, and the strengthening of efforts to enhance the capacity of national authorities for data collection and analysis to combat illicit financial flows with more informed and targeted policy efforts.

The General Assembly invited UNCTAD and UNODC to leverage and continue developing concepts and refine methods developed to date and to provide stronger support to national authorities and invites all member States to engage with the custodian agencies towards reporting data on the indicator, and invited all institutions involved in measuring and reporting on illicit financial flows to use the statistical concepts and methods, adopted by the UN Statistical Commission. In the negotiations for the Pact for the Future in 2024 member States requested increasing investment in sustainable development by strengthening ongoing efforts to combat illicit financial flows.

In view of these developments, UNCTAD and UNODC are developing a compendium of recommended methods and practical guidance for countries for measuring tax, commercial, and crime-related IFFs. A global project led by ECA, implemented with all UN Regional Commissions, and supported substantively by the co-custodians, works with nine countries in enhancing IFF measurement. This technical support empowers national authorities with the tools and methods to analyse existing datasets to track IFFs, according to national priorities, and design more effective policies to curb them.

As noted by member States, immediate action and increased investments are needed to enable similar analytics and targeted policy action in all interested countries globally.

A UN Statistical Framework to step up national analytical capacities

Compiling statistics on IFFs is challenging because these activities are hidden and involve confidentiality, security, and ethical issues, much like other indicators under Goal 16. Even when baseline statistics are available, specific methods need to be applied to track signs of IFFs. Data needed to estimate IFFs are scattered across different agencies, and data exchange requires mechanisms for national and international cooperation and political support for measurement. Crime and justice statistics often lack funding and resources, especially in developing countries. While measuring IFFs may in some cases be possible by assessing existing specific datasets, without additional data collection, current investments in these statistics and international support for country-led efforts are insufficient.

Despite these challenges, there has been significant progress since 2017, as recognized by member States. Countries can now use globally agreed definitions and tested methods, with UNCTAD leading methodological and capacity support on tax and commercial IFFs, and UNODC on crime-related IFFs. Early expert consultations and a dedicated international Task Force² led to the development of the UNCTAD and UNODC (2020) Conceptual Framework for the Statistical Measurement of IFFs which was endorsed by all member States at the UN Statistical Commission in March 2022 (UNSC, 2022). The

Concerted efforts needed to report data on SDG indicator 16.4.1 **with harmonised methods**.

Framework defines IFFs as financial flows that are illicit in origin, transfer or use, that reflect an exchange of value, and that cross country borders.

In 2021, UNCTAD published methodological guidelines to measure tax and commercial IFFs for pilot testing (2021b), and released in 2023 refined methodological guidance (2023b) based on feedback from the pilots (UNCTAD, 2023c,

2023b). Countries have been reporting estimates of various IFFs subtypes (e.g., tax evasion, trade misinvoicing, illegal market activities and exploitation-type activities) using different methodologies. However, these estimates may not be easily summed up into one total estimate due to incomplete data and the risk of double counting.

To address this, UNCTAD and UNODC are developing a comprehensive Statistical Framework to compile estimates for total inward and outward IFFs, aligning with SDG indicator 16.4.1. This involves classifying IFFs and creating methods to aggregate them into a single indicator. The Task Force is exploring a matrix approach to identify and minimize overlaps between different methods and IFF types.

Table 1 presents a conceptual matrix linking tax and commercial practices with measurement methods, considering IFFs relating to both income generation and income management.³



Flo	ws and activities	IG-IM					Methods			
		Framework			Income genera	ation		I	ncome manage	ment
			M1	M2	M3	M4	M7	M5	M6	M8
			Partner country method Plus	Price filtering method Plus	Global distribution of profits and corporate taxes	MNEs vs. comparable non-MNEs	Bottom-up methods for crime-related activities	Undeclared offshore wealth indicator	Offshore financial wealth by country	Indirect method to measure IM IFFs from income determined in IG
F1	Transfer of wealth	IM								
F2	Trade misinvoicing	IG/IM								
F3	Transfer mispricing	IG/IM								
F4	Debt shifting	IG/IM								
F5	Assets and intellectual property shifting	IG/IM								
n	Illegal markets	IG/IM								
12	Corruption	IG/IM								
13	Exploitation and terrorism financing	IG/IM								

Source: UNCTAD (2023b)

Note: Cells highlighted in purple are the cases in which methods M1 to M6 can measure different typologies of tax and commercial IFFs. In blue, the cases in which methods M7 and M8 may measure different typologies of crime-related IFFs. In yellow, the cases in which there is a risk of an overlap (double counting) between the origin of IFFs (tax and commercial vs. crime-related) and the method that are proposed to measure the related amount of IFFs. Highlighted in grey are methods not suitable for analysis of those specific flows, in the sense that these combinations cannot occur in practice, such as estimating income generation for (F1) transfer of wealth. Crime-related aspect, i.e., 11-13 and M7-M8 reflect preliminary deliberations based on previous pilot testing and pending further research and validation.

Reading table 1 by row, one can identify methods to measure income generation and management related IFFs for each IFFs-generating activity, highlighting possible overlaps when aggregating estimates from different methods. This allows for selecting the most suitable method for measuring related IFFs.

IFFs are a complex and sensitive issue, which is why their estimates require careful interpretation. Therefore, IFF reports must be comprehensive and include detailed metadata, and be accessible and understandable to all citizens, without requiring specialised statistical knowledge.

The risk of illicit financial flows high in critical minerals and drug trafficking

As of now, 22 countries have piloted IFF measurement. Among them, 14 countries (12 in Africa and two in Asia) have tested methods to measure tax and commercial IFFs using customs and tax datasets. Nine countries have tested measuring IFFs from illegal market (drug trafficking, smuggling of migrants, wildlife trafficking) and exploitation activities (trafficking in persons).

In 2022, six African countries shared preliminary unofficial estimates of tax and commercial IFFs (UNCTAD and ECA, 2023). Most identified extractive industries (e.g., mining of gold, diamonds, or copper; oil industry) as particularly prone to IFFs through trade misinvoicing and MNE profit shifting. For example, Burkina Faso found IFFs in the gold sector with illicit transactions involving Uganda and Switzerland. Nigeria examined MNE profit shifting in the petroleum sector, revealing flows to tax havens.

On crime-related IFFs, countries reported their first estimates to the Global SDG Indicators Database (United Nations, 2024) with drug trafficking as a major source. For instance, Bangladesh estimated outward IFFs at \$480.7 million annually from the trafficking in drugs such as heroin, yaba (methamphetamine tablets), phensidyl and buprenorphine, between 2017 and 2021 (UNODC, 2023). In Colombia, cocaine trafficking generated annually

Statistics on SDG indicator 16.4.1 are published.

inward IFFs between \$1.2 and \$8.6 billion from 2015 to 2019 (from 3 per cent to 23 per cent of legal commodity exports)⁴. Peru estimated cocaine trafficking-related inward IFFs at \$1.3 billion to \$1.7 billion every year, accounting for 3.5 to 4.5 per cent of total legal commodities exports⁵. Illicit drug exports, driving inwards IFFs, significantly fund criminal activities, promoting violence and corruption, and undermining financial market integrity and economic stability.

To bolster countries' reporting on IFFs and refine methods, the co-custodian agencies are supporting countries' IFFs measurement efforts. UNCTAD and UNODC support a global United Nations Development Account project, spanning 2023-2026,⁶ in coordination by ECA and implemented with the other UN Regional Commissions, enhancing statistical capacities in nine developing countries across to measure and curb IFFs. This initiative also aims to enhance investigative and analytical capacities and to improve domestic resource mobilization to support the 2030 Agenda.

In parallel, UNCTAD is assisting Ghana, Namibia and Zambia in a project⁷ funded by the Open Society Foundation in refining their preliminary estimates on tax and commercial IFFs for reporting on SDG indicator 16.4.1. These efforts are crucial in informing policy formulation and action to address IFFs more effectively at the national level.

Both projects are now integrated into policy formulation processes, recognizing that effective policies require reliable national data. Access to accurate IFF estimates empowers policymakers, supports research and analysis, and enables civil society and governments to work towards a more just and prosperous society. Without reliable data, government efforts risk remaining ineffective or inadequate. The concepts and methods, developed by UNCTAD and UNODC, equip national authorities to analyse data they have and step up their analytical capacity for better policy.



Map 1. 22 countries have studied the measurement of IFFs in 2018-2022 and twelve countries will do so between 2023 and 2026



Note: Situation reflected on the map as of April 2024

★ UNCTAD in Action ★

Ghana, Namibia and Zambia show illicit flows can be measured without new data collection

Ghana, Namibia and Zambia participated in a United Nations Development Account project⁸ led by UNCTAD and ECA on the statistical measurement of IFFs, along with eight other African countries. We will discuss these country experience to inspire similar work in other countries.

Each of the three countries established a technical working group to achieve a whole-of-government approach, comprising relevant national agencies, such as the central bank, ministry of finance, revenue and customs offices, tax authorities, statistical office, relevant ministries, financial intelligence units, and sometimes engaging with civil society organizations, etc. Each agency brings its unique expertise and mandates to the table, including insights into key data gaps relating to IFFs.

The national statistical office or another agency can coordinate the technical working group with the aim to consolidate data dispersed across national institutions to estimate IFFs effectively. Data sources for capturing criminal activities vary, including for instance data from police departments, ministries of justice, financial intelligence units and other agencies involved in collecting information on seizures and criminal offences. Tax authorities have data relevant to assessing the tax gap, potentially including country-by-country reporting reflecting MNE activities, while customs compile statistics on international trade in goods and services, aiding in understanding commercial IFFs.

To date, 88 national experts, including 25 women, were trained in these three countries alone. This training focused on refining estimates, detailed guidance on methods, and linking data with policy initiatives, thereby initiating national efforts to measure and combat IFFs effectively.

Country level work started by a review of national circumstances in the form of an IFF self-assessment, followed by a mapping of relevant national stakeholders. This is the basis for building a whole-of-government approach by setting up the technical working group to review data availability and quality. Based on the findings, the working group selected the most suitable method, prepared a measurement plan and carried out the compilation of IFF estimates with the selected methods.



All three countries produced unofficial preliminary estimates and shared lessons learned as explained below (table 2).



Table 2. Experience in Ghana, Namibia, and Zambia show that strong interagency collaboration, support and resources are crucial in measuring illicit financial flows

	Ghana	Namibia	Zambia
Technical Working Group	Lead: Ghana Statistical Service Composed of seven national authorities providing data, and institutions from the Academia and Civil society.	Lead: Bank of Namibia (central bank) Composed of eleven national authorities.	Lead: Zambia Statistics Authority, support from Zambia Revenue Authority Composed of ten national authorities.
Preliminary results	For 2000-2012, preliminary estimates between Ghana, the US and the EU, inward and outward IFFs amounted to US\$8.44 billion. IFFs were mostly found in cocoa, gold and other minerals exports and machinery, as well as high end products such as airplane parts imports.	For 2018-2020, preliminary estimates of inward IFFs of about US\$5 billion, and outward IFFs up to US\$34 billion. Substantial amount of IFFs leaving and entering the country related to six selected commodities: diamonds, diesel, petrol, gold, uranium, and fish.	The preliminary findings based on seven major trading partners, show that US\$44.9 billion was potentially misinvoiced during the period 2012- 2020.
Challenges and lessons learnt	Trade data unavailable Lack of capacity building Inadequate resources	Coordinating the sharing of information between authorities within countries is critical. Sharing information among countries is critical to understand the risks and trade data disparities which are important to inform institutional interventions for curbing IFFs.	Unavailable data Allocating time of members of technical working group to tasks
National engagement and support	Work generated significant interest among Government officials, policy makers and academics.	Setting up a national office on IFFs at the Bank of Namibia. Adding four new national agencies: the Namibia Competition Commission, the Business and Intellectual Property Authority, the Ministry of Industrialization and Trade, and the Institute for Public Policy (Civil Society).	The members of the Technical Working Group were all appointed by the Secretary to the Treasury

	Ghana	Namibia	Zambia
Further work	Also apply on profit shifting and get data on MNEs from the transfer pricing unit of the Ghana Revenue Authority. The dissemination and reporting of validated estimates planned for second quarter of 2025. Use of estimates for policy analysis (review of existing relevant policies, regulations and laws to identify gaps and enablers of IFFs; formulate recommendations to curb IFFs).	Bank of Namibia has a new tool, a Trade verification system acting as a digital platform monitoring cross-border transactions. Detailed application of methods. The dissemination and reporting of validated estimates planned for second quarter of 2025. Formulate policy responses based on nationally compiled official estimates of IFFs.	Deepen the analysis by exploring the use of data sharing within the Group and further analysis at the firm level for the production of reliable estimates on trade misinvoicing, as well as establish a mechanism for better tracking the destination of Zambian exports. The dissemination and reporting of validated estimates planned for second quarter of 2025. Formulate policy responses based on nationally compiled official estimates of IFFs

Data can unlock progress to curb illicit finance

Dialogue between statisticians and policy makers is key to raising awareness of the possibilities of IFF estimates in informing policy action. The benefits of measuring IFFs go beyond data, e.g., Egypt established a new department for the measurement of IFFs within Customs to ensure regular information for policy, Southern African countries engage in bilateral meetings to find the best mechanisms to correctly record commodity trade and more accurately identify illicit flows, Zambia established a mechanism to track destinations of their copper exports, and Angola seeks financing for better education and health by curbing IFFs.

In a 2023 survey by UNCTAD and UNODC, with a total of 63 country responses, 65 per cent asked for statistical capacity building, such as technical training, tools and resources, methodological guidelines, and sharing of experience, to enable IFF measurement and reporting of data on SDG 16.4.1. More than half of the countries saw tax and commercial activities, including aggressive tax avoidance, and illegal market activities as major sources of IFFs. Importantly, financial support would be needed to properly set up and carry out estimation

2/3 of countries ask for support to measure illicit financial flows.

processes, highlighting a widespread resource gap in this area. The survey reveals a high interest in collaborating with UNCTAD and UNODC in the statistical measurement of IFFs (in 65 per cent of responding countries). It also shows that countries supported by the co-custodians and UN Regional Commissions are ready to report earlier than others, especially in Africa and Asia.

Currently, 3 projects support 12 countries⁹ on four continents to measure IFFs with the aim of reporting data to the Global SDG Indicators Database and informing national policy. The national official estimates, enabling a better understanding of the flows leaving the country, will also help design appropriate policy actions to identify and address

IFFs to achieve sustainable development for all. UNCTAD hosted the kick-off workshop of the global UN Development Account project in September 2023 in Geneva, bringing together 66 experts (30 women), and work continues currently to support each country bilaterally.

Tax evasion, aggressive tax avoidance and other mechanisms depriving countries' tax revenues put at risk the achievement of human rights, especially affecting vulnerable groups, including women, children and people with disabilities. Deprivation of developing countries' public assets is an immense development problem. Hence, the recovery of illicit financial flows and stolen assets is essential for increasing domestic resource availability for sustainable development. IFF estimates shed light on loopholes that need to be closed to redirect flows to the official economy.



Global and concerted action is needed: to all countries and international organizations, start by reviewing available resources¹⁰ and stay tuned for future activities and updated figures from countries working jointly with UNCTAD and UNODC. The 2030 Agenda is a global commitment by all, and we all need to step up and scale up our joint work on measuring and curbing IFFs.

Notes

- 1. Selecting data series to reflect SDG indicator 16.4.1 on SDG Indicators Database: https://unstats.un.org/sdgs/dataportal/database returns Indicator 16.4.1 series: Total value of inward illicit financial flows (DI_ILL_IN) and Total value of outward illicit financial flows (DI_ILL_OUT).
- 2. The Task Force is composed of statistical experts from Brazil, Finland, Italy, Peru, South Africa and the United Kingdom. The Task Force also includes experts from international organisations with recognised expertise in this field: ECA, ECLAC, ESCAP, Eurostat, IMF, OECD, UNSD, WCO, UNCTAD and UNODC.

- 3. IFFs linked to income generation are the set of cross-border transactions that are performed in the context of the production of illicit goods and services or the set of cross-border operations that directly generate illicit income for an actor during a non-productive illicit activity. IFFs linked to income management are the set of cross-border transactions finalized to use the (illicit) income for investment in (legal or illicit) financial and non-financial assets or for consuming (legal or illegal) goods and services (UNCTAD and UNODC, 2020).
- 4. Pilot estimates conducted by UNODC Colombia Country Office. See also UNODC (2023), UNODC (2021) and United Nations (in the reference list).
- 5. Data sourced from UNODC work in Peru (UNODC, 2021, 2023). See also https://unctad.org/news/first-ever-official-data-illicit-financial-fows-now-available.
- 6. Project "Measuring and curbing illicit financial flows", 2023-2026, https://unctad.org/project/measuring-andcurbing-illicit-financial-flows
- 7. Project "Statistical measurement of illicit financial flows to enable more targeted policy action", 2024-2026, https://unctad.org/project/statistical-measurement-tax-and-commercial-illicit-financial-flows-enable-more-targeted
- 8. Project "Defining, estimating and disseminating statistics on illicit financial flows in Africa", 2018-2021, https://unctad.org/project/defining-estimating-and-disseminating-statistics-illicit-financial-flows-africa
- 9. UN Development Account project lead by ECA, in collaboration with Regional Commissions, and with technical assistance from UNCTAD and UNODC supporting eight countries: Bangladesh, Burkina Faso, Egypt, Gabon, Kyrgyzstan, Mexico, Nigeria, Senegal and Uzbekistan; UNCTAD project funded by the Open Society Foundation supporting three countries: Ghana, Namibia and Zambia; UNODC supporting Costa Rica.
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THEME 3

Diversification

"The digital economy is a powerful new engine of development, which is transforming trade itself, making it intangible and easy to scale, while at the same time risking to deepen divides and inequalities."

> – Ms. Rebeca Grynspan, UNCTAD Secretary-General, UNCTAD60, 12 June 2024.

Structural transformation to mitigate persistent technology gap



SDG indicators

Goal 9: Industry, innovation and infrastructure

Target 9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.

Indicator 9.2.1: Manufacturing value added as a proportion of GDP and per capita (Tier I)

Indicator 9.2.2: Manufacturing employment as a proportion of total employment (Tier I)

Target 9.b: Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

Indicator 9.b.1: Proportion of medium and high-tech industry value added in total manufacturing value added (Tier I)

Target 9.5: Enhance scientific research, upgrade technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and increasing the number of research and development workers per 1 million people and public and private research and development spending.

Indicator 9.5.1: Research and development expenditure as a proportion of GDP (Tier I) Indicator 9.5.2: Researchers (in full-time equivalent) per million inhabitants (Tier I)

Structural transformation, a pivotal driver of economic development, traces its roots in scientific advancements centuries ago, as noted by Kuznets (1957), Chenery (1960) and Fourastié (1963) describe. Technological innovation, underscored by international cooperation, plays a vital role in this process (UNCTAD, 2021). It entails a shift from raw material extraction to manufacturing, followed by a transition to services as economies mature. According to Haraguchi and Rezonja (2010), this transition occurs when GDP per capita reaches around \$13 000 at 2005 prices and when manufacturing accounts for around one fifth of value added. UNIDO (2021) defines

industrialized economies as those with manufacturing value added exceeding \$2 500 per capita, adjusted to purchasing power parities.

Structural transformation enhances productivity and incomes while fostering diversification of production, thereby mitigating vulnerabilities to market shocks. The Bridgetown Covenant (UNCTAD, 2021) identifies "transforming the economies through diversification" as a critical element for inclusive prosperity. Access to requisite technologies, particularly in an increasingly digitalized landscape, is vital for successful structural transformation. The Covenant emphasizes that industrialization must align with sustainability and inclusivity to realize the goals of the 2030 Agenda while ensuring equitable distribution of its benefits.

No sign of further industrialization in Africa and LDCs

In 2022, manufacturing value added per capita in developed economies amounted to \$5 366 (at constant 2015 prices), significantly surpassing other regions (figure 1). It was 3.6 times higher than in developing Asia and Oceania (\$1 494) and 4.7 times higher than in developing Latin America and the Caribbean (\$1 134). It exceeded the value in Africa (\$209) by over 25 times.

Manufacturing value added per capita in developed countries exceeded the value in Africa by over 25 times

Over the past two decades, manufacturing value added per capita in developing Asia and Oceania has steadily risen to 3.5 times its 2002 value.

