

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

UNCTAD



SDG Pulse 2020

UNCTAD TAKES THE PULSE OF THE SDGS



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A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The final boundary between the Sudan and South Sudan has not yet been determined.

The final status of the following territories has not yet been agreed or determined: Abyei area,

Aksai Chin, Arunachal Pradesh, Bi'r Tawil, Hala'ib Triangle, Ilemi Triangle, Jammu and Kashmir, Kuril Islands, Paracel Islands, Scarborough Shoal, Senkaku Islands and Spratly Islands.

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Foreword

In 2015, the United Nations launched the 2030 Agenda for Sustainable Development and corresponding SDGs. To support this programme a Global Indicator Framework was adopted by the United Nations Statistical Commission in March 2017 and subsequently by the UN General Assembly in July 2017. That framework comprises 232 statistical indicators designed to measure the 17 goals and their respective 169 targets.

This second edition of the SDG Pulse illustrates in a very concrete way how UNCTAD is contributing to the 2030 Agenda. The report not only presents statistical updates and data-driven analysis for the indicators for which UNCTAD is a custodian or co-custodian, but it also presents a range of other complementary indicators that provide a wider context and more nuance to these complex topics.

This report also presents some case studies from UNCTAD's capacity development programme from a statistical perspective – presenting our activities and successes in hard numbers. These case studies are important as they illustrate the Results Based Management approach adopted by UNCTAD – helping us to improve our responsiveness and accountability to member states.

Finally, this report will every year, highlight a thematic issue of immediate relevance. This year's theme addresses the many impacts of COVID-19 from a statistical perspective. In particular, the conceptual and organisational challenges being faced by national statistical offices around the world, and some of the implications for global official statistics. The report also discusses some of measurement challenges in producing new, comparable COVID-19 statistics in the midst of a crisis.

Steve MacFeely
Head of Statistics and Information
UNCTAD

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Introduction

Welcome to the second edition of UNCTAD's SDG Pulse – UNCTAD's annual statistical publication reporting on developments relating to the 2030 Agenda for Sustainable Development (United Nations, 2015) and the Sustainable Development Goals (SDGs). The purpose of this report, published on 8 July 2020, is to: provide an update on the evolution of a selection of official SDG indicators and complementary data and statistics; provide progress reports on the development of new concepts and methodologies for UNCTAD custodian indicators; and to also showcase, beyond the perspective of the formal SDG indicators, how UNCTAD is contributing to the implementation of 2030 Agenda. The report will also investigate thematic issues of relevance to 2030 Agenda – this year, the report discusses the impact of COVID-19 from a statistical viewpoint.

The report is organized by four broad categories:

Theme

The report can be read by theme. Here the indicators are sub-divided across the three themes to which UNCTAD's work contributes: multilateralism for trade & development; productive growth; and structural transformation. Through this thematic lens, a wide range of indicators are presented and issues discussed, including: recent trends in trade, including barriers to trade, and policies to promote trade; investment, transport infrastructure, ICT for sustainable development, and debt sustainability; and industry, high value-added and sustainability.

Goals

The SDG indicators presented in this report are also categorised by goal. The goals and indicators selected reflect UNCTAD's broad mandate of economic and sustainable development. In some cases, UNCTAD is the custodian or co-custodian agency for the indicator. These indicators are supplemented with other complementary indicators. The SDG indicators presented in this report are:

Goal 2: Zero hunger

- Indicator 2.a.2: Total official international support to agriculture
- Indicator 2.b.1: Agricultural export subsidies
- Indicator 2.c.1: Indicator of food price anomalies

Goal 8: Decent work and economic growth

- Indicator 8.9.1: Tourism direct GDP
- Indicator 8.a.1: Aid for Trade commitments and disbursements

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
- Indicator 9.4.1: CO₂ emission per unit of value added
- Indicator 9.5.1: Research and development expenditure
- Indicator 9.5.2: Researchers relative to population
- Indicator 9.a.1: Total official international support to infrastructure
- Indicator 9.b.1: Proportion of medium and high-tech industry value added
- Indicator 9.c.1: Proportion of population covered by a mobile network

Goal 10: Reduce inequality

- Indicator 10.a.1: Proportion of tariff lines with zero-tariff*
- Indicator 10.b.1: Total resource flows for development

Goal 12: Responsible consumption & production

- Indicator 12.6.1: Number of companies publishing sustainability reports*

Goal 16: Peace, justice and strong institutions

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

Goal 17: Partnership for the goals

- Indicator 17.2.1: Net official development assistance, total and to LDCs
- Indicator 17.3.1: FDI, ODA and South-South Cooperation*
- 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 17.6.2: Fixed Internet broadband subscriptions
- Indicator 17.8.1: Proportion of individuals using the Internet
- 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*

UNCTAD in Action

UNCTAD runs a wide-ranging capacity development programme to support progress towards the 2030 Agenda. This report presents some case studies from UNCTAD's development programme from a statistical perspective – presenting UNCTAD's activities and successes in hard numbers. These case studies are important as they also illustrate the Results Based Management approach adopted by UNCTAD – helping us to improve our responsiveness and accountability to member states.

In Focus

Every year, the SDG Pulse will highlight a specific aspect of the 2030 Agenda and discuss this issue from the slant or perspective of statistics. This edition discusses the economic, social and environmental impacts of COVID-19 and its implications for the continuation of statistical production. It also highlights some risks for future privacy, of quickly adopting contact tracing apps today.

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

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Glossary

3G	Third generation of cellular network technology
4G	Fourth generation of cellular network technology
Ad-valorem equivalent	A tariff that is not a percentage of the price of the product (e.g. dollars per ton) can be estimated as a percentage of the price — the ad valorem equivalent. (WTO, 2019b).
Advanced reporting requirement	Advanced reporting requirement represents a set of reporting elements, beyond the minimum reporting requirement, which demand additional information from companies in their sustainability reports for the purpose of measuring SDG indicator 12.6.1 (UNCTAD, 2017).
AfCFTA	African Continental Free Trade Agreement
Aid for Trade	Measures aimed at assisting developing countries to increase exports of goods and services, to integrate into the multilateral trading system, and to benefit from liberalized trade and increased market access. It is considered as part of ODA. Effective Aid for Trade will enhance growth prospects and reduce poverty in developing countries, as well as complement multilateral trade reforms and distribute the global benefits more equitably across and within developing countries (WTO, 2006). It is measured as gross disbursements and commitments of total ODA from all donors for Aid for Trade (United Nations, 2020).
Aid for Trade commitments	Aid for Trade commitment is a firm obligation, expressed in writing and backed by the necessary funds, undertaken by an official donor to provide specified assistance to a recipient country or a multilateral organisation (OECD, 2020a) (AidFlows, 2020).
Aid for Trade disbursements	Aid for Trade disbursements refer to the release of funds to or the purchase of goods or services for a recipient; by extension, the amount thus spent. Disbursements record the actual international transfer of financial resources, or of goods or services valued at the cost to the donor (OECD, 2020a) (AidFlows, 2020).
ALDC	Division for Africa, Least Developed Countries and Special Programmes
ASYCUDA	Automated System for Customs Data
Asymptomatic	When a condition produces no symptoms, or a person shows no symptoms.
AU	African Union
B2B	Business to Business
B2C	Business to Consumer