In contrast, Latin America and the Caribbean experienced a slow decline over the last decade, with the region overtaken by Asia in 2016. Africa has seen a modest increase of 13 per cent over 20 years, although there has been a recent downward trend since 2018, with a drop from \$216 to \$209 in 2022. Developed economies, despite disruptions from the global financial crisis and the COVID-19 pandemic, have generally exhibited modest and steady growth, with pre-pandemic trends resuming.



LDCs falling behind the target path towards industrialization

In 2022, manufacturing value added per capita in LDCs averaged \$163, at 2015 prices, 33 times less than the average of the developed world. Despite this gap, LDCs have seen steady growth, with manufacturing value added per capita already 4.5 times higher in 2022 compared to 2002, representing an average annual growth rate of eight per cent (figure 1).

Regarding SDG target 9.2, with a focus on the manufacturing sector's contribution to value added, LDCs made progress, increasing from 11.8 per cent in 2002 to 14.8 per cent in 2022, primarily between 2015 and 2019. However, during the COVID-19 pandemic, this growth stagnated at around 15 per cent (figure 2), posing challenges to achieving the SDG target of doubling LDC's manufacturing share in value added by 2030. The required annual increase from 2005 onwards to meet the target was 0.4 percentage points, but the actual average increase until 2022 was 0.2 percentage points.

While the manufacturing employment share has followed a trajectory closer to the target path than its value added share, the gap between the actual and target paths expanded after 2013. Employment growth in manufacturing for LDCs has stagnated at around 7.8 per cent since then. The relatively constant employment shares in LDCs alongside increasing value added imply an overall improvement in productivity, which can be considered as encouraging. However, it's essential to recognize that these are weighted averages, and data coverage challenges likely mask variations in manufacturing employment and value added among different LDCs.

LDCs are not on track to meet their SDG 9.2 target by 2030 in manufacturing value added and employment.



Figure 2. LDCs far from reaching the target of doubling the manufacturing share of value added and employment by 2030



Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a), UN SDG Indicators Database (United Nations, 2024), and ILO (2024)

Note: Target and target path set with reference to the base year 2005.¹ Due to data availability, ILO relies on a proprietary model to estimate missing values, see ILOEST website for further information (ILO, 2024).

Productivity-driven and employment-driven transformations

Between 2002 and 2022, developing Asia and Oceania witnessed a significant increase in the share of manufacturing in value added (from 19.4 to 24.2 per cent; figure 3), signaling the region's growing importance in global industrial production. Concurrently, manufacturing output per capita showed resolute growth. However, the share of manufacturing in employment declined (from 14.2 to 11.9 per cent), reflecting productivity-driven transformations. Conversely, Africa saw an increase in the manufacturing share in employment (from 7.1 to 8.5 per cent), alongside a

Manufacturing value added declined from 12.8 to 10.9 per cent in Africa between 2002 and 2022.

decline in value added (from 12.8 to 10.9 per cent), during the same period. This suggests a shift characterized by growing manufacturing employment share with stagnant productivity. Latin America and the Caribbean experienced a decrease in the share of manufacturing in value added and employment. In developed economies, the share in value added remained almost constant, while the share in employment fell, indicating productivity gains.



Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a) and ILO (2023) and ILO (2024).

2002

2022

Persistent technology gap in manufacturing

2002

2022

The 2030 Agenda advocates for technological advancement, especially in developing economies. Progress towards the target is gauged by the proportion of medium and high-tech value added in total manufacturing value added (SDG indicator 9.b.1). Progress signifies a transition to higher technology value added, typically resulting in increased average value added per worker. R&D and innovation play a pivotal role in facilitating this shift by enabling the adoption of newer and more efficient technologies.

In 2021, developed economies continued to outpace developing economies in the contribution of medium and high-tech industries to manufacturing value added. Weighted regional averages depicted by dots in figure 4 reveal that about 50 per cent of manufacturing output in developed economies originated from medium and high-tech sectors. The share varied considerably across developing regions, with developing Asia and Oceania at 42 per cent, developing America at 31 per cent, and Africa at 22 per cent.

The contribution of **medium and high**tech industries to manufacturing value added stands at 22 **per cent** in Africa.

From 2011 to 2021, the share of medium and high-tech manufacturing increased in nearly all regions. Developed economies raised this share by 1.5 percentage points, developing Asia and Oceania by 1.2 percentage points and Africa by 1.1 percentage points. In developing Americas, it nearly stagnated, suggesting these economies have not reduced their reliance on sectors like agriculture and commodities. Figure 4 reveals considerable variation within regions, especially in developing Asia and Oceania. This region includes the world's most innovative manufacturing sectors, such as Singapore (82 per cent in 2021) and Taiwan Province of China (73 per cent),

alongside economies where the share of medium and high-tech industries in value added remained below three per cent, such as Cambodia, Tonga, Yemen, Tajikistan, and Maldives.



Figure 4. Share of medium and high-tech industry in manufacturing value added indicates a technology divide



Percentage (SDG 9.b.1)

Notes: A violin plot shows the distribution of individual economies' medium and high-tech industry shares in manufacturing value added within each economy group and year. The coloured area indicates the distribution of individual economies, smoothed by kernel density estimation, around the regional average (white dots). The wider the violin shape, the higher the possibility to find a economy around the corresponding indicator value.

Examining international trade, we can observe a convergence in the share of medium and high-tech in total manufacturing exports across world regions. In 2022, nearly two thirds (61 per cent) of manufacturing exports from developed economies consisted of medium- or high-tech products (figure 5). This share has remained constant over the last decade but may change due to policy shifts on reshoring and the fragility of long supply chains (e.g. CHIPS and Science Act in the United States (The White House, 2022)). contrast, in Africa, 35 per cent of manufacturing exports were medium- or high-tech in 2022, marking a 6 percentage points increase from 10 years before.



Figure 5. Many developing economies progressively catching up with developed in high-tech intensity of exports

Share of medium and high-tech manufactured exports in total manufacturing exports, percentage



Source: UNCTAD calculations based on UNIDO (2023b)

R&D spending increasingly concentrated in a few economies

Global R&D spending was estimated at 1.93 per cent of GDP in 2021, up from 1.76 per cent of GDP over the five years preceding the pandemic (UNESCO Institute for Statistics, 2024). This equates to approximately \$1.88 trillion of the \$97.3 trillion global GDP (UNCTAD, 2024a) spent on R&D in 2021. From 2015 to 2021, global R&D expenditures grew strongly at an average annual rate of 7.4 per cent, measured in current PPP-dollars. The COVID-19 pandemic further boosted R&D spending, particularly in the medical and IT sectors, with significant funding reallocated to IT, electronic equipment, pharmaceutical and biotechnology companies.

Between 2015 and 2021, world **R&D** expenditure grew strongly: 7.4% annually.


Source: UNCTAD estimates based on UNESCO Institute for Statistics (2024) and OECD (2024).

The bulk of global R&D investment is concentrated in a few economies. In 2021, China and the United States of America alone accounted for just over half of the total global R&D spending (figure 6). Some 78 per cent was concentrated in the top 10 R&D-investing economies in 2021, up from 73 per cent in 2010, indicating increasing concentration of R&D spending. This trend runs counter to SDG target 9.5.1, which aims to upgrade technological capabilities of industrial sectors in all economies. The COVID-19 pandemic reinforced this trend; for example, the United States of America increased its R&D investment from an average of 2.9 per cent of GDP pre-pandemic to 3.5 per cent measured in 2020 and 2021, approaching the rapid R&D expenditure growth in China. It has grown over 10 per cent annually over the last seven years (in current PPP-dollars). In the rest of the world, R&D spending grew by an average of 5.7 per cent annually between 2015 and 2021.



Table 1. Developing economies lagging further behind developed in their R&D expenditures, 2021

(SDG 9.5.1)

	Gross domestic expenditure on R&D Percentage of GDP	Gross domestic expenditure on R&D Millions PPP-\$	R&D-related services exports ¹ Millions \$
Top 5 overall			
Israel	5.6	22 930	13 036
Republic of Korea	4.9	119 583	5 859
United States of America	3.5	806 013	108 112
Belgium	3.4	23 396	12 384
Sweden	3.4	21 402	13 561
Top 10 developing econo	omies		
China	2.4	667 639	15 507
Singapore	2.2	13 416	1 576
United Arab Emirates	1.5		
Türkiye	1.4	36 233	426
Thailand	1.3		70
Brazil	1.2		862
China, Hong Kong Special Administrative Region	1.0		537
Malaysia	1.0		743
Egypt	0.9		1
Tunisia	0.7		6

¹UNCTAD secretariat estimates; include R&D services and IP charges related to R&D. *Source:* UNCTAD calculations based on UNESCO Institute for Statistics (2024),OECD (2024), and

UNCTADstat (UNCTAD, 2024a)

Note: UNCTAD secretariat estimates; includes R&D services and IP charges related to R&D.

The highest R&D spending as a percentage of GDP were recorded in Israel, the Republic of Korea, the United States of America, Belgium, and Sweden (table 1). Most of these economies also report significant international trade in R&D-related services, such as R&D services and intellectual property charges. Among developing

economies, China had the highest R&D intensity at 2.4 per cent of GDP in 2021, followed by Singapore at 2.2 per cent. In all other developing economies, this indicator remained below two per cent. Only eight developing economies had an R&D intensity of one per cent of GDP or higher, with Brazil being the only one outside Asia. Notably, in Africa, Egypt and Tunisia ranked among the top 10 developing economies in R&D intensity.

The findings align closely with the Global Innovation Index (WIPO, 2023) which measures innovation inputs and returns on that investment. In 2023, the top performers were Switzerland, Sweden, and the United States of America. Among developing economies, Singapore ranked 5th overall, China 12th, and Hong Kong SAR 17th. Other high-ranking developing economies included the United Arab Emirates, Malaysia, Türkiye, India, Thailand, and Viet Nam (46th overall). In Latin America and the Caribbean,

No developing economy invested more than 2.5% of GDP in R&D, in 2021.

Brazil led at 49th, followed by Chile, Mexico, Uruguay, Colombia, and Argentina (73rdth overall). In Africa, Mauritius and South Africa were the highest ranked at 57th and 59th, respectively, with Morocco, Tunisia, Botswana, and Egypt also notable performers.

Figure 7. Developing economies lag further behind in R&D expenditure in GDP



Percentage (SDG 9.5.1)

Source: UNESCO Institute for Statistics (2024) *Note:* Regions as defined by UNESCO.

Northern America saw the highest increase in R&D intensity, rising from 2.7 per cent of GDP in 2015 to 3.3 per cent in 2021 (figure 7). Eastern and South-Eastern Asia continued their solid progression, and Europe's R&D investment intensified further. Western Asia and Northern Africa also gained in R&D intensity, while other regions recorded declines. In LDCs, R&D expenditure remained constant at 0.3 per cent of GDP, while SIDS saw

R&D intensity in Northern America up from 2.7% in 2015 to **3.3% in 2021**. a decrease from 1.0 per cent in 2015 to 0.7 per cent in 2021, indicating difficulties faced by many developing economies in allocating resources to R&D.

The number of R&D employees, as FTE per million inhabitants (SDG indicator 9.5.2), highlights the Republic of Korea (9082 R&D employees per million), Sweden (8131), Finland (7871), and Denmark (7708) as top performers, closely followed by Singapore and Iceland. Besides Singapore, other highly ranked developing economies included Hong Kong SAR (4585), Macao SAR (4132), the United Arab Emirates (2 666), Thailand (2 024, refers to 2020), and Türkiye (2000), all above the world average of 1325 R&D employees per million inhabitants. These ficures include researchers, as well as R&D technical and supporting staff. On average,

About **41% of R&D** employees are women, in developing economies even more.

women made up 41 per cent of the R&D workforce in 2021 with developing economies registering a higher percentage of female R&D staff than developed economies (UNESCO Institute for Statistics, 2024).

★ UNCTAD in Action ★

UNCTAD Empretec promotes entrepreneurship

To be inclusive, economic transformation and diversification must incorporate microenterprises and small and medium- sized enterprises, businesses owned or managed by women and youth, start-ups, and both formal and informal enterprises. All these enterprises play a significant role as they employ people in developing countries. Supporting MSMEs' development and fostering an entrepreneurial mindset for more vibrant and diversified economies can contribute to the full achievement of SDGs 4, 5, 8 and to the principle of leaving no one behind.

Empretec is an integrated capacity-building programme for MSMEs to build their entrepreneurial skills, promote their scaling up and expand their networks. Its core product, the Entrepreneurship Training Workshop, promotes behavioural changes that help entrepreneurs put their ideas into action and fledgling businesses to grow. Training is delivered by 570 local, certified trainers and by a pool of 40 international master trainers. All trainers are themselves entrepreneurs.

Initiatives such as EMPRETEC have significantly bolstered entrepreneurial capacity-building, demonstrating UNCTAD's integral role in fostering investment entrepreneurship.

 Representative from the Permanent Mission of the Republic of Indonesia to the United Nations Office and other international organizations in Geneva For instance, Empretec held workshops in six African countries, namely Benin, Cameroon, Gambia, Ghana, Nigeria, and Zimbabwe, between 2020 and 2022. After those, a study was conducted among 200 entrepreneurs, and it showed that the training had a positive impact on their businesses.

The training is delivered through a global network of 42 national business development centres. Since its inception in 1988, Empretec has trained more than 550 000 people (figure 1), helping them to found or expand businesses and create jobs in the process.

Figure 8. Number of entrepreneurs trained by Empretec rising



Notes

1. In this report, progress in target 9.2 is measured with reference to the base year 2005. This is in line with the practice applied in the monitoring of the Millennium Development Goals, where the baseline was set to the year 1990, thus ten years before the adoption of the Millennium Development Declaration (United Nations, 2005). The 2030 Agenda for Sustainable Development does not specify any base year for target 9.2.

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Disruptions persist in maritime transport, challenging its resilience



SDG indicators

Goal 9: Industry, innovation and infrastructure

Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all Indicator 9.1.2: Passenger and freight volumes, by mode of transport (Tier I)

Infrastructure, including transport infrastructure, significantly impacts the attainment of all SDGs, influencing 92 per cent of the 169 individual targets (Thacker et al., 2018). Transport infrastructure and services facilitate trade, support global supply chains, propel growth, and promote social progress. While multimodality is essential for door-to-door delivery of goods, maritime transport dominantes, accounting for over 80 per cent of world merchandise trade (UNCTAD, 2022a)¹. The Bridgetown Covenant emphasized the strategic importance of transport for sustainable economic growth, regional integration, and developing countries' participation in the global economy. It highlighted the need for resilient transport systems that can withstand shocks, recover and adapt to change, thereby fostering a more inclusive world and shared prosperity. Additionally, the Covenant stressed the need to enhance the sustainability and resilience of transport infrastructure and services, along with promoting the conservation and sustainable use of oceans and their resources (UNCTAD, 2021).

Despite major challenges stemming from global crises, shipping continues to show resilience.

In 2022, international seaborne trade volumes contracted by 0.4 per cent, from 12 072 million tons in 2021 to 12 027 million tons (Clarksons Research, 2023). Factors influencing this weak growth included lower global economic growth, high inflation affecting consumer spending, the war in Ukraine, and earlier strict COVID-19 containment measures in China (UNCTAD, 2023). Despite a turbulent global landscape, the maritime industry showed resilience. The war in Ukraine altered shipping patterns since early 2022 and increased travel distances for certain commodities, with ton-miles growth exceeding growth in tons in 2022, 2023 and in the projections for 2024. Distance travelled by sea for refined oil products, crude oil and grain reached record highs (Clarksons Research, 2023).

In 2022, oil and gas trade volumes grew by 6 per cent and 4.6 per cent respectively, as pandemic restrictions eased. Maritime trade was projected to grow by 2.4 per cent in 2023 and at an average annual growth rate of 2.1 per cent from 2024 to 2028 (UNCTAD, 2023). These rates are below the historical average growth rate of 3 per cent over the past 30 years (figure 1).

Seaborne trade has grown by an average of 3% per year since 1970.



Percent annual change of seaborne trade in tons (SDG 9.1.2)



Source: UNCTAD based on UNCTADstat (UNCTAD, 2024a) for 1970–2021 and Clarksons Research (2023) thereafter.

Note: 2023 and 2024 are forecasts. Data with improved methodology and with data for 2022 and 2023 will be finalized during 2024.

Containerized trade, crucial for transporting electronics, food and medical devices, is rebounding. After a 3.7 per cent drop in 2022, UNCTAD forecasts a modest recovery with growth of 1.2 per cent in 2023 and between 2.9 per cent and 3.2 per cent annually from 2024 to 2028, still below historic growth rates. In 2022, regional and route differences were notable: a 6.5 per cent decline in containerized trade between East-Asia (and more specifically China) and the United States of America, a 4.9 per

Containerized trade recovered by 1.2% in 2023.

cent decline on the Asia-Europe route but increases in intraregional routes (particularly intra-Asian) and other routes involving developing economies (UNCTAD, 2023). Despite these variations, main East-West routes continue to dominate global containerized flows. Figure 2 shows the sustained dynamism of container shipping in Asian ports as indicated by trends container port throughput.



International shipping infrastructure and maritime trade upended by a crisis in the Red Sea

Disruption persisted in maritime transport and logistics in 2023 and the first quarter of 2024. The ongoing war in Gaza and the attacks on ships entering the Gulf of Aden since November 2023 have challenged shipping and trade in the Red Sea and the Suez Canal, with disruptions reflected by trade and shipping data. Crossings through the Red Sea and the Suez Canal by number and tonnage of vessels dropped significantly while transits via the Panama Canal also dropped due to climate change-induced reduction in water levels. These disruptions underscore the need for long-term resilience building in maritime transport.

The Suez Canal is crucial for global trade, facilitating the delivery of wide-ranging commodities with container trade flows comprising the largest share. It enables the passage of energy, commodities, consumer goods and components across routes involving Asia, Europe, the Mediterranean and the East Coast of the United States of America. In 2023, around 26 000 vessels transited Suez, carrying an estimated 10 per cent of global maritime trade volume and 22 per cent of containerized trade flows (figure 3).



International maritime trade transiting the Suez Canal, 2023, percentage share, per cargo type



Re-routing via the Cape of Good Hope entails additional costs and new challenges

Major players in the shipping industry have suspended Suez transits and are now using alternative routes, particularly the Cape of Good Hope. As a result, daily transits via the Suez Canal have significantly declined since the attacks began. UNCTAD estimates that the number of transits via the Suez Canal decreased by 42 per cent by January 2024 compared to its peak (figure 4).



Total number of transits through the Panama Canal also slumped by 49 per cent compared to its peak. The disruptions in the Suez Canal occurred mainly over the December 2023 and January 2024 period, while transits through the Panama Canal have been decreasing for the past two years.

Transits through the Panama Canal **almost** halved since early 2022. By March 2024, ship tonnage entering the Gulf of Aden declined by 73 per cent compared with mid-December 2023. Container ships' tonnage fell by 93 per cent reflecting the diversion of 666 container ships rerouting via the Cape of Good Hope. Meanwhile, vessel tonnage via the Cape increased by 64 per cent over the first half of December 2023 (Clarksons Research, 2024c).

Diverting ships around Africa generates extra miles and longer transit times (figure 5), resulting in additional operational costs (e.g. fuel, crew, insurance), risks (e.g. piracy off the Horn of Africa), legal claims for delayed vessels, disrupted shipments, damaged ships and spoiled cargo. Longer transit times resulting in off-schedule deliveries negatively affect just-in-time delivery systems and necessitate higher inventories. With more ship carrying capacity being held up at sea, global shipping demand is estimated to increase by around 3 per cent, requiring more ships and port handling capacity (Clarksons Research, 2024a). The detour around Africa presents operational challenges for African ports that are ill-prepared to handle unexpected increases in vessel calls and demand for bunkering services.

Gulf of Aden Ship tonnage Drops by 73%; **Cape of Good Hope** traffic soars by 64% in just 3 months by March 2024.





Average distance travelled in nautical miles

Freight rates and prices increase in tandem with the extra operational costs and mileage

Operational shifts, extra mileage, and delays are driving up freight rates and the prices of goods. UNCTAD analysis has shown that about half of the increase in food prices observed in 2022 was caused by higher transport costs associated with increased shipping distances resulting from the Black Sea disruption.