Basic food	Basic food refers in this publication 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. When HS codes are used, basic food refers to chapter 1-24 excluding 05 - Products of animal origin, not elsewhere specified or included, 06 - Live trees and other plants; bulbs, roots and the like; cut flowers 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 specified or included, 22 - Beverages, spirits and vinegar, and 24 - Tobacco and manufactured tobacco substitute.
BEPS	Base erosion and profit shifting
BIT	Bilateral Investment Treaty (BIT) is a type of international investment agreement (IIA) made between two countries regarding promotion and protection of investments made by investors from one country in the other country's territory, which commits the host country government to grant certain standards of treatment and protection to foreign investors (nationals and companies of the other country) and their investments (UNCTAD, 2020a).
BoP	Balance of payments
Broadband	A general term meaning a telecommunications signal or device of greater bandwidth, in some sense, than another standard or usual signal or device. In data communications, this refers to a data transmission rate of at least 256 kbit/s. In the context of Internet, this can be delivered via fixed (wired) or mobile networks (ITU, 2014).
CAPI	Computer assisted personal interview
Carbon intensity	Carbon intensity is the amount of emissions of carbon dioxide (CO ₂) released per unit of another variable such as gross domestic product (GDP), output energy use or transport (IPCC, 2014).
Carbon price	Carbon price is the price per unit of avoided or released carbon dioxide (CO ₂) emission, or its CO ₂ equivalent (IPCC, 2014).
Carbon tax	Carbon tax is a levy on the carbon content of fossil fuels (IPCC, 2014).
CATI	Computer assisted telephone interview
CCCT	Commonwealth Caribbean Countries Tariff (CCCT) is a Preferential Trade Arrangements (PTAs) categorized as other type of PTAs. The provider of CCCT is Canada. CCCT entered into force on the 15th of June 1986 (WTO, 2020b).
CCSA	Committee for the Coordination of Statistical Activities
CH₄	Methane
CO₂	Carbon dioxide (CO ₂) is a colourless, odourless and non-poisonous gas formed by combustion of carbon and in the respiration of living organisms (OECD, 2020).

CO₂e	Carbon dioxide equivalent (CO ₂ e) is a measure used to compare the emissions from various greenhouse gases based upon their global warming potential. It represents the quantity of carbon dioxide that has equal global warming potential as the given quantity of a greenhouse gas (OECD, 2020).
Comply-or-explain approach	Comply-or-explain approach is a reporting practice under which companies are invited to explain the reasons for not providing all requested information in their sustainability reports or for not publishing a sustainability report at all (UNCTAD, 2013).
Concessional loans	Loans that are extended on terms substantially more generous than market loans. The concessionality is achieved either through interest rates below those available on the market or by grace periods, or a combination of these (OECD, 2020c).
Containerised transport	Freight transport using intermodal containers of standard dimensions, i.e. containers that can be moved seamlessly between ships, trucks, trains and other modes of transport as well as storage. The two most used are the 20-foot and the 40-foot containers. They form the basis of the main units of measure currently applied in transport: the twenty-foot equivalent Unit (TEU) and the forty-foot equivalent unit (FEU). (World Shipping Council, 2020)
CoP	Communication on Progress (CoP) is a voluntary, public report through which a company informs stakeholders about its efforts to implement the principles of the United Nations Global Compact (United Nations Global Compact, 2013).
COVID-19	Infectious disease caused by the strain of coronavirus SARS-CoV-2 discovered in December 2019. Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered coronavirus causes coronavirus disease COVID-19 (WHO, 2020).
COVID-19 death	Defined for surveillance purposes as a death resulting from a clinically compatible illness in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID-19 disease (e.g. trauma). There should be no period of complete recovery between the illness and death. Further guidance for certification and classification (coding) of COVID-19 as cause of death is available in WHO (2020e).
CSTD	United Nations Commission on Science and Technology for Development
CTS	Consolidated Tariff Schedules
DAC	Development Assistance Committee
Data revolution	Data revolution refers to the transformative actions needed to respond to the demands of a complex development agenda, improvements in how data is produced and used; closing data gaps to prevent discrimination; building capacity and data literacy in “small data” and big data analytics; modernizing systems of data collection; liberating data to promote transparency and accountability; and developing new targets and indicators (see http://www.undatarevolution.org/data-revolution/).

DDA	Doha Development Agenda (DDA) refers to the latest Doha Round of world trade negotiations among the WTO memberships. The round is also known semi-officially as the Doha Development Agenda and was launched in November 2001. Its aim is to achieve major reform of the international trading system through the introduction of lower trade barriers and revised trade rules. The fundamental objective of DDA is to further liberalising trade in order to improve the trading prospects of developing countries. The main issues at stake are: Reforming agricultural subsidies; Ensuring that new liberalisation in the global economy respects the need for sustainable economic growth in developing countries; Improving developing countries' access to global markets for their exports (WTO, 2020).
Debt service	Payments made to satisfy a debt obligation, including principal, interest and any late payment fees (IMF, 2014).
Debt sustainability	A country's capacity to finance its policy objectives through debt instruments and service the ensuing debt (IMF, 2014).
DFQF	Duty-free and quota free
DGDS	Division on Globalization and Development Strategies
DIAE	Division on Investment and Enterprise
DITC	Division on International Trade and Commodities, UNCTAD
DMFAS	Debt Management and Financial Analysis System Programme
DTL	Division on Technology, Innovation and Trade Logistics
Duty-free	Not subject to import tariffs.
E-commerce	Sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders; it can involve business-to-business (B2B) or a business-to-consumer (B2C) transactions (OECD, 2020).
EBA	Everything But Arms (EBA) is a European Commission's 'zero' tariff initiative for LDCs covering all products except the arms trade.
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
Emission	Emission is the discharge of pollutants into the atmosphere from stationary sources such as smokestacks, other vents, surface areas of commercial or industrial facilities and mobile sources, for example, motor vehicles, locomotives and aircraft (OECD, 2020).
Employed in R&D in FTE	Employed in R&D in FTE is the ratio of working hours spent on R&D during a specific reference period (usually a calendar year) divided by the total number of hours conventionally worked in the same period by an individual or by a group (OECD, 2015).
Energy intensity	Energy intensity is the ratio between gross inland energy consumption and GDP. It measures how much energy is required to generate one unit of GDP.
ESCAP	Economic and Social Commission for Asia and the Pacific

EU	European Union
Excess mortality	Term used in epidemiology and public health to define the number of deaths which occurred in a given crisis above and beyond what we would have expected to see under ‘normal’ conditions. The WHO define ‘excess mortality’ as “mortality above what would be expected based on the non-crisis mortality rate in the population of interest. Excess mortality is thus mortality that is attributable to the crisis conditions. It can be expressed as a rate (the difference between observed and non-crisis mortality rates), or as a total number of excess deaths.” To calculate ‘excess mortality’ in a given period, the number of people who had died over this period is compared with the number expected to have died (WHO, 2008).
Export concentration index	This index measures, for each product, the degree of export market concentration by country of origin. It tells us if a large share of commodity exports is accounted for by a small number of countries or, on the contrary, if exports are well distributed among many countries. The index ranges from 0 to 1 with higher values indicating more market concentration (UNCTAD, 2018).
Export restrictiveness	The average level of tariff restrictions imposed on a country’s exports as measured by the MA-TTRI.
Export subsidies	Export subsidies refer to the granting of support by governments to some beneficiary entity or entities to achieve export objectives. Export subsidies may involve direct payments to a firm, industry, producers of a certain agricultural product etc. to achieve some type of export performance. In addition, export subsidies may include low cost export loans, rebates on imported raw materials and tax benefits such as duty-free imports of raw material. They can also take the form of government financed marketing. Most subsidies have existed in agriculture. (United Nations, 2020b).
External debt	Outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to nonresidents by residents of an economy (IMF, 2014).
F-gases	Fluorinated gases
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment (FDI) is an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate) (UNCTAD, 2016).
Food price anomalies	Food price anomalies refer to abnormally high or low market prices for food commodities. The indicator relies on a weighted compound growth rate that accounts for both within-year and across-year price growth. The indicator directly evaluates growth in prices over a particular month over many years, taking into account seasonality in agricultural markets and inflation, allowing to answer the question of whether or not a change in price is abnormal for any particular period. It is measured by SDG indicator 2.c.1 (United Nations, 2020b).