The Red Sea crisis has led the average container shipping spot rates from Shanghai to more than double since early December (122 per cent), growing more than threefold to Europe (256 per cent), and even above average (162 per cent) to the West Coast of the United States of America. If sustained, high shipping costs can amplify inflation as was the case during the COVID-19 pandemic and the 2021-2022 global logistics crunch. By March 2024, container freight rates eased slightly but remained elevated compared to the pre-disruption levels (figure 6).





Shanghai Containerized Freight Index and monthly spot rates for selected routes

Source: Clarksons Research (2024b)

Note: TEU: twenty-foot equivalent unit; FEU: forty-foot equivalent unit. The Shanghai Containerized Freight Index reflects the price level for exports by container from Shanghai, per destination. Ports of destination for the spot prices for United States East Coast are New York, Savannah, Norfolk and Charleston; for United States West Coast they are Los Angeles, Long Beach and Oakland; for the Mediterranean Sea they are Barcelona, Valencia, Genoa and Naples; and for Europe they are Hamburg, Rotterdam, Antwerp, Felixstowe and Le Havre. The comprehensive index is a weighted average the prices for routes scaled so that the value on 16th October 2009 is set to 1000 (Shanghai Shipping Exchange, 2024).

The Red Sea disruption threatens environmental goals

GHG are growing as ships travel longer distances and at greater speed to compensate for the detour (figure 7). It has been estimated that these factors could result in just over 70 per cent rise in GHG emissions for a round trip on the Asia-Northern Europe route (UNCTAD, 2024e).



Figure 7. Spiking vessel sailing speed by 7 per cent at the start of the Red Sea crisis and easing in early 2024



The Red Sea crisis underscores the exposure and the vulnerability of global maritime transport infrastructure to disruptions and calls for a scaling up of collective efforts to promote sustainable and resilience-building solutions.

Adapting ports and other key transport infrastructure to the impacts of climate change

Ports are critical for global trade but confront various climate risks, from heat waves to heavy precipitation, flash floods, extreme winds and waves (e.g., long waves and associated swell) that endanger the operation of cranes and can make access to ports more hazardous (Becker et al., 2013). Mean sea-level rise and associated extreme sea-levels are especially concerning (Izaguirre et al., 2021) with potential devastating impacts on port infrastructure and operations (Economist Impact, 2023). Port defenses are designed to withstand extreme sea levels (ESLs) with a certain return period, commonly the 1-in-100 years ESL (ESL100) estimated at the time of design or construction. However, ESLs of a magnitude so far expected to occur once a century, will occur much more often under climate change, significantly increasing the flood hazard for global ports, including some of the top 100 container ports (figure 8, see also UNDRR (2023)). Ports in developing regions, notably in SIDS lack adaptive capacity and are particularly vulnerable (Asariotis, 2021; UNCTAD, 2024c). These regions rely on critical coastal transport infrastructure as lifelines for trade, food and energy security, tourism, and disaster risk response and recovery (UNCTAD, 2019, 2020a). Effective adaptation action is particularly urgent as these assets are projected to be at high and increasing risk of coastal flooding, from as early as the 2030s (Monioudi et al., 2018; IPCC, 2022; Vousdoukas et al., 2023).



Figure 8. Exposure of ports to extreme sea levels will become increasingly common if the climate continues to heat up

Projected return period, Tr (years), of the the baseline 1-in-100 years extreme sea level for top global container ports under different global warming scenarios





SWL 3°C

Source: UNCTAD. Data collation and treatment, I. Monioudi, University of the Aegean. ESLs₁₀₀ projections for global coastline from European Commission (2024); see also Vousdoukas et al. (2018).

Notes: Global warming scenarios SWL (Specific Warming Level) are presented in 0 C above pre-industrial times. The Tr (years) - return period scale shows how frequent the baseline (mean of the 1980–2014 period) 1-in-100 years extreme sea level, ESL₁₀₀, is projected to become for each port. Lower values indicate that the baseline ESL100 is projected to occur much more frequently. Ports displayed are the 100 biggest ports in terms of container port throughput in 2021 (Lloyd's List, 2022). The ports are ordered according to region and exposure in the SWL 1.5^oC scenario.

World is not on track to reduce vulnerabilities and risks highlights the continued growth of greenhouse gas emissions, and their dire implications, including extreme heatwaves, droughts, and flooding (IPCC, 2022). These events not only cause significant damage, but also disrupt global supply chains, leading to extensive economic costs (UNCTAD, 2020a; Verschuur et al., 2023; RTI International and Environmental Defense Fund, 2022) The projected significant increase in the total value of assets exposed to episodic coastal flooding by 2100 accentuates the urgency for infrastructure investment and climate adaptation (Kirezci et al., 2020; Jevrejeva et al., 2018)

Failure to implement adaptation measures could severely jeopardize sustainable development especially in vulnerable nations (Vousdoukas et al., 2023; UNECE, 2020; UNCTAD, 2019; Asariotis, 2020; Becker et al., 2013) albeit knowledge gaps persist regarding individual coastal transport facilities' vulnerabilities and exposure, hampering effective prevention (Asariotis, R et al., 2017).

Scaling up Early Warning Systems (WMO, 2022), as discussed in World is not on track to reduce vulnerabilities and risks, will be critical for increased preparedness and mitigation of impacts. Flexible and adaptive infrastructure and operations as well as engineered redundancy are crucial to improve resilience (PIANC, 2020, 2022), among other technologies to minimize and address loss and damage in coastal zones (UNFCCC, 2020). While progress has been made in technical guidance (PIANC, 2020, 2022), standards (ISO, 2019, 2021) and methodologies (UNCTAD, 2018, 2020b; ECCLIPSE, 2021) to facilitate risk assessment in line with technical guidance and adaptation, more needs to be done (UN DESA and UNDRR, 2022). Climate-risk assessment (European Commission, 2021) is already a legal requirement for infrastructure projects in the EU and their projects in third countries (European Union, 2014).

Urgent steps are required to bolster affordable climate adaptation finance (UNCTAD, 2022b) for developing economies, with the World Bank estimating substantial net benefits from investing in resilient infrastructure in developing economies, amounting up to \$4.2 trillion, a \$4 return for each dollar invested in resilience (Hallegatte et al., 2019). However, the estimated adaptation costs in developing economies are 10-18 times greater than current public adaptation finance flows (UNEP, 2023), emphasizing the need for collaborative effort by policymakers and development partners. According to OECD (2024), in 2022, total climate finance provided and mobilized for developing economies amounted to \$115.9 billion, for the first time exceeding the annual \$100 billion goal. However, of this total, only US\$ 32.4 billion, (28%) was for adaptation, and only a fraction of this amount will have been targeting climate change adaptation for ports and other critical coastal infrastructure.

Notes

1. For more analysis of structural and cyclical changes affecting seaborne trade, ports and shipping see the annual UNCTAD flagship report *Review of Maritime Transport* (UNCTAD, 2024d).

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Digital technologies are key to economic diversification



SDG indicators

Goal 9: Industry, innovation and infrastructure

SDG target 9.c: Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in LDCs by 2020 SDG indicator 9.c.1: Proportion of population covered by a mobile network, by technology (Tier I)

Goal 17: Partnerships for the goals

SDG target 17.6: Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

SDG indicator 17.6.1: Fixed Internet broadband subscriptions per 100 inhabitants, by speed (Tier I)

Digitalization has changed the way that people produce, consume, trade and live (UNCTAD, 2021a). Narrowing the technological gap and closing the digital divide between and within developed and developing countries provides an opportunity for improving incomes and resilience, as well as reducing the vulnerabilities, of the poorest, and in particular of women and youth.

The COVID-19 pandemic has further accentuated the importance of the digital dimension of the economy, changing the landscape of international trade and how countries can be affected by it. This and other crises have highlighted the role of digital technologies in building resilient systems that are open, inclusive, and secure and benefit everyone. Supporting countries' digital transformation, while taking account of the challenges and opportunities of swift technological change, must be a priority to successfully address existing digital inequalities.

It all starts with getting people and businesses online

To be able to engage in and benefit from the digital economy and digital trade, individuals and businesses must first be online. This means being covered by Internet infrastructure that is sufficiently fast and reliable, and furthermore by electricity infrastructure to power digital devices. By 2023, 90 per cent of world population was covered by 4G mobile networks, double the share in 2015 (ITU, 2024). However, there is considerable variation in 4G deployment between

regions; while 4G is available to all in Eastern Asia and in Europe, only 54 per cent of people in sub-Saharan Africa live in areas covered by 4G+ networks (figure 1). Furthermore, mobile networks continue to evolve, with 4G being superseded by 5G technology - which covered 38 per cent of the global population as of 2023 (ITU, 2024). The widest roll-out was in Europe with 68 per cent of the population being covered, followed by the Americas (59 per cent) and the Asia-Pacific (42 per cent).

World **population covered** by mobile networks: **90% by 4G** and **38% by 5G**.

Figure 1. Ten per cent of people worldwide live outside 4G mobile network coverage

Distribution of population by mobile network coverage, by technology, 2021 (SDG 9.c.1)



Source: UNCTAD calculations based on ITU (2024).

Coverage alone is not enough

While 95 per cent of the world population are covered by mobile broadband (3G or above) networks, many other factors create a gap between those who *could* access the Internet and those who *do* use it. In 2023, two thirds of the world's population used the Internet, leaving 2.6 billion people offline. Furthermore, while almost all people in developed countries are online, only one third of those in the least developed countries (LDCs) use the Internet (ITU, 2023).

One key reason is that the costs involved in getting online can be prohibitive for many. In 2023, the annual cost of a mobile broadband subscription was equivalent to 5.1 per cent of per capita GNI in LDCs while a fixed broadband subscription equated to one sixth of GNI per capita (ITU, 2023) – both exhibiting a slight decrease compared to previous year. Given disparities in income distribution within countries, for many people connectivity will be even less affordable. Furthermore, the digital devices needed to access the Internet, such as smartphones, also need to be available and affordable.

Additionally, the skills required to use the Internet, to make orders online and to consume digital services, as well as awareness of the opportunities of the digital economy and digital trade, must be sufficiently widespread amongst the

2023 price of an annual subscription in LDCs: Fixed broadband 16.8% of GNI per capita, Mobile broadband 5.1% of GNI per capita.

population and especially among those working at firms that stand to benefit from digital transformation.

Speed matters

The speed of an Internet connection is a crucial determinant of the online activities that can be undertaken. The slowest connections may only support basic online communications, such as email and instant messaging, while faster connections can facilitate online activities such as accessing government and financial services, social media, and making online purchases. The digital delivery of services from suppliers domestically or abroad often relies on greater bandwidth to support high-quality video calls or streaming.

In many countries, fixed line technologies play a crucial role (alongside mobile) in delivering Internet connectivity. While fixed broadband is, in general, widespread in Northern America, Europe, Oceania and Eastern Asia, other regions have much lower subscription rates. Furthermore, the contracted speed of fixed broadband subscriptions varies considerably between regions (figure 2).



Figure 2. Slow Internet connection speeds limit engagement in the digital economy

Fixed broadband subscriptions per 100 inhabitants, by contracted speed, 2021 (SDG 17.6.1)



Digital technologies offer a vital opportunity for economic diversification

Digital technologies, including the Internet, underpin e-commerce - in which buyers place and sellers receive orders online. Additionally, they enable instantaneous remote delivery of services directly into businesses and homes. Both digitally ordered and digitally delivered transactions increasingly take place across borders. The possibility to engage in such digital trade offers new opportunities for the diversification of developing economies. Digitally deliverable services – those that can be delivered remotely over computer networks such as the Internet - now account for over half of all services

Digitally deliverable services account for over half of all services exports worldwide.

exports worldwide and grew especially during the disruptions caused by the COVID-19 pandemic (UNCTAD, 2024b), although exhibiting a slightly downward trend in recent years (figure 3).



Figure 3. Trade in digital services has sharply increased in importance, but with a noted recent slowdown



Exports of digitally deliverable services as a percentage of total services exports

Source: UNCTADstat (UNCTAD, 2024a) dataset on international trade in digitally-deliverable services. *Notes*: Digitally deliverable services are those that "can be delivered remotely through computer networks". The measure presented is an aggregation of insurance and pension services, financial services, charges for the use of intellectual property, telecommunications, computer and information services, other business services and audio-visual and related services.

Seizing the opportunities of digital trade requires not only investments in ICT connectivity but also actions to boost digital skills and awareness of the opportunities and risks associated with digital trade, measures to facilitate digitally ordered goods transiting the border, and regulatory actions to encourage digital payments, ensure privacy and data protection, and establish channels for recourse in case of loss or detriment related to digital trade (UNCTAD, 2022).

★ UNCTAD in Action ★

The rapid changes taking place as a result of widespread Internet access, increasing e-commerce, and other digital advances require new approaches to adapt to and maximize opportunities from these changes. UNCTAD is implementing several initiatives in response. "eTrade for all" (UNCTAD, 2020) has established a global partnership of 35 organizations working together to support an enabling environment for sustainable development through e-commerce. At the heart of this initiative is an online knowledge-sharing platform through which countries can navigate the technical and financial assistance offered by partnering institutions in key policy areas such as ICT infrastructure and services, payments, trade logistics, regulatory frameworks, skills development and finance.

UNCTAD has also finalized 36 eTrade Readiness Assessments in LDCs and other developing countries and regions, and developed 11 E-Commerce Strategies or Action Plans to serve as roadmaps of how e-commerce can support countries' strategic development goals (map 1). UNCTAD provides support for their implementation by fostering synergies among development partners, facilitating access to e-commerce capacity-building development solutions and monitoring implementation progress, which so far has been reported by 25 partner countries. These identify areas for action across various policy areas to increase countries' capacity to participate in and benefit from e-commerce. They help give countries the information and awareness to effectively formulate

their needs for development assistance related to e-commerce and to seek support for action from donors. UNCTAD also works with developing countries on e-commerce strategies and policies.



Another key area of action is on improving the measurement of the digital economy and digital trade. UNCTAD is a founding member of the Partnership on Measuring ICT for Development (ITU, 2020) and the UNCTAD Working Group on Measuring Ecommerce and the Digital Economy provides an international forum for countries to discuss measurement challenges. In 2020, UNCTAD published the revised Manual for the Production of Statistics on the Digital Economy (UNCTAD, 2021b), which provides guidance and specifications for key indicators to help countries with measuring the digital economy. In 2022, an online learning course was launched based on the manual. In response to member interest, UNCTAD is also focusing on measuring the value of e-commerce (UNCTAD, 2023b) through a Task Group bringing together interested countries and international organizations to develop measurement guidelines. UNCTAD also collaborates with the OECD, WTO and IMF on the Handbook on Measuring Digital Trade (OECD et al., 2023).

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Productive capacities analysis key to reducing vulnerabilities in graduating LDCs



The Bridgetown Covenant underscores UNCTAD's pivotal role in "formulating and promoting policies fostering productive capacities and structural transformation in developing countries" (UNCTAD, 2021a). These productive capacities are essential to achieving the SDGs in a comprehensive and integrated manner. They drive structural economic transformation, adding value to the economy, and leading to economic diversification, accelerated growth, greater resilience and ultimately faster poverty reduction and improved living standards, while ensuring environmental sustainability and social cohesion.

Productive capacities are defined as "the productive resources, entrepreneurial capabilities and production linkages, which together determine the capacity of a country to produce goods and services and enable it to grow and develop" (UNCTAD, 2006). This definition highlights the latent nature of productive capacities and indicates that measuring them is a complex task. However, UNCTAD has pioneered efforts in this measurement challenge.

No nation has ever developed without building the requisite productive capacities, which are key to enabling countries to achieve sustained economic growth with accelerated poverty reduction, economic diversification and job creation.

- UNCTAD Secretary-General Rebeca Grynspan.

An enhanced metric of productive capacities to facilitate sustainable development

To measure productive capacities, UNCTAD developed the multidimensional PCI which helps countries identify gaps and limitations in productive capacities (UNCTAD, 2024a). The PCI comprises eight categories – human capital, natural capital, energy, transport, ICT, institutions, private sector, structural change – measured by 42 indicators. Out of these 42 indicators, 11 directly relate to SDG indicators (table 1), illustrating the interdependence between the PCI and the SDG indicators. Moreover, the PCI shows a strong correlation with other conventional measures of economic and sustainable development (UNCTAD, 2024a).

In June 2023, UNCTAD released a second-generation PCI to enable countries to make more accurate diagnostics and measurements of their economic performance (UNCTAD, 2023b). This improved PCI can assist in shaping the formulation and effective implementation of sound policies. Available through a dedicated online portal, the PCI is accompanied by analytical publications, manuals, resources and tools. It maps the productive capacities of 194

economies over the period 2000–2022, offering a broader measure of development outcomes than other traditional benchmarks such as GDP (UNCTAD, 2024a). It emphasizes economic inputs and potential rather than just outputs, offering a comprehensive perspective on development.

The **PCI** covers **194 economies** over the period 2000-2022

Table 1. Eleven PCI indicators relate directly to SDG Indicators

PCI Categories*	SDG indicators included
Energy	7.1.1: Proportion of population with access to electricity
	7.2.1: Renewable energy share in the total final energy consumption
Human	9.5.1: Research and development expenditure as a proportion of GDP
capitai	9.5.2: Researchers (in full-time equivalent) per million inhabitants
	1.a.2: Proportion of total government spending on essential services (education, health and social protection)**
ICTs	17.6.1: Fixed Internet broadband subscriptions per 100 inhabitants, by speed
	5.b.1: Proportion of individuals who own a mobile telephone, by sex**
	17.8.1: Proportion of individuals using the Internet
Institutions	16.1.3: Proportion of population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months**
Natural capital	15.1.1: Forest area as a proportion of total land area
Transport	9.1.2: Passenger and freight volumes, by mode of transport

* Only PCI categories including SDG indicators are shown here. ** The SDG indicator is taken in a slightly different form in the PCI. *Source:* UNCTAD

Ensuring a high-quality PCI requires availability of reliable and harmonized source statistics that are consistent over time. In the years ahead, concerted efforts are necessary to improve data availability which calls for statistical capacity building, particularly in low-income countries.

PCI reveals weak productive capacities in LDCs considered for graduation

High-quality PCI requires reliable and harmonized source statistics that are consistent over time.

The PCI has been used to complement UNCTAD's vulnerability profiles for the five least developed countries considered for graduation at the 2024 triennial review of the Committee for Development Policy (CDP), namely Cambodia, Comoros, Djibouti, Senegal and Zambia. The PCI brings new insights into the conventional LDCs eligibility graduation criteria.

The analysis reveals that the productive capacities of the five examined countries slightly surpass those of other LDCs but significantly trail behind other developing economies. This gap is particularly evident in critical areas such as human capital, energy, ICT and institutions (table 2). Despite recorded GNI growth, sizable segments of these economies persist in a state of stagnation or underperformance, rendering them highly vulnerable to various shocks. This vulnerability underscores that crucial productive linkages within these economies are absent or have broken down.



Table 2. The five LDCs are lagging behind particularly in human capital, energy, ICT and institutions

PCI country scores for selected categories, 2022

Country 🖨	Overall 🖨	Human capital 🕈	Energy 🖨	ICT 🖨	Institutions 🔶	Structural Change
Djibouti	124	180	141	150	165	41
Senegal	138	155	157	136	94	68
Comoros	148	151	144	169	171	189
Cambodia	152	132	146	127	155	133
Zambia	161	164	169	174	130	111

Source: UNCTAD (2023b)

The diagnosis reveals a concerning trend where structural transformation in these economies has stalled or subdued with GNI increases failing to generate significant spillover effects. Moreover, economic growth is erratic, unsustainable, and lacks inclusivity. Notably, the GNI growth fails to adequately translate into poverty alleviation, inequality reduction or substantial employment generation, thereby resulting in HAI scores hovering just above the graduation threshold (table 3). Additionally, there is a looming risk of these economies falling into the "Middle-Income Trap" after graduating, emphasizing the need for targeted policy interventions and structural reforms to avert this scenario.



Table 3. The majority of countries eligible for graduation in 2024 barely exceed the HAI threshold

		Cambodia	Comoros	Djibouti	Senegal	Zambia
2024 Graduation threholds	Eligibility status	Met gra	duation crite	ria for the	first time in	2021
GNI per capita: \$1 306 or above	GNI per capita	\$1 590	\$1 603	\$3 238	\$1 558	\$1 113
HAI: 66 or above	HAI	77.8	68.7	66.9	66.7	71.4
	EVI	24.1	37	54.7	42.3	39.8

Source: UN DESA (2024)

Stalled structural transformation

The evidence of stalled structural transformation is stark, as indicated by the structural change category across the five studied LDCs. Comoros ranks 189th out of 194, Cambodia 133rd, and Zambia 111th, underscoring significant challenges in transitioning their economies.