FTE	Full Time Equivalent (FTE) unit of labour is the hours worked by one employee on a full-time basis. The concept is used to convert the hours worked by several part-time employees into the hours worked by an equivalent full-time employee (ideally the comparison is standardized for gender and industry sector).
GATT	The General Agreement on Tariffs and Trade (GATT) is a multilateral agreement, originally negotiated in 1947 in Geneva among 23 countries, to reduce tariffs and other trade barriers. It provides a framework for periodic multilateral negotiations on trade liberalisation (WTO, 1986).
GATT-94	The GATT 1994 is contained in Annex 1A of the WTO Agreement. It incorporates by reference the provisions of the GATT 1947, a legally distinct international treaty applied provisionally from 1948 to 1995 (WTO, 2020a).
GDP	Gross domestic product
GERD	Gross domestic expenditure on research and development
GHS	Global Health Security
GLI	Grubel-Lloyd Index (GLI) is calculated on products categorized as manufacturing intermediate inputs (e.g. parts and components), computed at the industry level (as defined by the 4 digit Harmonized System classification) and then aggregated at the sectoral level using bilateral trade shares. (UNCTAD, 2020)
GNI	Gross national income
GNP	Gross national product
Goods loaded	Merchandise destined for export, also referred to as “outbound trade volumes”. (UNCTAD, 2019a)
Goods unloaded	Merchandise destined for import, also referred to as “inbound trade volumes”. (UNCTAD, 2019a)
GPT	Generalized preferential tariff
Greenhouse gases	Greenhouse gases are gases that cause the 'greenhouse effect' by letting solar radiation reach the Earth's surface and absorbing infrared energy emitted by the Earth. The concentration of some greenhouse gases in the atmosphere is rising as a result of human activities, leading to an increase of the Earth's average temperature. The most important of these gases comprise: carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O) and fluorinated gases (F-gases), such as hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs) (WMO, 2019).
GRI	Global Reporting Initiative
GSP	Generalized System of Preferences
Gt	Gigaton
GTA	Global Trade Alert
GVC	Global value chain

GWP	Global Warming Potential (GWP) is an index measuring the radiative forcing following an emission of a unit mass of a given substance, accumulated over a chosen time horizon, relative to that of the reference substance, CO ₂ . The GWP thus represents the combined effect of the differing times these substances remain in the atmosphere and their effectiveness in causing radiative forcing (IPCC, 2014).
HDI	Human development index
HS	The Harmonized System (HS) is an international nomenclature developed by the World Customs Organization, which is arranged in six-digit codes allowing all participating countries to classify traded goods on a common basis. Beyond the six-digit level, countries are free to introduce national distinctions for tariffs and many other purposes.
IAEG-SDG	Inter-Agency and Expert Group on Sustainable Development Goals indicators
ICCS	International Classification of Crime for Statistical Purposes
ICD	International Classification of Diseases
ICT	Information and communications technology (ICT) is a diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These resources include computers, the Internet, live broadcasting technologies, recorded broadcasting technologies and telephony (UNESCO Institute for Statistics, 2020).
IDA	International Development Association
IDB	Integrated Data Base
IEA	International Energy Agency
IFF	Illicit financial flow
IIA	International Investment Agreement (IIA) are treaties with investment provisions (e.g. a free trade agreement with an investment chapter) between two or more countries include commitments regarding cross-border investments (foreign investment or FDI), typically for the purpose of protection and promotion of such investments. They include two types of agreements: (1) bilateral investment treaties and (2) treaties with investment provisions (UNCTAD, 2020a)
IIP	Index of Industrial Production (IIP) is a measure of the change in the volume of goods or services produced over time. Its main purpose is to provide a measure of the short-term changes in value added over a given reference period, usually a month or a quarter. The index covers the industrial sector, including mining, manufacturing, electricity and gas, and water and waste (United Nations, 2010).
IIRC	International Integrated Reporting Council

Illegal economic activity	Illegal production comprises (1) the production of goods or services whose sale, distribution or possession is forbidden by law; (2) production activities which are usually legal but which become illegal when carried out by unauthorised producers, e.g., unlicensed medical practitioners; (3) production which does not comply with certain safety, health or other standards could be defined as illegal; and (4) the scope of illegal production in individual countries depends upon the laws in place, e.g. prostitution (United Nations et al., 2009).
ILO	International Labour Organization
IMF	International Monetary Fund
Import restrictiveness	The average level of tariff restrictions on imports as measured by the TTTRI.
IMTS	International Merchandise Trade Statistics
INDICO	Integrated Digital Conferencing (INDICO) is a web-based conference and management system used in more than 90 instances all over the world. In this publication, Indico refers to the web-based conference storage and management system managed by the United Nations Office at Geneva instance (Indico-unog) (UNOG-Indico, 2020).
Informal economy	The informal economy comprises (i) the production of goods and market services of households; and (ii) the activities of corporations (illegal, underground) that may not be covered in the regular data collection framework for compiling macroeconomic statistics. This scope of the informal economy considers not only the domestic activities, but also the cross-border transactions of resident units (IMF, 2019).
Investment guarantee	An insurance, offered by governments or other institutions, to investors to protect against certain political risks in host countries, such as the risk of discrimination, expropriation, transfer restrictions or breach of contract (UNCTAD, 2015). (UNCTAD, 2019a)
IPA	Investment Promotion Agency
IPCC	Intergovernmental Panel on Climate Change
ISAR	International Standards of Accounting and Reporting
ITC	International Trade Centre
ITU	International Telecommunications Union
Laboratory-confirmed cases	Cases where there has been detection of SARS-CoV-2 nucleic acid in a clinical specimen.
Land-use change	Land-use change refers to a change in the use or management of land by humans, which may lead to a change in land cover (IPCC, 2014).
LDC	Least developed country
LHS	Left Hand Side

Living wage	Living wage is defined by the Global Living Wage Coalition to mean the remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transportation, clothing, and other essential needs including provision for unexpected events.
LLDC	Landlocked developing country
MA-TTRI	An index measuring the average level of tariff restrictions imposed on exports.
Main bulks	This category includes iron ore, grain, coal, bauxite/alumina and phosphate. Starting on 2006, the category was restricted to iron ore, grain and coal only, while bauxite/alumina and phosphate were moved to the category “other dry cargo”. (UNCTAD, 2019a).
Medium and high-tech industry	Medium and high-tech industry is an industry in which producers of goods incur relatively high expenditure on research and development (R&D) per unit of output. The distinction between low, medium, and high-tech industries is based on R&D intensity, i.e. the ratio of R&D expenditure to an output measure, usually gross value added. For a list of the particular economic activities, considered to be medium and high-tech (UNIDO, 2017).
MFN	most-favoured-nation
MFN tariffs	Most Favoured Nation (MFN) tariffs are a tariff level that a member of the General Agreement on Tariffs and Trade of the WTO charges on a good to other members, i.e. a country with a most favoured nation status (See UNCTAD (2018)) It applies to imports from trading partners-members of the World Trade Organization (WTO), unless the country has a preferential trade agreement. It is the lowest possible tariff a country can assess on another country.
Minimum reporting requirement	Minimum reporting requirement refers to a core set of economic, environmental, social and governance elements of sustainability information requested from companies in their sustainability reports for the purpose of measuring SDG indicator 12.6.1. Only reports including this information are counted towards the indicator (UNCTAD, 2017).
MNC	Multinational corporation
MNE	Multinational enterprise
Mobile money	A service in which the mobile phone is used to access financial products and services (GSMA, 2010).
MVA	Manufacturing value added (MVA) is the net-output of all resident manufacturing activity units. It is obtained by adding up their outputs and subtracting intermediate inputs (United Nations, 2020). Manufacturing can broadly be understood as "the physical or chemical transformation of materials, substances, or components into new products" (United Nations, 2008), consisting of sector C in the International Standard Industrial Classification of all Economic Activities (ISIC) revision 4 (United Nations, 2020).
N2O	Nitrous oxide

NAFTA	North American Free Trade Agreement
Net-exporter of CO₂	Net-exporter of CO ₂ is a country in which more emissions are generated by the production of goods it exports to other countries than by the production goods it imports from other countries.
NO2	Nitrogen dioxide (NO ₂) is a product of combustion, for instance emitted by road transport, and is generally found in the atmosphere in close association with other primary pollutants. Nitrogen dioxide is toxic, and its concentrations are also often strongly correlated with those of other toxic pollutants. As it is easier to measure, it is often used as a proxy for them. There is growing concern about rising levels of NO ₂ in fast-growing cities with large numbers of vehicles (WHO, 2006).
Non-observed economy	According to the OECD, the groups of activities most likely to be non-observed are those that are underground, illegal, informal sector, or undertaken by households for their own final use. Activities may also be missed because of deficiencies in the basic statistical data collection programme (OECD, 2012).
NSO	National statistical office
NTBs	Non-tariff Barriers
NTFC	National Trade Facilitation Committee
NTMs	Non-tariff measures (NTMs) are policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both such as technical barriers to trade, price-control measures, etc. UNCTAD (2019)
ODA	Official Development Assistance (ODA) are resource flows to countries and territories which are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare as the main objective; (c) at concessional financial terms (implying a minimum grant element depending on the recipient country and the type of loan). In addition to financial flows, technical co-operation is also included (OECD, 2020c).
OECD	Organization for Economic Cooperation and Development
Official international support	For the purpose of the SDGs, official international support refers to assistance in the form of official development assistance and other official flows (United Nations, 2020).
OIE	World Organisation for Animal Health
ONS	Office for National Statistics of the United Kingdom
OOF	Other official flows (OOF) are transactions by the official sector with countries and territories which do not meet the conditions for eligibility as ODA, either because they are not primarily aimed at development or because they do not meet the minimum grant element requirement (OECD, 2020c).
P&C	Principles & Criteria

Pandemic	<p>Commonly described by the WHO as ‘the worldwide spread of a new disease’, no strict definition is provided. In 2009, they set out the basic requirements for a pandemic:</p> <ul style="list-style-type: none"> • New virus emerges in humans • Minimal or no population immunity • Causes serious illness; high morbidity/mortality • Spreads easily from person to person • Global outbreak of disease. <p>The US Centre for Disease Control uses a similar approach, but with a reduced set of criteria. It is very difficult to gauge whether the spread of a disease should be termed an outbreak, epidemic or pandemic. In other words, when to declare a pandemic isn’t a black and white decision (Doshi, 2011).</p>
Paris Climate Agreement	<p>The Paris Agreement is an agreement within the UNFCCC aiming to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further, to 1.5°C. It aims to strengthen countries’ ability to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework are intended to support developing countries, in line with their national objectives (UNFCCC, 2016).</p>
PBL	<p>Planbureau voor de Leefomgeving</p>
PHEIC	<p>Public health emergency of international concern (PHEIC): Serious public health events that endanger international public health. This term is defined in as “an extraordinary event which is determined [...]:</p> <ul style="list-style-type: none"> • to constitute a public health risk to other States through the international spread of disease; and • to potentially require a coordinated international response. <p>This definition implies a situation that: is serious, unusual or unexpected; carries implications for public health beyond the affected State’s national border; and may require immediate international action. The responsibility of determining whether an event is within this category lies with the WHO Director-General and requires the convening of a committee of experts, the IHR Emergency Committee. This committee advises the Director-General on the recommended measures to be promulgated on an emergency basis, known as temporary recommendations. Temporary recommendations include health measures to be implemented by the State Party experiencing the PHEIC, or by other States Parties, to prevent or reduce the international spread of disease and avoid unnecessary interference with international traffic WHO (2005).</p>
PMI	<p>Purchasing Managers’ Index (PMI) is a monthly indicator of expected economic activity, collected by surveying senior executives at private sector companies. The PMI is a weighted average of five sub-indices measuring new orders, output, employment, suppliers’ delivery times and stocks of purchases. It is calculated for the total economy as well as for specific sectors, such as manufacturing, construction, services, etc. A figure of 50 indicates that no change in economic production is expected; a value above 50 means that the economy is expected to grow, a value below 50 that it is expected to contract (Refinitiv, 2020).</p>

PMI	Purchasing managers' index
PNG	Publicly Non-Guaranteed debt (PNG) is an external debt of the private sector that is not contractually guaranteed by a public sector unit resident in the same economy (IMF, 2014). Unless otherwise indicated, only long-term debt (maturity of more than one year) is included.
PPG	Publicly guaranteed debt (PPG) is an external debt liabilities of the private sector, the servicing of which is contractually guaranteed by a public unit resident in the same economy as the debtor (IMF, 2014). Unless otherwise indicated, only long-term debt (maturity of more than one year) is included.
PPI	Private Participation in Infrastructure
PPP	Purchasing power parity
Private flows	Private flows consist of flows at market terms financed out of private sector resources and private grants. They include FDI, private export credits, securities of multilateral agencies and bilateral portfolio investment. Private flows other than FDI are restricted to credits with a maturity of greater than one year (OECD, 2020b).
Productive capacity building	Strengthening economic sectors – from improved testing laboratories to better supply chains – to increase competitiveness in export markets (Negin, 2014).
PTAs	Preferential Trade Arrangements (PTAs) can be established under paragraphs 4 to 10 of Article XXIV of GATT (WTO, 2019a) between parties through which one party can grant more favourable trade conditions to other parties of the arrangement and not to other WTO members.
Public bond debt	Public debt in the form of sovereign international bonds traded in international capital markets (UNCTAD, 2017).
Public sector debt	All debt liabilities of resident public sector units to other residents and nonresidents (IMF, 2014).
QUAD	QUAD countries refers to Canada, EU, Japan and the United States.
R&D	Research and development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge (OECD, 2015) (see also (United Nations et al., 2009), para 10.103).
R&D intensity	R&D intensity is defined as the ratio of gross domestic expenditure on research and development (GERD) to GDP (OECD, 2015).
R&D services	R&D services cover services associated with basic and applied research and experimental development, including activities in the physical and social sciences and the humanities (OECD, 2015), section 11.5). The definition used for international trade includes also testing and product development that may give rise to patents (United Nations et al., 2012).

Remittances	The term remittances can refer to three concepts, each encompassing the previous one. “Personal remittances” are defined as current and capital transfers in cash or in kind between resident households and non-resident households, plus net compensation of employees working abroad. “Total remittances” include personal remittances plus social benefits from abroad, such as benefits payable under social security or pension funds. “Total remittances and transfers to non-profit institutions serving households (NPISHs)” includes all cross-borders transfers benefiting household directly (total remittances) or indirectly (through NPISHs) (IMF, 2009).
Revealed comparative advantage in exports	Revealed comparative advantage in exports is the proportion of a country group’s exports by service category divided by the proportion of world exports in the corresponding category.
RHS	Right Hand Side
RTA	Regional trade agreement
Sanitary and phytosanitary measures	Any measure applied: (a) to protect animal or plant life or health within the territory of the trade partner from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms; (b) to protect human or animal life or health within the territory of the trade partner from risks arising from additives, contaminants, toxins or diseases causing organisms in foods, beverages or feedstuffs; (c) to protect human life or health within the territory of the trade partner from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or (d) to prevent or limit other damage within the territory of the trade partner from the entry, establishment or spread of pests (UNCTAD, 2003).
SASB	Sustainability Accounting Standards Board
SDG	Sustainable Development Goal
Serological tests	Tests that do not detect the virus itself but instead detect antibodies produced in response to an infection.
Seroprevalence	Level of a pathogen in a population, as measured in blood serum.
SG	Secretary General
Shadow economy	The shadow economy includes all economic activities which are hidden from official authorities for monetary, regulatory, and institutional reasons (Medina and Schneider, 2018).
Short-term debt	Debt liabilities having a maturity of one year or less; maturity can be defined on an original or reminaing basis (IMF, 2014). Interests in arrears on long-term debt are included within short-term debt.
SIDS	small island developing State
SITC	Standard International Trade Classification
SITS	Statistics of International Trade in Services
SME	Small- and medium-sized enterprise