In Djibouti and Senegal, their relatively better performance is primarily attributed to GFCF (figure 1), which has nearly doubled as a share of GDP since the early 2000s. However, the benefits of this investment remain limited due to a lack of diversification, with most capital concentrated in select sectors. Consequently, the absence of production linkages hampers the creation of spillover effects.



Source: UNCTAD calculations based on data from UNCTAD (2023a), United Nations (2023), UNSD (2023), and World Bank and OECD (2023)

In Djibouti, capital formation has largely focused on the transport sector, particularly trade and logistics services, with minimal spillage into other sectors (World Bank, 2018). Similarly, in Senegal, a substantial portion of fixed capital investment is directed to construction, with little emphasis on research and development or technological assets (IMF, 2022). This pattern reflects a broader issue of limited economic and export diversification, mainly reliant on primary products with limited value addition or transformation.

Signs of premature deindustrialization

Except for Cambodia, where the structural change score remains relatively stable, other countries' scores are adversely affected by significant declines in the industrial ratio, notably in the share of MVA. This trend signifies a phenomenon of premature deindustrialization, particularly evident in Zambia, where the decline in MVA outpaces that of other LDCs, LLDCs and SSA (figure 2).

Note: The indicators are standardized. The line y = 0 represents the average for all countries over the whole time period 2000-2023.



These challenges underscore the hurdles in initiating structural transformation and enhancing value addition and economic diversification through industrialization. Zambia's economy remains heavily reliant on the mining and export of copper, exacerbating the resource curse¹ marked by exchange rate fluctuations, governance issues, rents, and price volatility (UNCTAD, 2021b). The COVID-19 pandemic further exacerbated Zambia's economic woes, with the sharp decline in copper prices resulting in significant revenue loss from exports and ultimately leading to the country's default on external debt obligations.

Heightened vulnerabilities and informality as obstacles of structural transformation

Among the five LDCs under consideration, Cambodia stands out with a notable decline in agriculture's value-added share and a corresponding rise in manufacturing, primarily driven by export-led strategies. However, this export-oriented model, centered on low-skilled and labor-intensive manufacturing, like garments and footwear, faces limitations in achieving structural transformation (World Bank, 2023). Challenges include excessive trade deficits, high informality rates in the labor market, and vulnerability to external shocks due to concentrated exports and persistent deficits in international trade and the current account balance.

Moreover, high labor market informality hampers poverty reduction and limits social protection, impeding economic adaptability. Political and social pressures to maintain outdated production structures further hinder long-term economic development. Additionally, high dollarization curtails the government's ability to deploy effective monetary policies and stabilize the financial sector. High lending rates also constrain innovation, private sector growth, and structural transformation efforts.

Comoros faces significant challenges, marked by excessive trade deficits and remarkably high informality rates. The country's growth model relies heavily on household consumption and services, largely fueled by remittances from the Comorian diaspora, rendering the country highly vulnerable to external shocks (World Bank, 2020). Structural

transformation remains elusive, with Comoros ranking 189th in this category, indicating critical deficiencies, such as a pronounced lack of investment (figure 3).



Moreover, institutional weaknesses, reflected in Comoros' ranking of 171st in that category, are exacerbated by low government effectiveness, regulatory quality, and the rule of law. The country's ICT sector also suffers from underperformance, ranking 169th, attributed to exorbitant costs associated with utilizing ICT services, stemming from a dysfunctional monopolistic structure and market inefficiencies. These complex challenges underscore the urgent need for holistic interventions to bolster Comoros' economic resilience and foster sustainable development.

★ UNCTAD in Action ★

UNCTAD fosters productive capacities and structural economic transformation

Weak productive capacities lead to economic vulnerability to shocks, making the fostering of productive capacities crucial for socioeconomic resilience. Developing economies in the three regions have sought support for new policies focused on productive capacities and structural transformation due to past policy failures in delivering inclusive growth and sustainable development.

To this end, UNCTAD has developed a comprehensive programme on fostering productive capacities and structural economic transformation in support of developing economies. The project is structured around four main activities, co-led by UNCTAD and relevant ministries in the country:

1. Strengthen countries' statistical capacity for improving data collection on and measurement of productive capacities and related vulnerabilities.

- 2. Develop NPCGAs by applying PCI to identify gaps, limitations, and challenges to foster productive capacities, structural transformation, and economic diversification.
- 3. Formulate HPCDPs, which are holistic, economy-wide, and long-term roadmaps to address the gaps and facilitate the development of critical economic sectors based on comparative advantages.
- 4. Train policymakers, national technical experts, private sector entities, academia, and civil society stakeholders in addressing gaps in productive capacities and facilitating structural transformation and economic diversification.

HPCDPs have been designed for Angola, Ethiopia, Kenya, and Zambia and are being prepared for Malawi, Mozambique, Nigeria, and Zimbabwe. Moreover, the gaps in productive capacities have been assessed for Cambodia, Comoros, Djibouti, and Senegal, while a number of other countries, including Honduras, Jamaica, and Mongolia, have expressed interest in the programme.

Building on the HPCDPs and by applying the PCI, UNCTAD has finalized a new strategy for SIDS. The holistic UNCTAD strategy for SIDS is designed to effectively address the multiple and systemic vulnerabilities of SIDS by sustainably harnessing their comparative advantages and unlocking key binding constraints to their development. It articulates a new development approach in SIDS, combined with a revamped global partnership in support of their development efforts.

In 2022-2023, UNCTAD delivered five trainings to national statisticians from a wide range of ministries, organizations, and the academic sector, enabling them to compute and interpret the PCI scores and facilitating knowledge-sharing on statistical, methodological, and computational aspects of the PCI. In total, over that period, UNCTAD trained 140 national statisticians from 74 different institutions and civil society, with 21 per cent being women (Table 4).



Table 4. In 2022-2023, UNCTAD trained 140 people in five countries on the statistical aspects of PCI

Workshop		Participants		
National Capacity Building Training on Statistical, Methodological and Computational aspects of the Productive Capacities Index (PCI)	Year	Total	Women	Men
Nairobi, Kenya 14 – 15 March 2022	2022	35	11	24
Addis Ababa, Ethiopia 30-31 May 2022	2022	32	4	28
Abuja, Nigeria 13-14 September 2022	2022	35	4	31
Lusaka, Zambia 4-5 October 2022	2022	19	2	17
Lilongwe, Malawi 3-4 October 2023	2023	19	8	11
All PCI statistical trainings	2022- 2023	140	29	111

Source: UNCTAD

Notes

1. The resource curse describes the economic underperformance of countries rich in natural resources. It happens when a country heavily focuses on resource-dependent sectors, leading to dependency on commodity prices and hindering broader economic development.

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THEME 4

Sustainability and resilience

"Today, we stand at a critical crossroads. Biodiversity, the fabric of life on Earth, is declining at an alarming rate. The cost of inaction is staggering. The gravity of this biodiversity crisis demands immediate action."

– Ms. Rebeca Grynspan, UNCTAD Secretary-General, 25 March 2024.
World is not on track to reduce vulnerabilities and risks



SDG indicators

Goal 1: End poverty in all its form everywhere

Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

Indicator 1.5.1: Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population.

Indicator 1.5.2: Direct economic loss attributed to disasters in relation to global gross domestic product (GDP).

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities. Indicator 9.4.1: CO₂ emission per unit of value added.

Persisting increase in greenhouse gas emissions threatens development progress and future generations' opportunities to live in a sustainable world. Human well-being relies on air, water, land and ecosystems. Achieving the 2030 Agenda and the Paris Agreement requires protecting these resources (UNCTAD, 2021).

We must change course. Continuing the trajectory of climate change, biodiversity loss, pollution and ecosystems degradation will unravel progress on the SDGs, exacerbating hunger, poverty, conflict, disasters, and health crises. The COVID-19 pandemic and other crises showed the fragility of socio-economic progress in the face of shocks (WMO, 2023a). Without significant changes in our lifestyles and systems, we face severe environmental impacts. Developing economies, with limited capacity for natural resource management, disaster risk reduction, regulation, technology and financing, are particularly vulnerable.

Yet another record-breaking year with emissions

In 2023, climate change indicators hit new records: it was the hottest year ever, with temperatures 1.45°C (± 0.12°C) above the 1850-1900 pre-industrial average (WMO, 2024b). The alarm extends beyond rising temperatures. *"Unprecedented ocean warmth, glacier retreat and Antarctic sea ice loss, is cause for particular concern"* (WMO, 2024a). We are nearing the 2015 Paris Climate Agreement limits, which aim to keep temperature increases below 2°C from pre-industrial levels (UNFCCC, 2016). Efforts to stay below 1.5°C seem highly unlikely, though not impossible (Lamboll et al., 2023). UNEP (2022) warns that only an urgent system-wide transformation can achieve the necessary 45 per cent reduction in emissions by 2030 to limit global warming to below 1.5°C.

Despite efforts, greenhouse gas emissions continued to raise. In 2022, the atmospheric concentrations of the main greenhouse gases, carbon dioxide, methane and nitrous oxide, all reached new record highs – with estimates indicating continued growth in 2023 (WMO, 2024b). In 2023, total energy-related CO_2 emissions (representing roughly 80 per cent of all CO_2 emissions) increased by 1.1 per cent, far from falling rapidly to meet the Paris Agreement. The concentration of methane, which is 30 times more potent than carbon

Greenhouse gas emissions up by 1.4% in 2022 and **continue to grow**.

dioxide in global warming, saw its highest level in 40 years (WMO, 2023a); although its growth slowed down somewhat in 2022, it remained above 15 per cent (WMO, 2024b). Following a temporary 3.6 per cent decline in 2020 during the COVID-19 pandemic (figure 1), total emissions grew by 1.4 per cent in 2022 compared to 2021, reaching 53.8 Gt CO_2e , 2.3 per cent higher than pre-pandemic levels in 2019.



Figure 1. Huge cuts are needed, but greenhouse gas emissions continued to increase

Source: UNCTAD calculations based on EDGAR Community GHG database version 8.0 (European Commission and IEA, 2023) for CO_2 emissions & greenhouse gases and IEA (2024). *Note:* Emissions from land-use change are not included. The baseline year for the target path is 2016.

Energy prices stabilized in 2023, yet volatility increases vulnerabilities

Fuel prices surged in 2022, affected by the war in Ukraine and bans on gas and oil imports, reflected as several-fold increase of prices in August 2022. Prices stabilized at the beginning of 2023 (figure 2). This volatility caused significant struggles to households and businesses, setting back progress towards universal energy access as millions could no longer afford electricity (IEA, 2022). High fossil fuel prices also increased food prices and disrupted supply

Fuel and natural gas prices stabilized in 2023.

chains (see Trade, food security and agriculture). Although fuels and natural gas prices returned to mid-2021 levels, they remained slightly more volatile than food prices. A significant drop in natural gas prices at the start of 2024 may ease pressures on vulnerable populations.



Low-income countries most affected by disasters

Greenhouse gas emissions from energy use and other sources are driving the growing frequency and intensity of climate-related disasters. According to UNDRR (2023a), the rapid decline in biodiversity, land degradation, and water resource stress undermines the resilience of human systems, making it harder to cope with escalating disasters.

The number of recorded disasters has increased fivefold over the past 50 years (WMO, 2023b). Disasters are expected to continue expanding (UNDRR, 2022), along with their impacts on human lives. From 2013 to 2022, an annual average of 1 980 people per 100 000 were directly affected by disasters, a two-thirds increase from 1 169 in 2005-2014 (United Nations, 2024a).¹ Despite contributing the least to climate change (UNDRR, 2023a), low-income

70 per cent of disasters located in low-income countries.

countries have the most exposed populations; 70 per cent of the world's disasters occur in these countries (World Bank,

2023). LDCs, LLDCs and SIDS also suffer the highest disaster impacts (figure 3). In LDCs and LLDCs, the number of disaster-related deaths and missing persons (per 100 000 population) was 2.7 times the global average and in SIDS 2.13 times higher (UNDRR, 2024). As population growth continues, developing countries are projected to have even higher numbers of people affected (UNDRR, 2023a).



Figure 3. LDCs, LLDCs and SIDS continue to pay the heaviest human and economic toll of disasters

Source: UNCTAD calculations based on UNDRR (2024).

Disasters' impacts on human life also arise indirectly. From 2015 to 2022, over 100 000 critical infrastructure units, including schools and hospitals, were damaged or destroyed annually (UNDRR, 2024). More than 12 million educational, health, and basic services were disrupted in the same period (UNDRR, 2023b), averaging 1.6 million disruptions per year. The destruction of infrastructure, agricultural land, and productive assets results in loss of income and jobs.

Economic losses from disasters have more than doubled over the past three decades, from an average of \$70 billion per year in the 1990s to over \$170 billion per year in 2010–2020 (UNDRR, 2022). Since 2020, these losses have been compounded by the COVID-19 pandemic. Between 2015 and 2022, annual economic losses from disasters averaged 0.3 per cent of GDP globally, with LDCs facing losses of almost 2 per cent of GDP and LLDCs 1.2 per cent (figure 3) (UNDRR, 2024).

Droughts are particularly devastating. The Global Drought Snapshot 2023 highlighted an "unprecedented emergency on a planetary scale" due to humaninduced droughts starting to unfold (UNCDD and IDRA, 2023). Drought incidents have doubled in the past 40 years, with their geographic range expanding (UNDRR, 2023a). Rising temperatures and disrupted rainfall patterns have increased the number and duration of droughts by 29 per cent

At least **1.8 billion people** are drought stricken globally.

since 2000 (WMO, 2021a). Currently, 1.84 billion people are affected by drought in 101 reporting countries (UNCDD and IDRA, 2023) exacerbating water scarcity for 40 per cent of the world's population (WHO, 2023). In high-income

countries, extreme droughts reduce growth by a little less than half the impact felt in developing countries (World Bank, 2023). In 2022, 2.2 billion people lacked safely managed drinking water services (SDG 6.1.1) (United Nations, 2023). With rising temperatures droughts also increase food insecurity. Additionally, increased temperatures are estimated to decrease labour productivity by 50 per cent at 34°C, particularly affecting low-income countries relying on agriculture (UNDRR, 2023a). In late 2022 droughts, 23 million people in the Horn of Africa experienced severe food insecurity, with 5.1 million children acutely malnourished (WFP, 2023). In 2023, the same region suffered substantial flooding (WMO, 2024b).

Extreme weather events, such as heavy rainfall and cyclones, are causing increasing coastal and river flooding. Between 1970 and 2019, 31 per cent of economic losses were attributable to flooding (WMO, 2021b). Without adaptation measures, the value of assets exposed to coastal flooding could reach 12–20 per cent of global GDP by 2100 (Kirezci et al., 2020) and damage caused by riverine flooding with 2°C warming has been projected to increase by 170 per cent (Alfieri et al., 2017). Global flood damages due to sea-level rise (and related extreme events) could amount to up to \$27 trillion per year, or 2.8 per cent of global GDP by 2100 (Jevrejeva et al., 2018). For a related discussion, see chapter Transport resilience and sustainability.

Increasing efforts to track vulnerability and build resilience

Vulnerability is multidimensional, encompassing climate change, natural disasters, environmental conditions, biodiversity loss, and social and economic risks. In 2022, the United Nations General Assembly initiated efforts to develop the MVI to define vulnerability and support evidence-based policy response, especially to improve access to financing for vulnerable countries (UN-OHRLLS, 2023). Initial results indicate that high structural vulnerability and lack of resilience are not significantly associated with low income level (UN-OHRLLS, 2024).

Globally, **52% of countries** were covered by **MHEWS** by October 2023.

The world is not on track to fully realise its potentials to reduce vulnerabilities and risks, as measured by progress within the Sendai Framework for Disaster Risk Reduction (UNDRR, 2015). Countries are increasingly recognizing the importance of disaster preparedness and risk management: the number of countries that have adopted and implemented national disaster risk reduction strategies (Sendai Framework Target E) disaster risk reduction strategies, following UNDRR (2019) guidance, has more than doubled from 55 countries in 2015 to 129 countries in 2023. In the meantime, 104 countries established coverage of multi-hazard early warning systems in 2023, representing 53 per cent of all countries in the world (Sendai Framework Target G, map 1). However, less than half of LDCs (20 out of 45 countries) reported having MHEWS, compared to 19 LLDCs (59 per cent) and 14 SIDS (out of 37 reporting SIDS). Despite gaps, the number of LDCs (11 in 2015), LLDCs (9) and SIDS (5) with MHEWS has doubled or tripled since 2015.

Early warning systems are crucial for preventing loss of life as they provide timely and accurate information, enhance communication and monitoring, and offer protocols for disseminating warnings and evacuation orders. Secretary-General António Guterres's Early Warning for All (EW4ALL) Initiative, launched in 2022, called for close collaboration among UN entities in a global effort to protect everyone on Earth under early warning systems by 2027 (United Nations, 2024b).



Map 1. 104 countries reporting having Multi Hazard Early Warning Systems, as of October 2023



Source: UNDRR (2024)

Note: The countries shown in grey on the map could have either i) reported a 0 score, indicating they do not have a MHEWS in place; or ii) they never reported, and may not have such a system in place; iii) they never reported, but may actually have some sort of an early warning system in place; or iv) are dependent territories and detailed data on the existence MHEWS have not been provided.

Over 400 million people in LDCs and SIDS now have access to better predictions and warnings for floods, drought, heat waves, and tropical cyclones (UNDRR, 2023c). However, progress remains insufficient, with 62 million people in the last two decades living in countries without operational early warning systems. UNCTAD's Remoteness Index (UNCTAD, 2022) shows that geographically remote countries need digital and physical infrastructure investments to ensure connectivity and effective hazard monitoring.

62 million people previously affected by disasters still without operational early warning systems.

Many remote and developing countries struggle to meet adaptation and mitigation objectives due to financial constraints. These countries are increasingly facing climate-related loss and damage. UNCTAD welcomes the establishment of a Loss and Damage Fund (Loss and Damage Fund, LDF) (UNFCCC, 2023), which should provide new, additional, predictable, and adequate financial resources to assist vulnerable developing countries (UNCTAD, 2023a). This includes funding for rehabilitation, recovery, and reconstruction to address climate change impacts, including from extreme weather events and slow onset processes (UNCTAD, 2023b). In 2019, the projected costs for loss and damage in developing countries were as high as \$435 billion in 2020, expected to reach \$580 billion in 2030 (Markandya and González-Eguino, 2019) – figures that may now be vastly underestimated due to pandemic impacts and inflation. UNCTAD estimates the need for initial funding of \$150 billion a year from the Fund, considering the \$109 billion in estimated loss and damage costs for developing countries in 2022. Parties should aim to progressively increase annual replenishment targets, aiming for \$300 billion by 2030 (UNCTAD, 2023b).

Note

1. These numbers do not consider people affected by the COVID-19 pandemic.

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Decreasing carbon intensity and increasing sustainability reporting positive signs for sustainable economy



SDG indicators

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resourceuse efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Indicator 9.4.1: CO₂ emission per unit of value added.

Goal 12: Ensure sustainable consumption and production patterns.

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse. Indicator 12.5.1: National recycling rate, tons of material recycled. Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. Indicator 12.6.1: Number of companies publishing sustainability reports.

Over the last few decades, global economic growth has been accompanied by rising greenhouse gas emissions, disproportionately affecting the most vulnerable populations, see Resilience at risk. The Bridgetown Covenant (UNCTAD, 2021a) emphasizes the need to decouple economic growth from environmental degradation and greenhouse gas emissions. It advocates for promoting sustainable energy and providing developing countries access to environmentally sound technologies, as key strategies for implementing the 2030 Agenda and achieving a sustainable economy.

Carbon intensity reduced in 2022. All regions: -2.6%. Developing Americas: -10.4%.

Large regional differences in carbon intensity remain

While emissions continue to rise, reductions in carbon intensity are starting to offset increasing consumption and population growth. Despite significant regional differences in carbon dioxide emissions intensity, all regions have seen notable reductions since 1990 (figure 1). Developing Asia, while still the most carbon-intensive region, has achieved a significant 76 per cent reduction in CO_2 intensity since 1990.



Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a) and EDGAR Community database version 8.0 (2023) for CO₂ emissions (Crippa et al., 2023). *Note:* Emissions from fuels burned on ships and aircrafts in international transport are not included.

Global carbon intensity decreased by 63 per cent from 1990 (998 g/\$) to 2022 (371 g/\$), indicating that CO_2 emissions have grown more slowly than GDP. Europe was the only region where total annual fossil CO_2 emissions were lower in 2022 than in 1990, by 27 per cent (Crippa et al., 2023). In contrast, emissions in China and India were 5.3 and 4.5 times higher than their respective 1990 levels (map 1).

Carbon intensity (grams of CO₂ per unit of GDP measured by United States dollars)

If all regions were able to reduce their carbon intensity of GDP to around 200 g/\$, global annual emissions would be nearly halved. The high carbon intensity in some developing regions highlights the need to support them in building sustainable infrastructure and adopt lower-carbon technologies to enhance energy efficiency and phase out polluting energy generation methods (UNCTAD, 2021a para 71). The higher carbon intensity in developing regions is partly driven by other regions' demand for carbon-intensive final products. Developed economies generally have higher demand-based CO₂ emissions production-based emissions, making them net importers of CO₂ emissions, while most developing economies are net exporters (Wiebe and Yamano, 2016). As environmental policies vary by country, companies may relocate carbon intensive production processes globally, leading to "carbon leakage" (Lanzi et al., 2013; Borga et al., 2022). To prevent this, setting global environmental standards is crucial.

Positive, but diverging trends in the clean energy transition

In some areas, the clean energy economy is emerging fast. In 2023, global renewable power capacity grew by 13.9 per cent, accounting for 86 per cent of net capacity expansion. Electric car sales increased by 55 per cent in 2022, reaching over 10 million. Electric cars, including battery electric vehicles and plug-in hybrids, made up 18 per cent of global new car sales in 2023, a 35 per cent year-on-year increase, and their sales could increase to over 20 per cent in 2024 (IEA, 2024).

Despite positive developments in renewable energy investment, further efforts are needed. In 2022, investment in clean energy technologies reached a record high of \$1.8 trillion (in 2022 dollars) (IEA, 2023). By 2030, this amount would grow to more than \$2 trillion under the IEA's Stated Policy Scenario. However, achieving the 1.5°C target requires an annual investment estimated at \$4.3 trillion, leaving us with barely half of the required levels.

14 million electric cars were sold globally in 2023, a **+35%** y-o-y increase.

Renewable energy investments are highly unequally distributed across regions (figure 2). Of the 473 GW of global additional net renewable capacity installed in 2023, only 2.7 GW was installed in Africa, less than one per cent of world total capacity added. Investments are strongly concentrated in China, Europe, and the United States of America (IRENA, 2024), accounting

for two thirds of installed renewable capacity in 2023, a share which has grown every year since 2014. Annual growth in renewable energy capacity in these three markets reached 18 per cent in 2023, up from 10 per cent on average between 2014 and 2020. In contrast, in Africa growth peaked in 2017 before falling to 5 per cent in 2023. This highlights challenges in Africa, such as immature financial markets, high capital costs, and lack of pricing benchmarks which impede investment in renewable energy and a just energy transition.

Figure 2. After a boost in 2017 and 2018, growth in renewable energy capacity in Africa has remained slower than in China, Europe and the United States of America

Year-on-year percentage increase in MW of renewable energy capacity

While developing countries are progressing in renewable energy capacity, LDCs and LLDCs lag far behind. From 2011 to 2021, developing countries increased their renewable energy capacity from 109.7W per capita to 268W. From 2015 to 2020, the compound annual growth rate of renewable energy capacity was 9.5 per cent in developing countries, compared to just 5.2 per cent in LDCs and 2.4 per cent in LLDCs (UNCTAD, 2023a).

Global standardization encourages growth in sustainability reporting, but lack of interoperability in national reporting remains a challenge

Target 12.6 is the only SDG target focused on the contribution of businesses to sustainable development, while innovation and technological change driven by companies can be crucial for progress. UNCTAD and UN Environment are the custodians of SDG indicator 12.6.1 on the number of companies publishing sustainability reports developing reporting standards, supporting companies and collecting data. Sustainability reporting is a tool for businesses to communicate their contribution and allow investors and customers to recognize and reward firms that protect people and the planet (UNCTAD, 2021a). A current trend in sustainability reporting is the development of ESG-related disclosure regulation to encourage and support enterprise sustainability reporting (IFRS, 2024; Ethics Board, 2024; IAASB, 2024)¹.

The European Commission (2023) adopted new standards and several developing economies are introducing measures requiring financial institutions and companies to report on sustainability, including carbon emissions. However, inconsistencies in national sustainability reporting requirements remain a challenge (UNCTAD, 2023a).

UNCTAD² and partners assist member States in improving the quality and international comparability of corporate financial and sustainability reporting (UNCTAD, 2024b). A preliminary analysis of over 10 000 companies finds that 73 per cent of

companies in the sample published sustainability reports in 2022, more than doubling their number since 2016 (Refinitiv, 2024), with growth observed in all regions (figure 3). Latin America, Africa, and Oceania showed continuous progress, while Europe, Asia, and North America maintained the largest share of companies reporting on sustainability, supported by established national and regional regulations.

73% of companies with available data published sustainability reports.

Growth in number of company reports (SDG 12.6.1)

According to KPMG (2022), globally, 96 per cent of the 250 largest businesses reported some sustainability information, and among 100 largest businesses in 58 countries 71 per cent did the same. As governments extend requirements to SMEs, they will need technical assistance particularly in developing countries. International support and capacity-building based on UNCTAD Guidance can assist companies, including SMEs, in establishing reporting practices (UNCTAD, 2023b).

In 2022, the manufacturing and finance and insurance sectors had the highest number of companies publishing sustainability reports, while the agricultural sector saw the biggest increase from 2016 to 2022. Environmental and governance dimensions are more commonly reported than social dimensions. Commonly disclosed environmental indicators included water, emissions, and energy efficiency, while governance disclosures often cover board gender diversity, board meetings, bribery and corruption. Over 80 per cent of reports in the social dimension refer to human rights, diversity and opportunity, and health and safety.

Stock exchanges are pivotal in navigating ESG disclosure standards. The number of stock exchanges with written guidance on ESG reporting grew from fewer than ten a decade ago to 69 – more than half of the world's stock exchanges – in 2022. Those providing training on ESG topics increased from 61 in 2021 to 81 in 2022. The number of markets with mandatory ESG disclosure rules rose to 34 in 2022, up from 30 the year before. These trends support SDG 12.6, which aims to integrate sustainability reporting into the annual corporate reporting cycle (UNCTAD, 2023a).

Source: UNCTAD and UNEP calculations based on Refinitiv (2024). *Note:* Preliminary data from a sample of 10 310 companies included in the above-mentioned database.

Innovation, recycling and circular economy to change the paradigm

The extraction and processing of materials, fuels, and food contribute to half of total global greenhouse gas emissions and over 90 per cent of biodiversity loss and water stress (UN Environment, 2019). This necessitates alternative economic models to use natural resources innovatively in production processes to reduce greenhouse gas emissions, pollution, and waste. The UNECE and OECD guidelines (2023) define one such model: circular economy. They propose core indicators, including material consumption, waste generation, circular material use rate, recycling rate, greenhouse gas emissions from

Less than 50 countries globally report their national recycling rate, but show significant increases in 5 years.

production activities, pollutant discharges, and investment in waste management, and research and development on circular economy.

Recycling is a key strategy within the circular economy, focusing on recovering and reusing materials from products that have reached the end of their lifecycle. SDG indicator 12.5.1 on national recycling rate is a key measure in this regard, however, it is not yet available for all countries. A preliminary analysis of 43 reporting countries shows significant progress on municipal waste recycling rate over time (figure 4). Over 40 per cent of these countries more than doubled their recycling rate between 2006 and 2021. In Eastern Europe, recycling rates were over four times higher on average in 2021 than 2006, while Southern European economies saw a 64 per cent increase. In Western Europe, the increase was slower, but rates reached an average of 56 per cent, while Northern European countries reached 37.3 per cent. Outside Europe, recycling rates were only reported by some economies, such as Algeria, Argentina, Ghana, Malaysia, Nepal, Peru, Thailand, Türkiye, and Uzbekistan.

Figure 4. Recycling rates increasing in reporting European countries

Source: UNCTAD calculations based on UNEP, UNSD and UNITAR data as published in the SDG Global Database (United Nations, 2024).

Note: For some years the reported data are national estimates or provisional values, especially for 2020 and 2021.

The use of circular materials, namely materials recycled and reintroduced into the economy, is increasing, particularly among developed economies. For example, in the European Union, the circular material use rate increased from 8.2 per cent

in 2004 to 11.5 per cent in 2022 (Eurostat, 2024). Countries like the Netherlands, Belgium, France and Italy lead, recycling and reusing more than one sixth of all materials in their economies. Conversely, nearly one third of EU countries still have a circular material use rate below 5 per cent.

IMF (2021) has identified 124 low carbon technology products, manufactured using technologies that result in low CO₂ emissions and renewable energy technologies, such as solar, wind, hydro and sustainable biofuel, as well as energy storage and transformation. Leading exporters of these low carbon technology products include China, Denmark, the United States of America, Japan, and the United Kingdom. Some of the most exported low carbon products, in value terms, include electric vehicles, optical and measurement devices, solar cells and panels, low carbon manufacturing machinery, lithium batteries, and electrical circuit boards.

An UNCTAD report (2023c) highlights both barriers to trade of low carbon technology products, based on an analysis of tariff data, and opportunities to enhance such trade. Reducing and eliminating tariffs, as well as simplifying and harmonizing non-tariff measures could facilitate the trade of these crucial technologies.

★ UNCTAD in Action ★

High demand for capacity building on enterprise sustainability reporting

UNCTAD has developed an Accounting Development Tool to help countries voluntarily assess their accounting and reporting infrastructure against international requirements for high-quality corporate reporting, including financial, environmental, social, and governance issues. The tool fosters dialogue among stakeholders in the reporting supply chain, crucial for successful accounting and sustainability reporting. UNCTAD's Guidance (2022) contains 34 indicators for SDG impact reporting covering economic, environmental, social, and institutional areas and practical guidance for consistent SDG monitoring in the corporate sector.

UNCTAD conducts Accounting Development Tool assessments in developed and developing countries. By 2023, 23 such assessments have been completed in 18 countries. Some countries have repeated assessments to quantitatively track progress in accounting reforms, showcasing the tool's role in monitoring and policymaking. In four countries assessment recommendations were transformed into detailed 5-year action plans to develop high quality sustainability reporting. Additionally, 36 case studies tested the application of these core SDG indicators in companies from 20 countries and 27 industries, encompassing listed companies, SMEs, and family businesses.

UNCTAD has conducted 13 training workshops in six languages with 2605 beneficiaries from 47 countries. UNCTAD's e-learning courses launched in December 2021 in English, French and Spanish reached 370 participants from 107 countries in the first month.

Two Regional Partnerships for sustainability reporting have been established with UNCTAD. The African partnership consists of 60 members from 26 countries, while the Latin America partnership includes 30 members from 15 countries. Additional partnerships are being launched in Asia, Eurasia, and the Gulf States. These partnerships advance sustainability reporting by sharing experience, raising awareness and influencing national policies. For instance, in 2022 Uruguay launched a national alliance for sustainability reporting involving public and private sectors and civil society. UNCTAD is currently working on launching a regional partnership in Asia.

Notes

- 1. In January 2024, the ISSB issued IFRS S1 and IFRS S2 standards, requiring organizations to disclose information about governance and strategy, and metrics and targets for material sustainability and climate-related risks and opportunities. The ISSB aims to become the global standard for sustainability reporting, if securities regulators adopt it in disclosure regulations. Multiple jurisdictions have already announced their decisions to adopt the ISSB Standards (IFRS, 2024). This year IESBA launched a public consultation on new ethical benchmarks for sustainability reporting and assurance to combat greenwashing and enhance the quality of sustainability information (Ethics Board, 2024). In August 2023, the IAASB proposed the International Standard on Sustainability Assurance (ISSA) 5000, designed as a comprehensive, standalone standard for any sustainability assurance engagements (IAASB, 2024). In July 2023, the European Commission adopted the ESRS for use by all companies subject to the CSRD (European Commission, 2023).
- 2. UNCTAD assists member States with partners through its Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting.

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Oceans, plastics and biotrade offer opportunities, challenges remain

The Bridgetown Covenant (UNCTAD, 2021a) recognises the importance of conservation and sustainable use of oceans, seas and marine resources, including addressing the discharge of plastic litter and other waste in oceans and significantly reducing marine pollution of all kinds and ensuring sustainable consumption and production patterns. It also calls for greater understanding of the ocean economy, as initially defined by UNCTAD (2019).

Ocean economy provides livelihoods for millions

The value of the ocean economy is estimated between \$3 and \$6 trillion and is expected to double by 2030 (UNCTAD, 2023b). It provides at least 150 million direct jobs, including in activities like fishing, aquaculture, shipping, tourism, offshore wind energy, oil and gas, mining and marine biotechnology (UNCTAD, 2023b). Unfortunately, the health of our oceans has reached a tipping point. They are key to the wellbeing of people and the planet as they cover over 70 per cent of earth's surface and are home to 50-80 per cent of life on earth (NASA, 2019). We need a change of course in how we protect the ocean and marine resources from the threats of climate change, plastic and other pollution, and from overfishing. The ocean economy is central to global food security and people's livelihoods.

In 2022, the value of ocean goods and services exports reached almost \$2 trillion (figure 1). Developed economies accounted for 57 per cent of ocean trade. The COVID-19 crisis showed the potential and resilience of some sectors and revealed the vulnerability of others. Services made up over 60 per cent of global ocean exports before the pandemic. In 2022, the growth of ocean services has been remarkable. The value of exports surpassed pre-pandemic levels and hit a new record high at almost \$1.2 trillion. Exports of ocean-based goods showed remarkable resilience during the crisis, rising by 18 per cent in 2021 compared to 2020, and remained stable during 2022.

In 2022 ocean services exports hit **new record** high, surpassing pre-pandemic levels

Figure 1. Exports of ocean services hit a new record high in 2022, surpassing pre-pandemic levels

Source: UNCTAD calculations based on UNCTAD stat (UNCTAD 2024a) Note: Refers to ocean economy goods and services as classified by UNCTAD (2021c) based on HS codes and EBOPS-10 Classification.

The two largest components of ocean services are freight transport and maritime and coastal tourism. Together, they made up 88 per cent of total ocean service exports. Freight transport reached a new high in 2022, while tourism significantly recovered, increasing by 99 per cent in 2022 compared to 2021, although it has not yet returned to pre-pandemic levels (figure 2).

Ocean economies in LDCs and SIDS still recovering from the pandemic

Asia was the largest exporter of ocean goods and services with \$706.6 billion in 2021, followed by Europe at \$664.3 billion, and the Americas at \$198.7 billion (figure 3). Africa and Oceania were significantly smaller exporters. Most regions saw high growth rates in 2021 as the ocean economy recovered from the pandemic, with over 20 per cent increases for the top three exporter regions. In contrast, Africa's exports increased by only 1 per cent and Oceania's decreased by nearly 10 per cent in 2021. The COVID-19 pandemic hit hard ocean exports for LDCs and SIDS, with ocean services exports, like tourism, remaining significantly below pre-pandemic levels by nearly 60 per cent for LDCs and 14 per cent for SIDS.

Note: Data refer to ocean economy goods and services as classified by UNCTAD (2021c) based on HS codes and EBOPS-10 Classification.

Among developing economies, China was the leading exporter in the ocean economy. The top five developing economy exporters also included Singapore at \$80.8 billion, India at \$40.1 billion, Türkiye at \$30.6 billion and Mexico at \$30.0 billion (figure 4), all with a notably large share of ocean service exports. Northern America drove the expansion of global service exports, almost doubling their value in 2022. Remarkably, Africa saw substantial growth in services exports, with a 50 per cent increase compared to 2021.

China (\$151 billion), Germany (\$77 billion), Republic of Korea (\$37 billion), United States of America (\$53 billion) and Japan (\$35 billion) are the leading exporters of ocean goods. Map 1 presents the bilateral import and export flows of ocean goods, allowing exploration of ocean trade flows between the top three partners for selected economies.

High seaweed potential for nutrition security and environmental sustainability

The increasing unsustainable use of marine resources for economic activities, combined with climate change, biodiversity loss, and pollution, continues to challenge the health of oceans, seas and coasts (UNCTAD, 2020b). Balancing the preservation of marine biodiversity with providing food security and stable incomes for developing countries is more challenging than ever. However, diversifying the types, sources, and uses of marine resources can be a key strategy towards sustainability.

Seaweed offers an important opportunity for ocean economic and environmental sustainability (UNCTAD, 2024b). Algae, including seaweeds and microalgae, contribute nearly 30 per cent (wet weight) of world aquaculture production (FAO, 2021). They generate sustainable livelihoods for small-scale farmers and harvesters and potentially play a crucial role in mitigating climate change. Seaweed production requires fewer resources and production inputs, and its export faces lower barriers to market entry than traditional fisheries. Seaweed is highly versatile with applications ranging from human food consumption, including as functional food, to bio-fertilizers, cosmetics, pharmaceuticals, bio packaging, plastic substitutes and biofuel. It offers a growing market opportunity for developing economies and has great potential to empower women along the value chains.

The global market for seaweed has more than tripled in the last two decades, growing from \$5 billion in 2000 to \$17 billion in 2021, with global exports representing almost \$1 billion in 2021 (UNCTAD, 2024b). Seaweed cultivation increased a thousandfold since 1950 (FAO, 2021), reaching over 35 million tons in 2021 (live weight) (FAO, 2024).

Huge sustainability potential of **seaweed market**, **+240%** in the last 2 decades.

The seaweed industry shows large regional differences, with Asia dominating production. The Republic of Korea, China, and the Philippines are the leading exporters of seaweeds and other algae in the region. Chile and Ireland are among the top 5 exporters worldwide in 2022. Although Asia is a major importer of seaweed, the top ten importers are located outside the region, indicating a significant potential for regional market diversification.

Recent marine agreements show promise for ocean protection. In June 2023, member States formally adopted the High Seas Treaty, a historic agreement to protect marine biodiversity in international waters, after nearly two decades of negotiations. Given that the "high seas" constitute two-thirds of the ocean, this treaty, upon ratification, will provide vital protection against pollution, overfishing and habitat destruction in these critical areas. To support these and other crucial efforts, UNCTAD (2023b) calls for a "Blue Deal" on trade and finance to accelerate the implementation of SDG 14, identified as the least funded goal of the 2030 Agenda. The "Blue Deal" would address transparency and a reform of non-tariff measures and fishery subsidies, social sustainability of aquaculture value chains, sustainable and resilient maritime transport, and reduced marine litter and plastic pollution.

Despite 2022 slowdown, plastics trade continues to grow

Plastic is pervasive in our environment, found on land, in oceans, Arctic ice, and even in the air, water, and food we consume¹. According to research by Reddy and Lau (2020), an estimated 11 Mt of plastic enter the oceans annually. Without urgent action, this amount could triple in the next twenty years, reaching an estimated 23 to 37 million metric tons annually (UNEP, 2021). The societal cost of plastic pollution, emissions, and clean-up from plastics produced in 2019 alone could be as high as \$3.7 trillion, exceeding India's GDP (WWF, 2021).

According to UNCTAD's (2024a) data, global exports of plastics, or plastic goods² have more than doubled in value since 2005, reaching over \$1.2 trillion in 2022 (figure 4). This value is comparable to the total merchandise exports of China, the United States of America, or Germany, and is 2.4 times the GDP of the United Arab Emirates, host of the 2023 CoP28 climate summit. The volume of plastic exports grew from 218 Mt in 2005 to 344 Mt in 2022. To illustrate, it would take 17.2 million trucks, each carrying 20 tons, to deliver the 2022 global plastics exports to their destination, if carried on road.

17.2 million trucks would be needed to deliver all **2022 global plastic exports**, if carried on road.

Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a). Note: Data refer to plastic products and products containing plastics as identified by UNCTAD (2024c) jointly with the Forum on Trade, Environment & the SDGs (TESS) at the Geneva Graduate Institute, based on HS codes.