SNA	System of national accounts
Soft infrastructure	Ideas and conceptual frameworks that give shape and direction to what is eventually physically manifest (FutureStructure, 2013).
South-South Cooperation	Broad framework of collaboration among countries of the Global South in the political, economic, social, cultural, environmental and technical domains. It includes trade, FDI, regional integration efforts, technology transfers, sharing of solutions and experts, and other forms. Involving two or more developing countries, it can take place on a bilateral, regional, intraregional or interregional basis (UNOSSC, 2020).
SPS	Sanitary and phytosanitary
Stocks-to-use ratio	A convenient measure of supply and demand interrelationships of commodities. This ratio indicates the level of carryover stock for any given commodity as a percentage of the total use of the commodity (Womach, 2005).
Sustainability report	Sustainability report is a document published by an entity describing the economic, social, environmental impacts caused by its activities; it is composed of a certain number of disclosures along the main pillars of sustainable development (GRI, 2019).
Tanker trade	This category includes trade in crude oil, refined petroleum products, gas and chemicals. (UNCTAD, 2019a)
Tariff line	A single item in a country's tariff schedule. A single item in a country's tariff schedule. (see SDG metadata). (United Nations, 2020a)
Tariff peak	A single tariff or a small group of tariffs that is/are particularly high.
Tariffs	Tariffs “are customs duties on merchandise imports, levied either on an ad valorem basis (percentage of value) or on a specific basis (e.g. \$7 per 100 kg). Tariffs can be used to create a price advantage for similar locally produced goods and for raising government revenues. Trade remedy measures and taxes are not considered to be tariffs.” (United Nations, 2020a)
TBT	Technical barriers to trade (TBT) are measures referring to technical regulations, and procedures for assessment of conformity with technical regulations and standards.
TDB	UNCTAD Trade and Development Board
TEU	Twenty-foot Equivalent Unit
TFA	WTO members concluded negotiations at the 2013 Bali Ministerial Conference on the landmark Trade Facilitation Agreement (TFA), which entered into force on 22 February 2017 following its ratification by two-thirds of the WTO membership. The TFA contains provisions for expediting the movement, release and clearance of goods, including goods in transit. It also sets out measures for effective cooperation between customs and other appropriate authorities on trade facilitation and customs compliance issues. It further contains provisions for technical assistance and capacity building in this area (WTO, 2019).

Tier 1	Tier 1 means that a SDG indicator has been classified by the IAEG-SDG as being conceptually clear, has an internationally established methodology and standards are available, and data are regularly produced by countries for at least 50 per cent of countries and of the population in every region where the indicator is relevant.
Tier II indicator	SDG indicator that is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries (United Nations Statistics Division, 2020).
Tier III indicator	SDG indicator for which there is no internationally established methodology or standards yet available, but methodology or standards are being (or will be) developed or tested (United Nations Statistics Division, 2020).
TORs	Terms Of References
Total resource flows	In the context of the IAEG-SDG, these flows quantify the overall expenditures that donors provide to developing countries, including official and private flows, both concessional and non-concessional. Specifically, they include ODA, OOFs and private flows (United Nations, 2020a).
Tourism direct GDP	Tourism direct GDP measures direct contributions of tourism to the national economy, since tourism does not exist as a separate industry in the standard industrial classification. Instead, it is embedded in various other industries. (no SDG metadata)
Tourism sector	Tourism sector is the cluster of production units in different industries that provide consumption goods and services demanded by visitors. Such industries are called tourism industries because visitor acquisition represents such a significant share of their supply that in the absence of visitors, the production of these would cease to exist in meaningful quantities (UNWTO and ILO, 2014).
TRAINS	Trade Analysis and Information System
TTRI	Tariff trade restrictiveness index (TTRI) is an index measuring the average level of tariff restrictions imposed on imports.
Underground economy	Underground production consists of activities that are productive in an economic sense and quite legal (provided certain standards or regulations are complied with), but which are deliberately concealed from public authorities for the following reasons: (i) to avoid the payment of income, value added or other taxes; (ii) to avoid payment of social security contributions; (iii) to avoid meeting certain legal standards such as minimum wages, maximum hours, safety or health standards, etc; or (iv) to avoid complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms (United Nations et al., 2009).
UNDESA	United Nations Department of Economic and Social Affairs
UNECA	United Nations Economic Commission for Africa

Unemployment	The unemployed comprise all persons of working age who were: (a) without work during the reference period, i.e. were not in paid employment or self-employment; (b) currently available for work, i.e. were available for paid employment or self-employment during the reference period; and (c) seeking work, i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment. Future starters, that is, persons who did not look for work but have a future labour market stake (made arrangements for a future job start) are also counted as unemployed, as well as participants in skills training or retraining schemes within employment promotion programmes, and persons “not in employment” who carried out activities to migrate abroad in order to work for pay or profit but who were still waiting for the opportunity to leave (ILO, 2020a).
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO UIS	United Nations Educational, Scientific and Cultural Organization Institute of Statistics
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNGC	United Nations Global Compact (UNGC) is a voluntary initiative based on company-level commitments to adopt sustainability and socially responsible principles and to take steps to support UN goals (United Nations Global Compact, 2019).
UNODC	United Nations Office on Drugs and Crime
UNSD	United Nations Statistics Division
VAR	Vector autoregression
Weighted mean applied tariff	The average of effectively applied rates weighted by the product import shares corresponding to each partner country (World Bank, 2019).
Weighted tariff-average	Weighted average of tariffs applied to imports of goods in HS chapter 01-97. The tariffs are weighted by the value of the imported goods to which they are applied. It is expressed as percentage of the value of goods imported. The average level of customs tariff rates applied worldwide can be used as an indicator of the degree of success achieved by multilateral negotiations and regional trade agreements. See metadata for indicator 17.10.1 (United Nations, 2020a).
WHO	World Health Organization
WMO	World Meteorological Organization
WRI	World Resources Institute
WTO	World Trade Organization
WTO TFA	World Trade Organization Agreement on Trade Facilitation

THEME 1

Multilateralism for trade and development

“Through trade, people’s satisfaction, merchants’ profits and countries’ wealth are all increased.”.

– Ibn Khaldun

Multilateralism for trade and development

We live in an inter-connected world where goods and services are produced and traded globally. This has brought an unprecedented level of prosperity and has contributed to lifting millions out of poverty. However, the COVID-19 pandemic has shown how this interconnectedness also spreads the economic and social impacts of crises across countries. At the same time, barriers of trade remain and new threats to the multilateral trading system are constantly emerging. It is essential to address these threats and impediments, and promote a broader participation that could continue to benefit all countries and the global economy. International trade is an engine for inclusive economic growth and poverty reduction, and an important means to achieving the 2030 Agenda for Sustainable Development. This theme on multilateralism for trade and development of SDG Pulse:

1. Provides analysis and statistics on International trade in developing economies, including merchandise and services trade, such as tourism.
2. Assesses progress in the special and differential treatment for developing countries and studies new developments in New protectionism versus inclusive trade.
3. We Analyses trade restrictions and distortions in world agricultural markets and presents statistics on the links between Trade, agriculture, food security and biodiversity.
4. Examines the role of Policies to promote trade, including Aid for Trade, in support of developing countries, particularly LDCs.

LDCs share in global trade increased from 0.68 per cent to 0.91 from 2005 to 2019, but still have a long way to go before doubling their share.