While a few key countries dominate trade across the plastics value chain, many countries participate actively as both importers and exporters of plastic products, leveraging plastic to integrate into global value chains and enhance export value (Barrowclough et al., 2021). In 2022, Asia and Oceania accounted for more than half of global plastics exports totalling 202 Mt, with Europe contributing 27 per cent and the Americas 12 per cent (a significant drop from 21 per cent in 2021). African economies represented less than 1 per cent of global plastics exports (figure 5). Conversely, plastics imports were

Over half of global plastics exports from Asia and Oceania (202 million Mt).

slightly less concentrated than exports: Asia and Oceania received 41 per cent (130 Mt), Europe 33 per cent, and the Americas 22 per cent of global plastics imports. Africa, a net importer of plastics, accounted for a share of 4.8 per cent in global plastics imports.

Plastics trade comprises a significant share of global goods trade, representing almost 5 per cent of total merchandise exports in 2022 (map 2).

Percentage of plastics exports in total exports

Note: Data refer to plastic products and products containing plastics, as identified by UNCTAD (2024c) jointly with the Forum on Trade, Environment & the SDGs (TESS) at the Geneva Graduate Institute, based on HS codes.

Plastics exports remained relatively resilient during the COVID 19 pandemic and grew significantly in 2021. Although there was a slowdown in 2022, the growth in plastics exports remained noteworthy compared to 2019 (+7.2 per cent, see figure 6). The main drivers of this growth were manufactured plastics products, which increased from one-fourth of all exports in 2019 to one third by 2022. Primary forms of plastic still constituted the largest share, accounting for 48 per cent of all plastics exports at 164 Mt in 2022. In 2019, prior to the COVID-19 pandemic, this figure was 55 per cent.

Figure 6. Half of global exports of plastics consist of primary forms, but manufactured plastics is booming

Note: Data refer to plastic products and products containing plastics as identified by UNCTAD (2024c) jointly with the Forum on Trade, Environment & the SDGs (TESS) at the Geneva Graduate Institute, based on HS codes,

Analyses of different plastics product types, as above, increase transparency and help to set baselines for policy commitments. UNCTAD's plastics data (2024a) provide important insights, enabling detailed analysis of international trade over the life cycle of plastics - from the raw materials to the trade of final products and plastic waste - by product type, destination and source. These data can contribute to informing the development of the international legally binding instrument on plastic pollution, including in the marine environment, which UN Member States are committed to finalizing by 2024 (United Nations, 2022).

Plastic waste trade data reveal global imbalances

About 75 per cent of all plastic ever produced has become waste (UNCTAD, 2021d), a trend likely to continue without binding global regulations. The surge in international plastics trade may indicate an increasing influx of plastic into our oceans. Despite efforts to reduce international plastic waste trade, developed economies remained net exporters of plastic waste (figure 7) accounting for over 80 per cent of global plastic waste exports in 2022, and 68 per cent of global plastic waste imports (UNCTAD, 2024a). However, the volume of plastic waste exports has declined over the past decade from 15.3 Mt

in 2012 to 5.6 Mt in 2022, a decrease of 63 per cent. This decline was largely influenced by China's decision to ban imports of most plastic waste in 2017 (National Geographic, 2018). China was previously the main importer of plastic waste, as well as the largest producer.

Figure 7. Developed economies continue as net exporters of plastic waste globally

In 2022, **over 80% of plastics waste** exports from developed economies.

Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a). Note: Data refer to plastic products and products containing plastics as identified by UNCTAD (2024c) jointly with the Forum on Trade, Environment & the SDGs (TESS) at the Geneva Graduate Institute, based on HS codes.

Plastics have a disproportionate impact on vulnerable communities. Exporting plastic waste to developing economies lacking adequate infrastructure for environmentally sound waste management can lead to increased burning of plastics, releasing greenhouse gases, and the spread of microplastics that harm ecosystems.

To mitigate these impacts, industries, businesses and consumers can shift towards reusable, biodegradable, and compostable plastic substitutes, such as natural fibres, agricultural waste, glass, and aluminum. UNCTAD has identified 282 HS subheadings (6-digit level) for materials and products that can serve similar functions, as sustainable alternatives to plastics. Sustainable materials like bamboo, hemp, sand, and algae offer eco-friendly alternatives and present growing trade opportunities, especially for developing economies. In 2022, global trade in plastic substitutes amounted to approximately \$557 billion. Around two-thirds of global exports of plastic substitutes consist of raw materials, primarily sourced from developing countries (UNCTAD's calculations based on UN Comtrade Database (2024)).

Trade of biodiversity-based products is increasing with large regional discrepancies

Our planet faces a triple planetary crisis of climate change, pollution, and biodiversity loss, posing serious threats to society's future (UNEP, 2024). Biodiversity is essential for human livelihoods, providing nutrition, wellbeing, and health. This dependency is especially crucial in rural areas where 84 per cent of the world's poor and vulnerable live (UNDP and OPHI, 2023). Biodiversity today reflects 4.5 billion years of evolution, increasingly impacted by human activities over time (UNEP, 2020), and biodiversity is currently declining at an unprecedented rate in human history (UNEP, 2019b).

In the last 50 years, global GDP has doubled, and natural resource consumption more than tripled (UNEP, 2019a). The extraction, processing and consumption of materials, fuels and food contribute over 90 per cent of global biodiversity loss. Consumption patterns are markedly unequal globally, with rich countries using six times more resources and generating ten times the climate impacts compared to low-income countries (UNEP, 2024). Unsustainable resource use is driven by various social and economic factors, including global trade. Production impacts occur where goods are physically produced, while consumption patterns affect environmental impacts throughout the supply chain and in regions where the goods and services are consumed. This disparity highlights the environmental impacts embodied in international trade (UNEP, 2024). While trade can exacerbate unsustainable resource use, it also holds potential to promote biodiversity conservation, sustainable resource utilization, and more equitable distribution of trade benefits (UNCTAD, 2024d).

According to UNCTAD's data, the global value of exports of biodiversity-based goods reached \$3.4 trillion in 2022, slightly down from 2021 figures (figure 8). The conservation, sustainable use, and trade of these goods provide countries with valuable opportunities for economic development and improvement of livelihoods. This trade showed resilience during the COVID-19 pandemic, growing until 2021 and recording a moderate slowdown in 2022. The Americas, particularly South America, and to a lesser extent North America, were the only regions to record an increase in the value of biodiversity-based products' exports, with a 7.8 per cent growth from 2021 to 2022. Despite a moderate downturn, Europe continued to lead exports of biodiversity-

based products, totaling \$1.75 trillion in 2022, accounting for more than half of global biodiversity-based products' exports in 2022. Asia, however, saw a significant decline of over 31 per cent in these exports in 2022, dropping from nearly \$10 trillion to \$6.85 trillion. LDCs were most affected by this slowdown, experiencing a 56.4 per cent drop in biodiversity-based good exports in one year. In African countries, exports of biodiversity-based products continued to play a marginal role globally but were increasingly significant in the region as a share of commodity exports. Biotrade as a percentage of total trade has increased constantly, from 14.8 per cent in 2010 to 19.2 per cent in 2022.

Based on available data, three largest exporters collectively accounted for almost 28 per cent of global exports of biodiversity-based products: in 2022, exports by the United States of America were valued at \$332.9 billion, followed by China at \$318.41 billion and Germany at \$286.9 billion. Most of the top ten exporters are European countries, including the Kingdom of the Netherlands, with a share of 5.3 per cent of global exports, France (4.9 per cent), Italy (4.8 per cent), Spain (3.3 per cent) and Switzerland-Liechtenstein (3.2 per cent). Brazil (4.7 per cent) ranked seventh in 2022, and Canada eighth (3.2 per cent). India also secured a position in the global top ten with a share of 3.2 per cent of global biodiversity-based trade.

Trade of biodiversity-based products delivers essential goods across the world

UNCTAD developed the Trade and Biodiversity (TraBio) statistical tool and related TraBio product classification to provide UNCTAD member States and other stakeholders with public access to consistent, comparable, and comprehensive trade data related to products derived from biodiversity. The classification includes 1 814 different types of products derived from biodiversity resources (UNCTAD, 2023c). The most traded products reflect the crucial role of this trade in providing nutrition, medication and housing.

According to TraBio data, food and beverages constituted the largest category of global exports of biodiversity-based products with a 36.1 per cent share in 2022, valued at \$1.2 trillion (Table 1). Pharmaceuticals saw a significant increase from 15 per cent in 2021 to over 17 per cent of such trade, amounting to \$582.6 billion in 2022. Wood and derived products, along with natural fibers, jointly accounted for over 22 of the market, reaching a global value of \$758.1 billion. Europe dominated the exports of these four product categories, holding nearly a 50 per cent share of the global exports in 2022.

Table 1. Increased importance of biodiversity-based pharmaceuticals among all biodiversity-based products' exports in 2022

	US\$ millions 2022	% of total biotrade 2022	% change from 2011
Food and beverage	1 224 168.6	36.1	2.5
Pharmaceuticals	582 630.2	17.2	48.4
Wood and derived products	421 521.8	12.4	-7.7
Natural fibres and articles thereof	336 577.8	9.9	-29.4
Natural ingredients	293 666.5	8.7	8.3
Perfumery, cosmetic, personal care and room care preparations	137 707.6	4.1	37.1
Miscellaneous	129 692.1	3.8	-10.2
Agricultural inputs	95 786.3	2.8	9.8
Hides, skins, leather, furskins and products thereof	62 840.8	1.9	-33.4
Other products of plant origin	41 480.2	1.2	-59.4
Live animals and plants	43 210.5	1.3	-14.2
Other products of animal origin	17 370.0	0.5	3.8
Vegetable plaiting materials and articles thereof	6 692.8	0.2	6.3

Source: UNCTAD calculations based on UNCTADstat (UNCTAD, 2024a).

Note: Data refer to biotrade goods as identified by UNCTAD (2022), based on HS codes.

UNCTAD Statistics provides interactive maps and charts³ that help visualize data on international trade balance, trends and on selected market indicators in a used-friendly and intuitive way.

★ UNCTAD in Action ★

UNCTAD's work on trade and biodiversity, including its **BioTrade Initiative**

UNCTAD's BioTrade Initiative (2023a) with its Principles and Criteria (2020a) reconciles the need for economic development with poverty alleviation as well as the conservation and sustainable use of biodiversity, through trade in biodiversity-based products and services. These Principles and Criteria are guidelines being implemented and fostered by government organizations, and numerous stakeholders in over 80 countries in Asia, Africa, Americas, and Europe (UNCTAD, 2024e). Concrete examples of the benefits of implementing BioTrade are shown below.

- In Latin America. Colombia is implementing the National Sustainable BioTrade Programme since 1998 (UNCTAD, 2012). For the period 2014-2023, the Colombian Green Business Office of the Ministry of Environment and Sustainable Development has supported over 3 900 BioTrade businesses in implementing the BioTrade Principles and Criteria through its Green and Sustainable Business Criteria (Bañol, 2024). Thus, the Ministry's actions on BioTrade are promoting local and productive development within value chains, while creating opportunities to generate positive environmental impacts and territorial knowledge.
- In Asia, the Regional Biotrade project, implemented by Helvetas Swiss Intercooperation (2023), is promoting sustainable production of biodiversity-based products in Viet Nam, Lao People's Democratic Republic, Myanmar and Cambodia. The project works with 28 different value chains and 58 exporting companies. In Viet Nam alone, exports of BioTrade certified products have increased from \$9 million to \$138 million in just two years between December 2021 and December 2023, while investment of local companies in Biotrade increased from \$29 thousand to nearly \$7 million during the same period.
- In Africa, the project BioInnovation Africa, implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, supports the implementation of the BioTrade Principles and Criteria in Cameroon, Madagascar, Namibia and South Africa. In the current project phase, it involves 13 value chains, including marula, centella, beeswax, honeybush, rooibos, devil's claw, among others (GIZ, 2024). For the period 2019-2022, the project had supported the sustainable use of more than 320 000 ha of wild collection, mobilized more than €1.3 million through private sector investment, trained more than 150 stakeholders (48 per cent being women) on the valorization of genetic resources, biological ingredients and access and benefit sharing contracts, among others (GIZ, 2023).

UNCTAD's SECO-funded Global BioTrade Programme (2024f) is also helping countries measure trade in biodiversity-based products through the UNCTAD trade and biodiversity (TraBio) statistical tool, which provides visualization and analytical tools in addition to databases. Exports of biodiversity-base products amounted to \$3.7 trillion in 2021, which was equivalent to 17 per cent of global exports. This database helps identify opportunities for export growth, such as in the context of the recently signed AfCFTA. Intra-African trade in biodiversity-based products constituted more than one guarter of total intra-African trade on average between 2010 and 2022, while in Mauritania, Sudan and Ethiopia, this share was above 70 per cent (map 3).

Map 3. Mauritania, Sudan and Ethiopia exhibit highest shares of biodiversitybased products trade in Africa

Share of biodiversity-based products in total intra-African exports' (average 2010-2022)

Notes

- 1. Referring to different size classes of plastic pollution: macroplastics, microplastics and nanoplastics (Mitrano et al., 2021).
- 2. This upsurge of plastics in global trade includes products made from plastic, like many children's toys, products with plastic components, such as electronic gadgets and products wrapped in plastic everything from office furniture to DVDs to snacks. It also includes the raw materials used to make plastics, mainly fossil fuels, and the waste shipped overseas that contain plastics, such as discarded smartphones.
- 3. Trade in biodiversity-based products: https://unctadstat.unctad.org/EN/Biotrade.html

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UNCTAD technical cooperation in support of SDGs

UNCTAD IN ACTION

UNCTAD technical cooperation in support of SDGs

UNCTAD aligns its technical cooperation with the 2030 Agenda, continuously adapting to the new opportunities and challenges in trade and development and interrelated issues of finance, technology and investment (UNCTAD, 2021a). The UNCTAD Toolbox (UNCTAD, 2020) was developed to better integrate these efforts with the SDGs. In 2023, UNCTAD's technical cooperation expenditure surpassed \$57 million, funding delivered through 219 projects in 74 countries (UNCTAD, 2024, forthcoming) (figure 1).

Figure 1. Most project expenditures in 2023 were interregional, followed closely by projects in Asia and Oceania, and Africa.

Source: UNCTAD (forthcoming).

Note: Values in this figure may differ from UNCTAD Annual report (UNCTAD, 2024) as this is based on preliminary figures, while the values represented here utilize final finance figures. Only expenditures for country and regional projects are considered, and the share of North America is not reflected as only \$22,795 was recorded in the region in 2023.

Project expenditure by SDG has remained relatively stable over the past few years. However, since 2018, there has been a noticeable shift: expenditures on SDG 9 (industry, innovation, and infrastructure) more than halved, while expenditures for SDG 16 (peace, justice, and strong institutions) and SDG 17 (partnerships for the goals) significantly increased. This trend continued in 2023 (figure 2), with SDGs 17, 9, 15 (life on land), and 8 (decent work and economic growth) dominating project expenditures. The proportion of expenditures not directed to a specific SDG (labelled 'Unspecified' in figure 2) slightly increased in 2023 but remains below pre-2022 levels. Additionally, the project expenditure supporting SDG 2 (zero hunger), first recorded in 2021, continued albeit limited in 2023 (0.1 per cent).

Figure 2. SDGs 9, 15 and 17 remain stable at the top of project expenditures.

UNCTAD is in action on various fronts

UNCTAD provides high-quality technical support across various areas, benefiting countries, national stakeholders, and the international community. UNCTAD brings together governments, businesses, civil society, academia, and other international organizations to address today's challenges and promote sustainable development and inclusive trade and economy for all.

UNCTAD contributes to enhancing member States' capacities to reach the 2030 Agenda in several areas, including:

UNCTAD Empretec – inspiring entrepreneurship

UNCTAD Empretec programme promotes entrepreneurship and enhances the productive capacity and international competitiveness of SMEs in developing countries. The training is delivered through a global network of 42 national business development centres. Since its inception in 1988, Empretec has trained over 550 000 people, helping them to start or expand businesses and create jobs in the process.Learn more...

The convening power of UNCTAD

UNCTAD leverages its convening power to unite governments, businesses, civil society, academia, and other international organizations to promote sustainable development and inclusive trade and economy for all. Since 2016, nearly 94 000 participants have attended 869 official and registered meetings, with women making up 42 per cent of attendees. Learn more...

Empretec has

half a million

benefitted over

entrepeneurs over

the past 35 years.

Almost **94 000** participants at UNCTAD meetings in 8 years.

TrainForTrade

TrainForTrade provides technical assistance to developing countries in three key areas: (1) port management; (2) international e-commerce; and (3) international trade statistics. The programme aims to empower countries to participate in and benefits from international trade equitably and sustainably. From 2018 to 2023, TrainForTrade enhanced the capacities of over 20 000 participants from 219 different countries, with 43 per cent of participants being female. Learn more...

TrainForTrade has a global impact: over 20 000 trained from nearly 220 countries.

Measuring South-South cooperation - at the roots of solidarity

For the first time, a voluntary Framework to Measure South-South Cooperation, developed by countries of the South, is available to quantify mutual support flows among these countries. As a custodian agency, UNCTAD supports countries in enhancing their capacity to collect data and measure South-South Cooperation. In collaboration with UN Regional Commissions, UNCTAD is implementing a new UN Development Account project to test the Framework in eight pilot countries across Africa, Asia, and Latin America. Since 2023, they have organized several events emphasizing the importance of measuring SSC for sustainable development. Learn more...

116 people from 64 countries met in-person **at the High-level segment** of South-South Cooperation meeting in Qatar.

Enhancing debt management and debt data transparency

The UNCTAD DMFAS programme advises developing economies in debt management and helps them to record and report reliable debt statistics for policymaking. The programme assists developing economies in managing their debt and producing reliable debt statistics for policymaking. The programme provides practical solutions for public liability management and debt statistics production, supported by the DMFAS software, capacity development, and advisory services. Since its inception, DMFAS has trained over 7 000 experts in debt management, nearly half of whom are women. Learn more...

DMFAS has trained over 7 000 experts (48% women) in debt management since 2014.

Tracking illicit financial flows by analysing existing data

UNCTAD supports member States in strengthening their statistical capacity to define, measure and disseminate statistics on illicit financial flows as a custodian of SDG indicator 16.4.1, in partnership with UNODC. Currently, three projects by UNCTAD and UNODC and UN Regional Commissions support 12 countries on four continents to measure illicit finance with the aim of reporting data to the Global SDG Indicators Database and informing national policy. An inter-regional expert meeting held in September 2023 in Geneva, brought together 66 experts, of which 30 women, to launch global

work. In April and May 2024, national training workshops were organized in Ghana, Namibia, and Zambia bringing together 88 national experts, including 25 women.Learn more...

88 national experts, 25 women, trained in Ghana, Namibia and Zambia on measuring IFFs.

Promoting ICT as a tool for development

UNCTAD's "eTrade for all" initiative has fostered a global partnership comprising 35 organizations dedicated to enhancing the enabling environment for sustainable development through e-commerce. Through eTrade Readiness Assessments conducted in LDCs and other developing nations, UNCTAD has facilitated the implementation of UNCTAD eT Readies, E-Commerce Strategies, or Action Plans in 44 countries.Learn more...

44 countries have successfully implemented UNCTAD eT

Readies E-Commerce Strategies, or Action Plans.

Fostering productive capacities and economic transformation

UNCTAD has developed a comprehensive programme aimed at fostering productive capacities and driving structural economic transformation in developing countries. It helps countries to enhance their statistical capacities, involves conducting National Productive Capacities Gap Assessments, assists in formulating development programmes to enhance productive capacities, and provides training on the knowledge and skills necessary to drive economic transformation. In 2022-2023, UNCTAD trained 140 national statisticians in five countries representing 74 different institutions and civil society organizations, with 21 per cent being women. Learn more...

In 2022-2023, UNCTAD delivered five trainings to national statisticians

training 140 national statisticians from 74 different institutions and civil society, 21% being women.

Promoting sustainable production of biodiversity based products

UNCTAD's BioTrade Initiative with its Principles and Criteria reconciles economic development with poverty alleviation and the conservation and sustainable use of biodiversity-based products and services. A regional BioTrade project in Africa supported the sustainable use of more than 320 000 hectares of wild collection, mobilized more than €1.3 million through private sector investment, and trained more than 150 stakeholders, 48 per cent women, to enhance knowledge on resource valorization, biological ingredients, and access and benefit sharing contracts, among other key areas. Learn more...

The **BioTrade** initiative has been adopted and is used by practitioners in close to 100 countries.