UNCTAD, ITC & WTO SDG indicator 17.11.1

LDCs share in global trade



0.68% in 2005

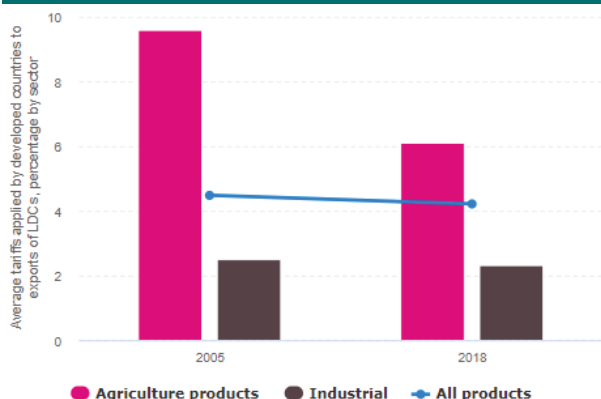


0.91% in 2019



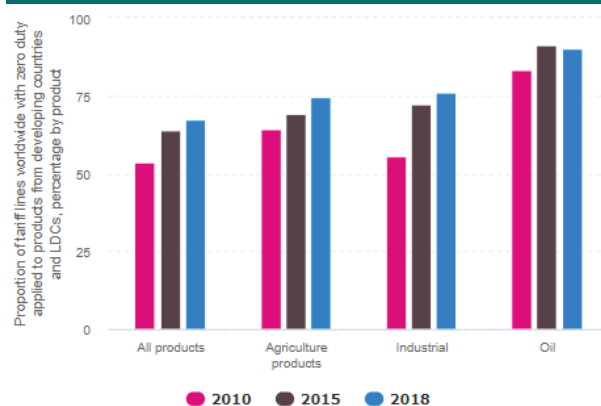
Import tariffs applied by developed countries to products from LDCs registered almost no decline since 2005 and amounted to about four per cent in 2018.

UNCTAD, ITC & WTO SDG indicator 17.12.1



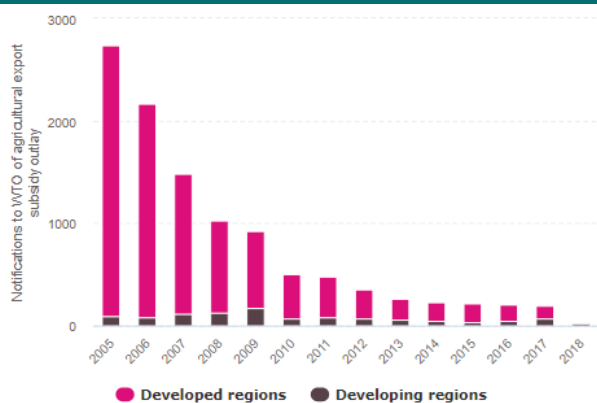
Share of zero tariffs applied to LDCs' exports up from 54% in 2010 to 67% in 2018.

UNCTAD, ITC & WTO SDG indicator 10.a.1



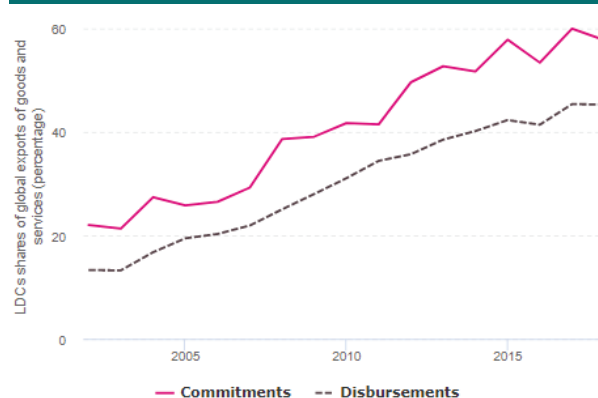
Great progress in abolishing trade-distorting subsidies, with only three economies notifying WTO about agricultural export subsidies in 2018.

SDG indicator 2.b.1

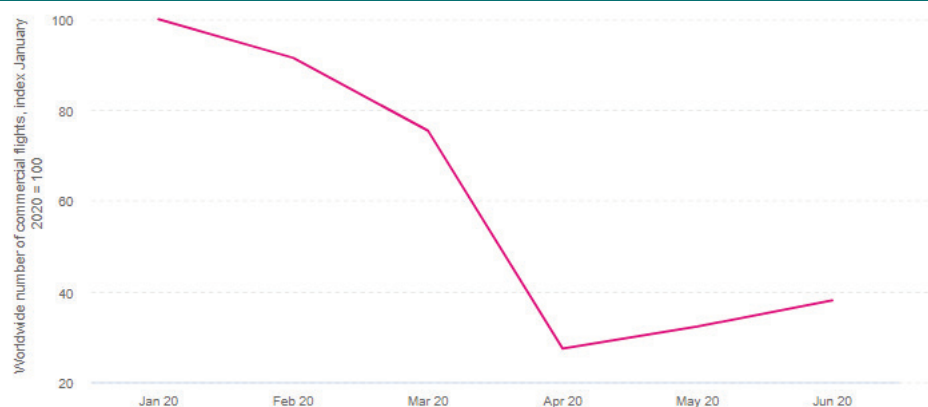


Aid for Trade commitments and disbursements have increased by 50 and 81 per cent, respectively, during the last ten years.

SDG indicator 8.a.1



Unprecedented 73% decline in commercial flights from January to April 2020 due to COVID-19.





I. International trade in developing economies

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)

Target 8.9: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

- Indicator 8.9.1: Tourism direct GDP as a proportion of total GDP and in growth rate (Tier II)

Key messages

- The target of doubling the share of LDCs' exports in global exports by 2020 is likely to be missed.
- Travel and transport sectors drive services exports in developing economies
- 100 to 120 million direct tourism jobs are at risk due to COVID-19. (UNWTO, 2020a).
- Loss of US\$80 billion in export revenues from tourism is expected for 2020. (UNWTO, 2020a).
- Viet Nam doubled their share of world goods exports and tripled their share of world services exports from 2010 to 2019.

Trade is recognized as a key factor for the 2030 Agenda, including poverty reduction and economic growth (Tipping and Wolfe, 2016). SDG target 17.11 aims to significantly increase the exports of developing countries, and in particular with a view to doubling the LDC's share in global exports by 2020. Reaching this target is likely to be implausible.

The target of doubling the share of LDCs' exports in global exports by 2020 is likely to be missed



As will be seen below, there has not been a substantial increase in the share of exports for LDCs or for developing economies in general since 2012. The COVID-19 pandemic poses additional challenges for developing economies in fulfilling not only international trade goals but also various other SDGs.

COVID-19 pandemic poses a significant challenge to the world trade

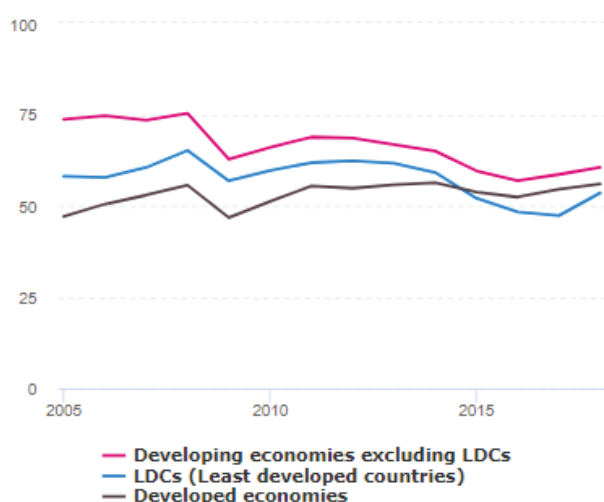
World merchandise exports rose by just over 50 per cent over the ten years from 2009 to 2019, reaching US\$18.9 trillion in 2019. Nevertheless, this was also a three per cent decline on 2018. In 2017-2018, exports showed signs of recovery after more sluggish performances in 2015 and 2016. In 2019, global services trade was valued at US\$6.1 trillion, recording a slight increase of two per cent on 2018, and of almost 70 per cent on ten years earlier (UNCTAD, 2020a).