Enhancing data and skills for gender-responsive policy and action

Gender inequality persists globally, impacting women's economic participation, education, health, and political empowerment. Despite some progress, significant disparities remain entrenched. UNCTAD has been at the forefront of efforts to address these challenges, including through targeted training initiatives and the development of pioneering gender equality indicators for trade. To date, nearly 2 200 people, of whom 62 per cent are women, in 154 countries have benefitted from 25 iterations of the online course in 2015-2023. Six pilot countries – Cameroon, Georgia, Kazakhstan,
Kenya, Senegal, and Zimbabwe – tested UNCTAD's methodology and compiled experimental indicators on gender equality in international trade. Learn more...

2 200 people trained on UNCTAD's elearning courses on trade and gender in 2015-2023.

★ UNCTAD in Action ★

The convening power of UNCTAD

SDG targets 17.16 "Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries" and 17.17 "Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships" call for inclusiveness and collaboration among all stakeholders. UNCTAD (2021a) supports the "collaboration with agencies within and outside the United Nations system" using its convening power to bring together governments, businesses, civil society, academia, and other international organizations.

Alone we can do so little; together we can do so much.

– Helen Keller, American author

Meetings include ministerial and other high-level meetings, intergovernmental meetings, such as the Trade and Development Board and its subsidiary bodies, the Working Party on strategic framework and programme budget, and fora, such as the Global Commodities Forum, Illicit Trade Forum, and e-Commerce Week. They also include study visits, seminars, short courses for diplomats and bilateral government visits. UNCTAD set a new record in 2023 by organizing 171 events with a combined participation of 18 536 attendees. Since 2016, UNCTAD held 869 events with a total of 93 859 participants (table 1).



Table 1. Numbers of organized events andparticipants at UNCTAD headquarters reaching arecord high in 2023

Year	Number of events	Number of total participants
2016	38	8 717
2017	107	7 173
2018	136	16 689
2019	165	9 398
2020	72	5 820
2021	68	14 540
2022	112	12 986
2023	171	18 536
Total	869	93 859

Source: UNCTAD calculations based on data from UNOG Indico (2024) *Note:* These statistics only cover meetings and events organised by UNCTAD at its headquarters in Geneva and registered in the 'Indico' conference management system. Many other meetings organised by UNCTAD at the regional or national level, and outside Geneva, are not counted.

On average, women's participation in meetings from 2016 to 2023 has been at 42 per cent. Representatives from national governments are the single largest group attending UNCTAD meetings, accounting for 41 per cent of all registered participants. The private sector, academia, and non-governmental organizations together account for 35 per cent. Regional representation shows Africa and Western Europe making up about 58 per cent of participants, followed by Asia and the Pacific at 25 per cent. Latin America and the Caribbean form 11 per cent of all registered participants, and Eastern Europe 6 per cent. Regional representation is not specified for all participants, for instance for people representing international organizations.

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IN FOCUS: GENDER

The data-informed path to bridging the gender gap in trade

The data-informed path to bridging the gender gap in trade



Gender inequality persists globally, impacting economic participation, education, health, and political empowerment, affecting women's lives globally. Despite advancements, significant disparities remain. In 2023, UN Women estimated that at the current rate, it will take 286 years to close gender gaps in legal protection, 140 years for women to be represented equally in positions of power and leadership, and 47 years to attain equal representation in national parliaments (United Nations, 2023). Continuing the rate of progress from 2006 to 2023, it will take 169 years to close the economic participation and opportunity gender gap (WEF, 2023).

The UNCTAD ministerial meeting, in Bridgetown, concluded that policies need to go beyond encompassing a gender perspective and actively promote the inclusion and empowerment of women and youth (UNCTAD, 2021). The ministers underscored the importance of gender-disaggregated data to build the evidence base for such policies. This SDG Pulse In Focus represents commitment to this work, and UNCTAD has spearheaded efforts to advance this area, including through the release of the first ever set of gender equality in trade indicators in July 2024.

The indicators are calculated based on data derived from international databases include employment and earnings by sex in tradable sectors, trade-intensive and trade-dependent industries. These data enable for the first-time to gain insights about international trade from a gender perspective across the world.

Globally, women employees are underrepresented in tradable sectors, representing only 36 per cent of persons employed in tradable sectors in developed and 39 per cent in developing economies. However, their employment in the trade of services has increased at a faster rate than men's, highlighting the potential for trade in services to enhance women's economic empowerment, particularly in regions like Africa, Asia, and Oceania. Women's contribution to domestic value added in exports still lags significantly behind men's, though it is higher in services exports compared to agriculture and industry. Understanding these emerging patterns to

Women are concentrated in the services sector, which has seen faster trade growth than goods since 2011.

inform effective policy actions will require further country-specific analyses to identify drivers and barriers to women's participation in high value-added sectors unique to each economy.

Leveraging trade as a catalyst for economic empowerment

Trade plays a crucial role in economic growth and poverty reduction. Thus, inequalities in trade participation and in the distribution of benefits significantly impact people's lives. In the last three decades, the global poverty rate fell from 38 per cent in 1990 to just below 9 per cent in 2022 (World Bank, 2024a). During the same time frame, developing economies' share of global exports increased from 22 to 45 per cent (UNCTAD, 2024a). Despite the positive long-term trends, the distributional impacts of trade have not been equal across and within economies and populations.

Furthermore, recently these trends got disrupted by the pandemic, war and crises. An estimated 23 million more people were living in extreme poverty in 2022 compared to 2019 (Castaneda Aguilar et al., 2024). UNCTAD's early analysis of the impacts of the pandemic showed that the related changes in international trade led to gendered impacts on employment with women, young and part-time workers as well as those with lower education being most vulnerable to job loss (UNCTAD, 2020a). The pandemic led to disproportionate increases in female unemployment, with similar impacts later spreading to industries with higher male employment (Zarrilli and Luomaranta, 2021). Understanding the complex relationship between the economy, trade and gender equality is essential for effective decision-making.

UNCTAD's initial analysis reveals an association between trade openness and women's economic empowerment. According to the GGPI and WEI indices less than 1 per cent of women and girls reside in a country with high women's empowerment and gender parity (figure 1), mainly in Australia, Belgium, Denmark, Iceland, Norway, and Sweden, while developing economies, such as Iran, Iraq, Lebanon and Pakistan in Asia, and Benin and Nigeria in Africa lag behind. While the impact of trade liberalization on gender inequality depends on multiple factors, research shows several channels by which trade policy can improve gender equality in wages and

Less than 1 per cent of women and girls reside in a country with high women's empowerment and gender parity.

employment (UNCTAD and UN Women, 2020). Liberalization can drive firms to adopt new technologies and reduce discrimination, making jobs less physically demanding and improving opportunities for women. However, changes in the sectoral structure of production due to liberalization can have both positive and negative effects on gender inequality.



Figure 1. Developed economies generally exhibit greater openness to trade together with enhanced women's empowerment and gender equality



Source: UNCTAD calculations based on UNDP and UN Women (2023) and UNCTAD (2024a). *Note:* GGPI and WEI were published by the UNDP in 2023. Values of GGPI and WEI greater than 0.6 are considered medium parity, and values greater than 0.8 are considered high parity. The UNCTAD's trade openness index analyzes countries' economic dependence on exports and imports. The bubble size refers to the trade openness index. Trade values correspond to the sum of exports and imports of goods and services.

While the importance of women's economic empowerment for closing gender gaps is widely acknowledged, data to enable effective action to close gender gaps remains rare. This lack of data means that gender equality indices continue to limit the focus of economic empowerment on the labour market and political participation (Barnat et al., 2019).¹ For instance, GII (UNDP, 2022) measures empowerment by gender gap in education and political representation. Like GII, WEI and GGPI (UNDP and UN Women, 2023) also omit the dimension of international trade.² The WEF's GGGI (WEF, 2023) measures gender parity across four key dimensions, which do not mention trade. The lack of data makes it challenging to analyse the impact of trade on gender equality hindering effective policy making.

Trade significantly influences employment and business opportunities of women and men, their income, social status, welfare, and equality. Exportoriented industries such as textiles and apparel, often employ a large number of female workers (Berik et al., 2004), making up to 33 per cent of the workforce of exporting firms in developing economies, compared with just 24 per cent of non-exporting firms (World Bank and WTO, 2020). When employed in export-intensive sectors, women are more likely to hold formal jobs with better benefits, training and security. A study in Bangladesh found that rising exports had a higher impact on lifting women from informal to the

Global value chain integration increased the **likelihood of women** being business owners and employees.

formal employment and reduced wage gaps in the garment industry (World Bank and WTO, 2020). Similarly, a recent

study from 154 developing economies, with a focus on the Middle East and North Africa, showed that global value chain integration increased the likelihood of women being business owners and employees (Kalliny and Zaki, 2024).

However, trade can also exacerbate existing gender inequalities, particularly if accompanying trade policies do not include measures to address social and economic inequalities. Women working in global value chains often occupy low-skill and non-managerial jobs, despite being more likely to hold formal jobs (World Bank and WTO, 2020). Feminization of labour – increasing women's employment in labour-intensive sectors, such as textiles or agriculture, – can lead to gender wage discrimination and poor working conditions due to women's lower bargaining power offering competitive advantage to firms. In contrast, defeminization of labour – declining share of women's employment as observed in some countries (e.g., the Republic of Korea, Taiwan, Province of China, and Malaysia), – occurs in capital and technology-intensive sectors and may marginalize women due to stereotypes and occupational segregation (UNCTAD, 2023c; Korinek, 2005). Gender equality in trade is highly context-specific and difficult to generalize which is why country-level data and case studies are important.

New data linking initiatives to bridge the gap

Despite the urgent need to analyse trade from a gender perspective, only a few countries regularly compile sexdisaggregated indicators linked to international trade, and some countries do so on an ad hoc basis. For example, Finland and New Zealand linked such data to find that women were underrepresented in international trade both as employees and business owners (See National efforts to produce statistics on gender and trade). Some countries have also collected additional data by specialized surveys on trade and gender, such as Chile (SUBREI, 2022) and Uruguay (CINVE, 2023) and some international organizations, like the World Bank, support countries by carrying out such surveys. These can provide more in-depth information on trade barriers or informal cross-border trade to inform policy but may be costly to carry out.

Prompted by the Buenos Aires declaration (WTO, 2017) and collaboration with pioneering countries and organizations, UNCTAD developed the 'Conceptual Framework for the Measurement of Gender Equality in Trade' (UNCTAD, 2018). Efforts to test this framework in six pilot countries and develop gender equality in trade statistics at both national and global levels followed to fill this pressing data gap. These UNCTAD's initiatives, and the Compilation Guidelines (UNCTAD, 2023a) released last year and the 2024 release of a global analytical dataset on gender equality in trade, represent significant strides toward addressing the data gaps with countries and partners (See UNCTAD in Action: Gender and Trade). These indicators and the related analysis are intended to inform more gender-inclusive trade policies.

Women continue to be underrepresented in trade across regions

Women's underrepresentation in tradable sectors is evident across regions, as indicated by UNCTAD's data (figure 2). 36 per cent of employees in tradable sectors are women in developed economies compared to 39 per cent in developing economies. Notably, African countries exhibit the lowest gender employment gap in tradable sectors, with women comprising 42 per cent of employees compared to 58 per cent for men.

African countries exhibit the lowest gender employment

gap in tradable sectors, with women comprising 42 per cent of employees compared to 58 per cent for men.



Figure 2. Women employees are underrepresented in tradable sectors across

Source: UNCTAD calculations based on ILO (2024).

Notes: Classification of tradable and non-tradable sectors is derived based on OECD (2016). Tradable sectors include agriculture (ISIC Rev. 4 - A), industry (B, C, D, E), transport, information and communication (H, J), financial and insurance activities (K), and other services (R,S,T,U). Non-tradable sectors include construction, distributive trade, repairs, accommodation, food services activities (F, G, I), real estate activities (L), business services (M, N), and public administration (O, P, Q). Transportation is also included among tradable sectors, because international transport is considered to be a key enabler of international trade (Brown et al., 2021).

Female Male

Women face barriers to trade participation, such as unequal access to resources, limited training opportunities, and cultural constraints. UNCTAD's studies also highlight the disproportionate burden of care and household work and women's higher participation in low productivity work are major constraints to women's full economic empowerment (UNCTAD et al., 2020; UNCTAD and UN Women, 2020). It is estimated that only 15 per cent of exporting firms globally are women-led (IFC, 2024), and female business owners face higher trade barriers and limited access to finance, which further restricts their business growth and access to international markets (IFC, 2024).

Analysis of OECD countries revealed that 11 per cent of women-led firms export internationally compared to 19 per cent of men-led firms. However, once involved in exports, women-led firms do so to a similar or larger number of countries than firms led by men, suggesting the particular importance of policies aimed at removing entry barriers for women entrepreneurs (Korinek et al., 2023). For instance, legal and regulatory barriers, such as restrictions on property ownership or business activities and travel, limit women's entrepreneurship. The Women, Business, and the Law Index indicates that women have less than two-thirds of the legal rights available to men, particularly in entrepreneurship (World Bank, 2024b). Gender-blind trade policies may exacerbate these inequalities, also in access to market information and trade networks, hindering women's ability to participate effectively in trade.

Disproportionate burden of care and household work and women's higher participation in low productivity work are major constraints to women's full economic empowerment.

Services trade offers increasing potential for women's economic empowerment

Women are concentrated in the services sector in all regions. Figure 3 shows a rising share of services as an employer of both women and men from 1991 to 2022 in all regions. The shift to services is also mirrored in international trade as growth of trade in services is surpassing that of goods since 2011 (UNCTAD, 2024a). Developing economies in Africa, Asia and Oceania have potential for growth in services with opportunities for expanding women's contribution to the economy.



Figure 3. Women's employment in services increased at a faster rate than men's since 1991







Source: UNCTAD calculations based on ILO (2024).

In manufacturing, high shares of female employment typically align with whether an industry is capital-intensive (technology-dependent) or labourintensive. Low technology-intensive industries which typically employ more women (termed feminization of labour), such as food and beverages and textiles, often face higher tariffs on imported inputs than other industries. Such tariffs can elevate trade costs and hinder the competitiveness of sectors that offer employment opportunities for women (World Bank and WTO, 2020). For instance, data show that the United Republic of Tanzania exhibited a high share of female employees, 54 per cent in 2020, in its low technology-intensive industries, such as food, beverages and textiles. In

Low technologyintensive industries

typically employing more women often face higher tariffs on imported inputs than other industries.

contrast, the share of women in medium-high and high technology-intensive sectors, was substantially lower at 10 per cent in 2020. Another example is Cambodia, where female share in low-technology industries, such as wearing apparel and leather products, was high at 67 per cent in 2021, compared to medium-high and high technology-intensive industries where female share of labour was 48 per cent in the same year (figure 4).





Percentage

Source: UNCTAD calculation based on ILO (2024).

Note: The year for the reported employment varies from 2009 to the latest available. Technology classification is based on R&D expenditure incurred in the production of manufactured goods (UNIDO, 2024).

Women produce 20-40 per cent of total export value depending on region

Women's contributions to domestic value added in gross exports lag behind men's across all regions. This indicates that women's contribution to the production of goods and services exported worldwide still trails that of men (figure 5). For example, in 2020 women's largest contribution to domestic value added in gross exports was estimated at 40 per cent in developed economies, while in Africa women only produced one fourth of the total generated exported value. In developing Americas and developing Asia and

In **Africa women** only produced **one fourth** of the total generated exported value.

Oceania, men's contributions were nearly double that of female generated domestic value added in gross exports.



Figure 5. Women's contributions to domestic value added in gross exports lag behind men's across all regions, 2020

Source: UNCTAD calculation based on ILO (2024) and OECD (2024). *Note:* Aggregated figures are based on data on employment and trade in value added for 76 economies. This analysis assumes that there are no differences in gender distribution between exporting and nonexporting firms. The proportions of male and female contributions to domestic value added are calculated assuming homogeneity in labour intensity, skills, etc., thereby stating that women represent a comparable share of value added to their proportion in employment.

Analysis by sectors reveals an intriguing pattern: women's domestic value added is higher in services exports compared to agriculture and industry in most regions (figure 6). This suggests that trade in services offers greater opportunities for women to contribute to exports in developed economies, developing Africa and the Americas. For instance, in developed economies women's domestic value added in services nearly equals men's, whereas their contribution to agriculture and industry exports is approximately one third of that of men's.

Women's domestic value added is higher in services exports compared to agriculture and industry in most regions.

Figure 6. In most regions, women's domestic value added is higher in services gross exports compared to agriculture and industry, 2020



Percentage

Source: UNCTAD calculation based on ILO (2024) and OECD (2024) Note: Aggregated figures are based on data on employment and trade in value added for 76 economies. This analysis assumes that there are no differences in gender distribution between exporting and nonexporting firms. The proportions of male and female contributions to domestic value added are calculated assuming homogeneity in labour intensity, skills, etc., thereby stating that women represent a comparable share of value added to their proportion in employment.

To further explore women's contribution to higher value-added exports, the analysis examines exports of goods and services that add more than 50 per cent to the domestic value added in exports. Figure 7 shows that women's share of employment is higher in economies where services exports contribute more than 50 per cent to the domestic value added, compared to economies where goods exports contribute more than 50 per cent. This supports WTO's argument that services trade may benefit women in the labour market, as services sectors exhibit greater gender balance than manufacturing or mining (WTO, 2019).



Figure 7. Economies with high exported value added from services show greater female employment rates compared to goods-producing industries



Source: UNCTAD calculation based on ILO (2024) and OECD (2024).

Note: The year for the reported employment varies from 2008 to 2020 based on the latest available with most data reported for 2019 or later. Country data for high-exported value added – i.e. sectors contributing more than 50% to the domestic value added in gross exports. Sectors are aggregated into two groups: goods (primary goods and manufacturers) and services.

While UNCTAD's first set of trade and gender indicators show that women are still underrepresented in tradable sectors and contribute less to creating domestic value added content in exports across regions, a sectoral analysis reveals opportunities to catalyse trade for women's economic empowerment. Trade in services presents an opportunity for women to contribute to the growth of exports in most regions. Nevertheless, a further in-depth analysis can help to identify specific drivers and bottlenecks of women's contribution to high-value sectors unique to each economy. This approach requires country-level linking of micro-data to enable more accurate insights to inform policy action, such as the following examples of UNCTAD's collaboration with Finland and Georgia.

Women's contribution to domestic value-added exports in Finland

A small open economy like Finland benefits from globalization and foreign trade significantly. The share of exports in GDP is high up to 30 per cent, but the benefits of trade are unevenly distributed between businesses, employees and consumers (Lindroos et al., 2019). Statistics show a high concentration of exports in the largest enterprises, and higher salaries paid by trading firms compared to others. Importantly, the study showed that women work less often in trading companies, and only one fifth of businesses engaged in exports are female owned.

Statistics Finland releases annually experimental statistics on trade in value added. These can be compiled by linking existing data sources without additional data collection. An analysis of domestic value added embodied in exports, whether through direct or indirect export dependencies, reveals insights into the role of firms and export-supported jobs (figure 8). While larger enterprises in Finland provide

Gender gap widens as firm size increases.

many jobs supported by exports, the proportion of jobs that are export-supported is smaller in the largest enterprises, since they often engage with smaller intermediaries to produce intermediate goods for them.³

The global value chain analysis reveals that in Finland women's share of jobs supported by exports is 32 per cent compared with 38 per cent for men. Interestingly, while export-supported jobs in micro-firms are almost equally distributed between women (20 per cent) and men (21 per cent), the gender gap widens as firm size increases. In large firms, 30 per cent of women's jobs are supported by exports compared to 43 per cent of men's jobs.

Figure 8. Finland's women's contribution to domestic value added is lower than men's contribution with widening gap in larger firms, 2021



Source: Statistics Finland, experimental statistics, trade in value added (Statistics Finland, 2024)

I Women's employment, wages and entrepreneurship in trade in Georgia

Gender aspects of trade statistics become very relevant to addressing issues related to welfare and equality. There's high interest from state institutions, international partners and non-governmental organizations,

- Gogita Todradze, executive director of Georgia's National Statistics Office

Georgia was the inaugural pilot country supported by UNECE and UNCTAD in developing sex-disaggregated trade indicators through microdata linking (See UNCTAD in Action: Gender and Trade).⁴ This involved linking annual goods trade data with key sex-disaggregated variables from business statistics and the structure of earnings survey. The linked company-employee data represented over 85 per cent of both exports and imports value in Georgia.