2020 got off to a rocky start due to the COVID-19 pandemic. Preliminary UNCTAD-WTO estimates (UNCTAD, 2020a) for the first quarter of 2020 show a decline of 2.8 per cent in world merchandise exports on the corresponding quarter in 2019. The seasonally adjusted figures enable comparison with the previous quarter and show a drop of 2.0 per cent for world export volume indices. Most of the impact of COVID-related confinement measures affected global trade during the second quarter of the year, for which UNCTAD estimates a decline of 26.9 per cent from the previous quarter (UNCTAD, 2020b). UNCTAD also forecasts growth in merchandise trade for the year as a whole at -20 per cent.

Trade openness of developing economies

As shown in figure 1, developing and developed economies' trade openness indices are converging. LDCs' trade openness, i.e. the ratio of exports and imports to GDP, has been consistently lower than in other developing economies. The global dip of 2009, associated with the financial crisis, was followed by a short recovery in trade openness for developing economies, but since 2011 their trade openness has drifted downward, bouncing back only slightly after 2016.

Figure 1 Trade openness index (Percentage)



Source: UNCTAD (2020a).

Notes: This index measures the relative importance of international trade in goods and services relative to the domestic economic output of an economy. It compares the sum of exports and imports to GDP.

From 2014 to 2017, LDCs experienced a persistent decline in trade openness with the index dropping from 59 to 47 per cent (see figure 1). In 2018 this number rose to 53 per cent. This highlights the increasing influence of trade in LDCs' economies, which might exacerbate the challenges of coping with the economic impacts of the COVID-19 pandemic.

Current drift of trade in developing economies

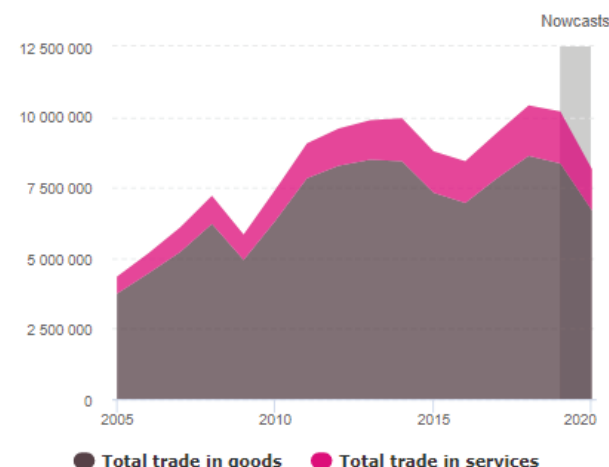
After the 2008 global financial crisis and the more recent trade downturn in 2014-2016, developing economies have seen a strong recovery since

2017. Goods trade increased at annual growth rates of 11.7 and 10.0 per cent in 2017 and 2018, respectively (figure 2). Trade in services grew by 9.0 in 2017 and 11.6 per cent in 2018. While trade in services in developing countries continued to grow by 2.7 per cent in 2019, trade in goods decreased by 3.5 per cent.

In 2018, total exports of goods and services reached US\$10.4 trillion and amounted to US\$10.2 trillion in 2019. Thus developing economies' trade finally exceeded US\$10 trillion, a level last achieved in 2014. Their trade has increased by almost 15 per cent since 2015, the year the 2030 Agenda began.

In 2020, global trade is expected to fall as the COVID-19 pandemic disrupts economic activity around the world. These disruptions will have profound implications for the most vulnerable economies, including developing economies and LDCs (UNCTAD, 2020c).

Figure 2 Trends of goods and services trade in developing economies (Millions of United States dollars)



Source: UNCTAD (2020a).

Developing countries' performance with respect to SDG 17.11.1

The evaluation of progress towards SDG target 17.11, to significantly increase the exports of developing countries, and to double the LDCs' share of global exports by 2020, requires a choice of a baseline year. According to the IAEG-SDGs (United Nations, 2019), the default baseline year

Table 1 Evolution of LDCs' and developing economies' share of global trade
(Different baselines scenario, in percentage)

Group of economies	Measures	Alternative baselines Share of global trade (percentage)				2019 Change from baseline (percentage points)		
		2005	2010	2015	2019	2005-2019	2010-2019	2015-2019
LDCs	Service exports	0.46	0.61	0.74	0.77	0.30	0.15	0.03
	Goods exports	0.72	1.00	0.89	0.96	0.24	-0.04	0.07
	Total exports	0.68	0.92	0.86	0.91	0.23	-0.01	0.06
Developing economies	Service exports	23.13	27.65	29.52	30.04	6.91	2.39	0.52
	Goods exports	36.26	42.08	44.79	44.26	8.00	2.19	-0.53
	Total exports	34.60	39.11	41.26	40.79	6.19	1.68	-0.47

Source: UNCTAD calculations based on FAO (2018).

Note: Major exporters or importers represent around 90 per cent of total exports or imports of agricultural products in 2000 and 2016.

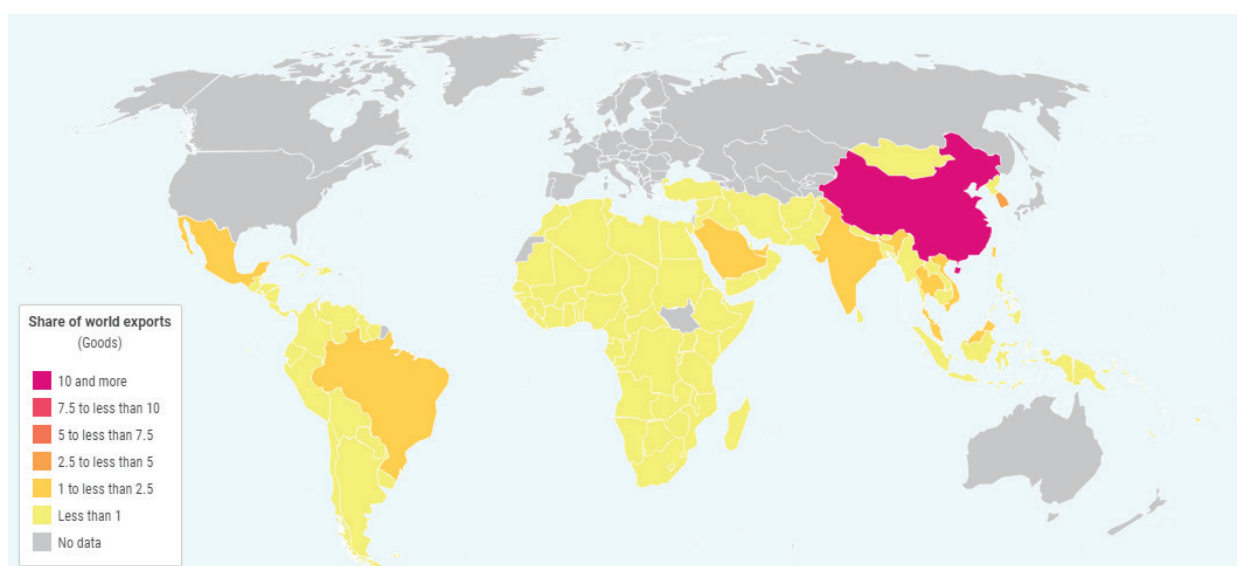
for each indicator should be 2015. However, some exceptions may be necessary to allow a longer review of trends.

Five years is hardly enough time to double the LDCs' share of global exports. Therefore, for SDG 17.11.1, an earlier baseline year is arguably more appropriate. Yet, whatever the baseline is for the past 20 years, developing countries' share of global exports has not increased significantly, nor has LDCs' share doubled. However, at a country level, performances differ and will vary depending on the chosen baseline year (see map 1). The baseline selected for MDGs, for instance, was 1990

– ten years before their adoption in 2000. This gave time for countries to achieve progress and allowed for a more ambitious agenda. If a similar approach was applied to the SDGs, a comparable baseline (ten years prior to adoption) would be 2005.