The study revealed gender gaps in employment and wages. Women-tomen employment ratios in trading companies ranged from 57 to 64 per cent over the five-year period, while the gender pay gap fluctuated between 30 and 35 per cent. Further analysis by skill levels indicated that high-skill workers had the lowest gender pay gap (18 per cent for importers, 31 per cent for two-way traders), while the gaps for managers

High-skill female workers face less gender inequalities.

and low-skill workers were between 38 and 45 per cent. Gender indicators disaggregated by skill levels highlighted that, generally, high skilled female workers experienced less disparity in trade, both in their employment and pay (figures 9 and 10). Higher education levels could protect women from some gender inequalities.

Figure 9. Gender employment gap in trading companies is lowest among high-skilled workers in Georgia, 2017



Source: Gender in Trade Assessment in Georgia (Tsekvava, 2021), jointly with UNCTAD and UNECE.

Note: Two-way traders are defined as firms involved in both exports and imports of goods.

Figure 10. Gender pay gap is the highest among lowskilled workers in trading enterprises in Georgia, 2017

Percentage



Source: Gender in Trade Assessment in Georgia (Tsekvava, 2021), jointly with UNCTAD and UNECE.

Note: Two-way traders are defined as firms involved in both exports and imports of goods.

The data linking exercise also facilitated the analysis of female and male entrepreneurs in trade. It revealed that men own trading companies five times more often than women (figure 11). Drawing on these data insights, Georgia plans to include gender-in-trade statistics in its regular statistical production to inform design of policies that encourage women entrepreneurship, as well as increase job opportunities and wages for women in international trade.



More inclusive economies reach higher productive capacities

Enhancing a country's productive capacities – comprising of human and natural capital, energy, transport and ICT capacities, well-functioning institutions and private sector, and structural change – fuels inclusive economic growth and resilience. Investments in productive capacities yield immediate economic benefits but also lay the groundwork for sustained growth by creating jobs, enhancing skills, and promoting equitable development. Generally, the propensity to build productive capacities is higher in countries with well-crafted and informed economic, trade, industrial, as well as science and technology policies (UNCTAD, 2022).

The strong relationship between inclusive growth and productive capacities is illustrated in figure 12. It also shows that economies with higher PCI scores primarily consist of developed economies that rank high on the IGI equality dimension, which measures labour and political participation, income distribution, education, and gender distribution of social reproduction. Among developing economies, Asia and Oceania demonstrate higher average equality scores, whereas African economies exhibit significant diversity in equality, suggesting that women's productive capacities have not been optimally developed and utilized (UNCTAD, 2022). As countries bolster their productive capacities, their growth tends to be more inclusive compared to those with lower PCI scores.



Figure 12. Developed economies reveal higher PCI and IGI equality scores in 2021



Source: UNCTAD (2024a).



Domestic value added in gross exports is closely linked to productive capacities because it reflects the extent to which a country's domestic resources, capabilities and production processes contribute to the final goods and services that are exported. In 2020, total value added, as measured by domestic value added in gross exports, is estimated at almost \$15 trillion globally, with 3 per cent generated in agriculture, 56 per cent in industry and 42 per cent in services (OECD, 2024). Figure 13 shows the relationship between productive capacities and women's contribution to domestic value added by sector. Developing economies with lower PCI scores show higher contribution of women to domestic value added in

Productive capacities could be enhanced by women's higher engagement in services trade (or exports).

agriculture than in other sectors. Developing economies with low female contribution to domestic value added in services are predominantly countries with lower female labour force participation, such as Bangladesh, Egypt, India, Jordan, Myanmar and Pakistan.



Figure 13. Developed economies reveal higher PCI scores and higher contribution of women to domestic value added in gross exports in services



Source: UNCTAD calculation based on OECD (2024) and UNCTAD (2024a).

Note: The year for the reported employment varies from 2015 to 2020 based on the latest available. Country data for high-exported value added – i.e. sectors contributing more than 50% to the domestic value added in gross exports. Sectors are aggregated into two groups: goods (primary goods and manufacturers) and services.

While a clear division between developed and developing economies exists in their productive capacities, some outliers, particularly in the service sector, warrant examination. To understand why some economies follow a different path, PCA was used to assess the main factors affecting gender inequality in trade. This analysis, based on 19 indicators (see table 1) for 62 economies available from the OECD TiVA database (OECD, 2024), not only identifies correlations among variables but also highlights similarities across countries regarding their strengths or weaknesses in gender equality.

The analysis identifies four principal components, namely education and social conditions (PC1), trade and labour participation (PC2) and political empowerment and participation in decision-making (PC3 and PC4) which explain 71 per cent of the total variance of gender equality. The first component mostly represents preconditions for trade participation for women and men: motivations, aspirations, resources, and constraints. The second points to their degree of involvement in trade. The third one stands for political empowerment and participation in various levels of decision-making.



Figure 14. Developed economies reveal higher gender equality in education and social conditions and in trade participation in contrast to developing economies



Source: Data for the analysis is collected from multiple sources, UNCTAD Gender-in-trade indicators (UNCTAD, 2024a), OECD Social Institutions & Gender Index (SIGI) indicators (OECD, 2024) and UNDP Women Empowerment Index (WEI) indicators (UNDP and UN Women, 2023).

Note: The figure shows gender equality in education and social conditions (PC1) on the x-axis and gender equality in trade and labour participation (PC2) on the y-axis.

Developed economies stand out as a relatively homogenous group with higher gender equality in education and social conditions and in trade participation with a stark contrast to developing economies (figure 14). They also boast better social conditions and higher women's empowerment and wages.

Various patterns of gender equality in trade emerge across different countries. In a cluster including Cambodia, Lao PDR, Peru and Viet Nam, women participate significantly in trade, particularly in industries and sectors heavily reliant on trade. Conversely, a group of economies represented on the right side of figure 14 (Bangladesh, Egypt, Jordan, India, Pakistan and Tunisia) faces unfavourable conditions for women's economic participation, resulting in limited benefits from trade. Nordic and Benelux countries share similarities in high levels of women's empowerment, institutional representation, education, and wages, grouping them together. Similarly, Eastern European economies demonstrate commonalities in high female labour force and trade participation. These diverse patterns highlight the

In Cambodia, Lao PDR, Peru and Viet Nam, **women participate significantly in industries** and sectors heavily reliant on trade.

complex interplay between gender equality, trade participation, and economic and social conditions across different regions.



Table 1. Summary of gender-relevant indicators used for the PCA analysis

Component	Gender equality dimension	Indicator
PC 1	Education and social conditions	Restricted access to productive and financial assets index (SIGI)
		Adolescent birth rate (births per 1,000 women ages 15– 19)
		Discrimination in the family index (SIGI)
		Ever-partnered women and girls subjected to physical and/or sexual violence by a current or former intimate partner in the previous 12 months (% ages 15–49)
		Labour force participation rate among prime-working-age individuals who are living in a household comprising a couple and at least one child under age 6, female (% ages 25–54)
		Population with completed secondary education or higher, female (% ages 25 and older)
		Restricted physical integrity index (SIGI)
		Women of reproductive age whose need for family planning is satisfied with modern methods (% ages 15– 49)
		Youth not in education, employment or training, female (% ages 15–24)
PC 2	Trade and labour participation	Average monthly earnings of female employees in high exported value added industries (2017 PPP \$)
		Average monthly earnings of female employees in tradable sectors (2017 PPP \$)
		Share of female employees in high exported value added in industries (%)
		Share of female employees in high export-intensive industries (%)
		Share of female employees in top 5 export-intensive industries (country level) (%)
		Share of female employees in tradable sectors (%)
PC 3 & 4	Political empowerment and participation in decision-making	Restricted civil liberties index (SIGI)
		Share of managerial positions held by women (%)
		Share of seats held by women, local governments (%)
		Share of seats held by women, parliament (%)

Source: Data for the analysis is collected from multiple sources, UNCTAD Gender-in-trade indicators (UNCTAD, 2024a), OECD Social Institutions & Gender Index (SIGI) indicators (OECD, 2024) and UNDP Women Empowerment Index (WEI) indicators (UNDP and UN Women, 2023). Note: Indicators are grouped into gender equality dimensions based on the PCA results.

Trade policy as a driving force to bridge gender inequality gaps

Gender equality amplifies human progress, economic growth, and social development. Governments play a crucial role by allocating funds for essential services, investing in education, social support and legal reforms shaping policies and taking actions to enhance economic empowerment, and combatting gender-based barriers and violence.

UNCTAD, jointly with UN Women (UN WOMEN and UN DESA, 2023), has estimated that the additional spending required to achieve gender equality is \$360 billion each year in 48 developing economies from 2023 to 2030 (UNCTAD, 2023b).⁵ The total spending need is substantial, at \$6.4 trillion per year, representing 21 per cent of the collective GDPs of these economies. Per person, the total cost is calculated at \$1 383 annually. Notably, SIDS and LDCs face the highest requirements relative to the size of their economies, with 44 and 42 per cent of their GDPs, respectively. However, it is essential to recognize that achieving gender equality yields high synergies with all SDGs.

An additional **\$360 billion per year** is needed to achieve gender equality and women's empowerment.

Similar to investments in education, progress towards gender equality can catalyse advancements across various SDGs, such as eradicating poverty, alleviating hunger, and driving socio-economic progress by women's equal participation in society.

Trade policy is increasingly recognized as a means to address gender disparities and promote inclusive trade. Today, approximately one-fourth of RTAs incorporate gender-related provisions (WTO, 2022). Notably, the European Union leads with 78 per cent of its trade agreements containing gender-explicit provisions, followed by countries in North America (38 per cent), Africa (32 per cent), South America (20 per cent), and Asia Pacific (14 per cent) (Bahri, 2021).

Approximately **onefourth of RTAs** incorporate genderrelated provisions.

Incorporating stand-alone gender chapters in trade agreements has enhanced the visibility of gender issues in trade policymaking, especially through requirements to assess progress with agreed indicators. UNCTAD has developed ways to link statistical data to assess the gender impacts of trade agreements, with support by the European Commission (UNCTAD, 2020b). Compared to simple gender provisions, full-fledged gender chapters provide a higher level of detail for cooperation activities and capacity-building; and the institutionalization of monitoring activities. To date, only a handful of countries have signed FTAs with stand-alone gender chapters (table 2).

Data and analysis are key to understanding the complex dynamics essential for achieving more gender equal trade. These dynamics are shaped by various factors, including domestic labour markets, cultural norms, legal frameworks, international markets and economic fluctuations. Such interactions are highly country-specific, what works in one country may not yield results in another.



Table 2. FTAs with gender chapters

Agreements with gender chapters	Туре	Year
Chile-Uruguay FTA	Bilateral	2016
Chile-Argentina FTA	Bilateral	2017
Chile-Brazil FTA	Bilateral	2018
Chile-Ecuador FTA	Bilateral	2020
United Kingdom-Japan FTA	Bilateral	2020
Canada-Chile amended FTA	Bilateral	2019
Canada-Israel amended FTA	Bilateral	2019
United Kingdom-Australia FTA	Bilateral	2021
United Kingdom -New Zealand FTA	Bilateral	2021

Source: UNCTAD Trade, Gender and Development Programme

Trade agreements have the potential to significantly advance gender equality, particularly when they recognize and harness the transformative power of gender equality for our societies. Economies with higher productive capacities tend to achieve greater gender equality and more inclusive growth. Gender equality is essential for long-term structural transformation by improving human capital allocation, but sustainable economic development also relies on aggregate demand and macroeconomic policies.

Trade agreements have the potential to significantly **advance** gender equality.

While the global dataset offers new insights into gender and trade, linking country-level micro-data is needed to inform effective policy action. Greater involvement of women and civil society representatives in negotiation and monitoring of trade agreements is critical to enhance positive outcomes of trade policies. UNCTAD supports governments in sensitizing trade officials to gender implications, enhancing data and analytical capacities, and carrying out ex ante impact assessments.

Informal cross-border trade is both an opportunity and a challenge

Informal cross-border trade serves as an important driver of development, especially for vulnerable populations and small-scale traders, many of whom are women. A study (UNECA, 2021a) conducted at several border crossings in West Africa⁶ estimated that 61 per cent of informal traders were women. While it is a critical source of income and provides easy access to a greater variety of goods at lower prices, informality of this trade often results in underreporting, making it difficult to accurately gauge its scale and socioeconomic impact.

In West Africa, more than **60% of informal traders** are women.

Women engaged in informal trade confront a myriad of challenges. A study in Malawi, Tanzania, and Zambia found numerous obstacles faced by women at the borders (UNCTAD, 2019), such as lack of trade facilitation resulting in delays at the border, cumbersome processes, complex technical regulations, and costly procedures. These challenges disproportionately affect women who rely more heavily on public transportation and are more often subject to harassment and corruption at border posts and spend longer time to clear goods due to prolonged inspections (UNCTAD, 2019). In response to these challenges, UNCTAD developed capacity-building activities to support women informal cross-border traders in Africa with over 500 traders trained to date to navigate the complexities of cross-border trade more effectively (See UNCTAD In Action: Gender and Trade).

Despite the pivotal role of informal cross-border trade, it remains largely excluded from official trade statistics, which poses a major challenge for assessing the magnitude of such trade and raising awareness of the situation faced by women informal traders. Informal cross-border trade is prevalent on the African continent with its value of approximately \$10.4 billion (low estimate) and \$24.9 billion (high estimate) (UNECA, 2021b). This estimate varies between 30 to 72 per cent of the formal trade between neighbouring countries in the region (UNECA, 2021b).

Rwanda piloted the collection of informal cross-border trade data in 2009, with a full roll-out in 2012, to supplement official goods trade statistics collected by the customs.⁷ Since then, the national statistical office carries out monthly surveys at 17 official borders and 39 major crossings. At the end of each month, informal cross-border trade data, harmonized using HS codes, are extracted and used in the compilation of BOP, SNA and IMTS (IMF, 2024). Informal cross-border trade makes notable contributions to total trade covering 3 per cent of imports and 12 per cent of exports (IMF, 2024).

★ UNCTAD in Action ★

Gender and Trade

Since 2015, UNCTAD's e-learning courses on trade and gender have addressed the knowledge gap about how gender and trade interlink, and how trade policies can contribute to reducing gender inequalities, targeting especially developing and least developed countries. To date, nearly 2 200 people (62 per cent women) in 154 countries have benefitted from 25 iterations of the online course (figure 15). Participants speak about their experience in this video.

2 200 people trained on

UNCTAD's e-learning courses on trade and gender in 2015-2023.





Source: UNCTAD Trade, Gender and Development Programme

UNCTAD spearheaded efforts on gender equality in trade statistics following the Buenos Aires Declaration (WTO, 2017) which urged sharing methods and procedures for collecting and analysing gender-focused statistics related to trade. The resulting Conceptual Framework for the Measurement of Gender Equality in Trade (UNCTAD, 2018) was released in October 2018. Subsequently, UNCTAD, UNECA and UNECE collaborated in a UN Development Account project from 2020 to 2023 supporting National Statistical Offices to link existing statistical

Six countries compiled new indicators and more than 500 experts were trained.

microdata and calculate new indicators for insights on gender equality in international trade. Six pilot countries – Cameroon, Georgia, Kazakhstan, Kenya, Senegal, and Zimbabwe – tested UNCTAD's methodology, compiling experimental indicators measuring employment, wages and ownership of firms engaged in international trade disaggregated by sex.

This informed the development of Compilation Guidelines (UNCTAD, 2023a) offering step-by-step instructions for compiling gender-in-trade statistics to enhance the understanding of the gender dimensions of trade and support evidence-based policymaking. From 2020 to 2023, UNCTAD, UNECA and UNECE held 6 national workshops, 4 regional workshops, and 1 intra-regional workshop. In total, 500 participants took part in these events, and the approach was shared with wider audiences at several gender and trade statistical events, as well as policy debates on mainstreaming gender in trade policy, including at the WTO Gender Research Hub (table 3). This video shares participants' experience.

Table 3. UNCTAD trained more than 500 people in 11 events on gender and trade statistics

Type of workshop	Number of workshops	Total number of participants
Regional workshop	4	302
National workshops	6	188
Interregional training workshop	1	32
Total	11	522

Source: UNDA project "Data and statistics for more gender-responsive trade policies in Africa, the Caucasus and Central Asia"

Informal cross-border trade is largely driven by women as one of the few options available to them due to their time constraints, limited access to resources, and lower education levels. Despite their critical role, they often face challenges, such as regulatory barriers, high duties, poor border facilities, weak border governance, corruption and harassment, resulting in minimal benefits from trading.

Increased capacity of over 500 smallscale traders **in six countries**.

Small-scale traders also encounter challenges beyond checkpoints, including information gaps on rules, regulations and market demand. Additionally, supply side obstacles such as difficulties in business registration and limited capital resources further impede their success.

To address these barriers, UNCTAD initiated a capacity-building programme for women in small-scale informal cross-border trade. The programme aims to raise awareness of trade rules and customs procedures, enhance entrepreneurial skills (see UNCTAD in Action on Empretec) and facilitate dialogue with border authorities. In 2019-2023, 18 workshops were delivered focusing on trade rules, customs procedures and entrepreneurship at 9 border crossings in Botswana, Kenya, Malawi, Mozambique, Tanzania and Zambia, benefiting 547 cross-border traders, most of which were women (map 1).



International treaties and agreements related to gender equality

Numerous international agreements aim to promote gender equality, urging countries to safeguard women's rights.

Figure 16. Timeline of international treaties and agreements related to gender equality



The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) is a landmark treaty adopted in 1979, obligating signatory states to combat discrimination against women in various fields, including politics, law, employment, education, and healthcare (United Nations, 1979). Following CEDAW, the Beijing Declaration and Platform for Action in 1995 was a pivotal moment for women's rights and empowerment, which also for the first time explicitly considered the role of trade (United Nations, 1995). Gender equality was a central element of the Millennium Development Goals (United Nations, 2005) and is both a goal and a cross-cutting theme of the 2030 Agenda for Sustainable Development (United Nations, 2015b).

In the realm of trade, the Addis Ababa Action Agenda (United Nations, 2015a) and the Buenos Aires Declaration on Trade and Women's Economic Empowerment (WTO, 2017) have significantly increased attention to women's economic empowerment. The Addis Ababa Action Agenda recognizes women's critical role in trade and calls for their equal and active participation (United Nations, 2015a). Similarly, the Buenos Aires Declaration emphasizes inclusive trade by addressing barriers hindering women's involvement in the economy and advocating for gender-based analysis of trade impacts on men and women (WTO, 2017).

Notes

- 1. For instance, UNCTAD analysis of three major global gender equality indices (The Global Gender Gap Index (GGI), The Gender Inequality Index (GII), The Social Institutions and Gender Index (SIGI) revealed that none of them reported indicators related to trade.
- 2. WEI is comprised of 10 indicators related life and good health (two indicators); education, skill-building and knowledge (two indicators); labour and financial inclusion (two indicators), participation in decision making (three indicators); and freedom from violence (one indicator). GGPI is a composite index that assesses the relative achievements between women and men in four dimensions: life and good health (one indicator); education, skill-building and knowledge (two indicators); labour and financial inclusion (two indicators); and participation in decision making (three indicators). Source: (UNDP and UN Women, 2023)
- 3. This analysis is made in relation to the size of the producing firms, not exporting firms. When producing goods for exports, large firms typically use intermediate goods, which are either produced by other (smaller) firms domestically or imported.
- 4. Georgia's National Statistical Office was the first to take part in the UNDA project titled "Data and statistics for more gender-responsive trade policies in Africa, the Caucasus, and Central Asia".
- 5. UNCTAD in partnership with UNDESA and UNDP calculated the costs along six key "transition pathways" that can amplify efforts and speed up progress towards the 2030 Agenda for Sustainable Development. In addition to these six pathways, UNCTAD is working with UN Women to estimate the cost of achieving gender equality for certain gender-related SDG indicators.
- 6. The study covered the following border crossings: Noe-Elubo border (Côte d'Ivoire–Ghana); Aflao–Kodjoviakope (Ghana–Togo); Segbe–Kpoglo (Ghana–Togo); Hillacondji–Sanve econdji (Togo–Benin); Seme–Krake (Benin–Nigeria).
- 7. In Rwanda, informal cross-border trade is defined as transactions in goods between residents and non-residents of the country that are not documented through official customs clearance system and ultimately not included in the official statistics. They constitute exports and imports of goods and exclude smuggled goods; transit goods; goods properly (100 per cent) declared and verified by the customs officials on declaration documents.

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