Another measurement issue to consider is the composition of LDCs. Several LDCs are likely to graduate from this status in the coming years. According to the UNDESA (2020), Vanuatu is expected to graduate in 2020, and several others will follow after the end of the target year, 2020. MacFeely (2020) has discussed the implications of the changing group composition for assessing

Map 1 Developing countries' share of global trade of goods, 2019
(Percentage of total trade)



Source: UNCTAD (2020a).

progress towards the SDG target. Will the rates of change be calculated using the original composition of LDCs or developing economies at the baseline (say 2010/2011 or 2015), or the group as it will be composed in 2020? These choices leave considerable room for the interpretation of success. Some soon-to-graduate countries have only a marginal contribution on the group performance, and whether they are included or not will have little impact, whereas the weight of some other countries is considerable, like that of Bangladesh (see map 1) and will have a significant impact on the performance of the group as a whole.

For the reasons outlined above, the 2010 has been selected as an appropriate baseline year for the scenario discussed in this chapter. Data for additional years are available also. Map 1 shows developing countries' share of global trade goods exports as well as services exports by country.

 **By 2019, Vietnam had doubled their share of world goods exports and tripled their share of world services exports from 2010**

Several countries doubled their share of global trade from 2010 to 2019. Viet Nam's share of world exports of goods grew from 0.47 per cent in 2010 to 1.4 per cent in 2019. Its share of world exports of service also grew from 0.19 per cent to 0.45 per cent. Thailand almost doubled their share of world services exports (from 0.87 to 1.34 per cent), and United Arab Emirates multiplied by 4 their share of service exports (from 0.3 to 1.2 per cent). Bangladesh almost doubled their share of total services exports as well as total goods exports (from 0.13 to 0.20 per cent for goods and from 0.06 to 0.1 for services).

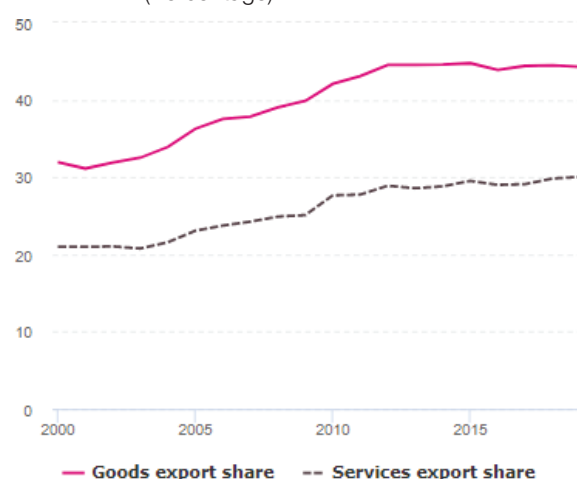
Developing economies keeping pace with world exports

Over the last two decades, developing economies have recorded a notable increase in their share

of world trade. Though the value of exports of goods and services from developing countries has increased notably since 2000, since 2012 this growth has no longer outpaced the developed world. Developing countries' share of global exports of goods and services has risen from 29.7 per cent in 2000 to 41.4 per cent in 2012 but has stagnated ever since. If the baseline selected is 2015, there would be a 0.47 percentage point decrease by 2019. From 2010, developing economies' share of global trade has increased by 1.68 percentage points and, from 2005, 6.19 percentage points.

As far as exports of goods is concerned, developing economies' share in world exports of goods has plateaued at just above 44 per cent since 2012 (see figure 3). In 2019, developing economies' share of world services exports (US\$6.1 trillion) was 30 per cent (US\$1.83 trillion). The highest share of world services exports was recorded by developing Asia at more than 24 per cent. The top three services exporters are China (4.6 per cent), India (3.4 per cent) and Singapore (3.5 per cent). They account for more than 40 per cent of developing economies' services exports.

Figure 3 Developing economies' shares of global exports (SDG 17.11.1) of goods and services (Percentage)

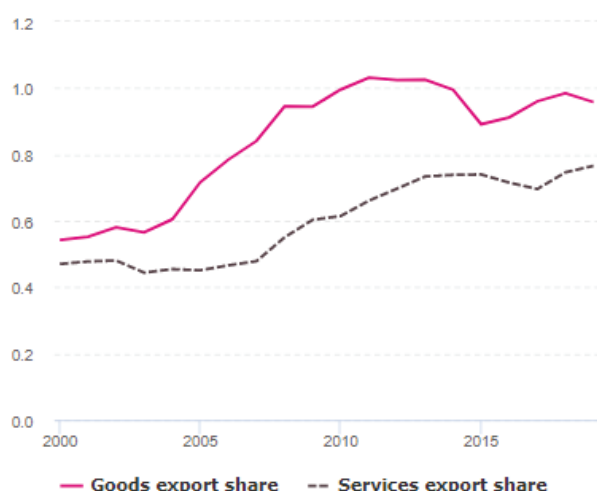


Source: UNCTAD (2020a).

Notes: Statistics on trade in services are preliminary, annual estimates based on the most recent quarterly figures (BPM6). Statistics on trade in goods are estimates based on Comtrade, international and national sources.

LDCs are a small player in world trade with a 0.91 per cent share in 2019. The 2030 Agenda sets a target to double LDCs' share in global exports by 2020. LDCs' share of global exports of goods and services was 0.92 per cent in 2010, slightly above the 2019 level. Taking 2005 as the base, their share in global trade increased by 0.23 percentage points from 0.68 per cent to 0.91 in 2019. LDCs have a long way to go before doubling their share.

Figure 4 LDCs' share of global exports (SDG 17.11.1) of goods and services (Percentage)



Source: UNCTAD (2020a).

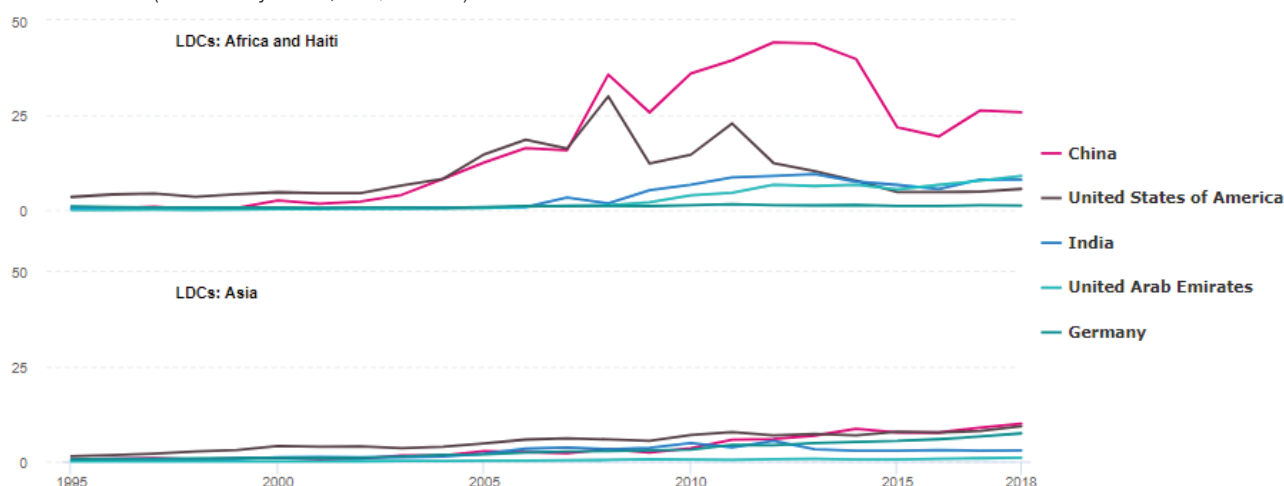
In 2019, the value of merchandise exports from LDCs was US\$180.9 billion, accounting for about one per cent of world exports. Their share in world merchandise exports almost doubled from

0.54 per cent in 2000 (US\$35 billion) to over one per cent in 2011-2013 (see figure 4). Since then, this trend has reversed slightly, and it seems unlikely that LDCs will achieve the target in 2020. The key driver of export growth over this period was the massive rise in the price of fuels, ores and metals, reflecting high demand in developing countries, most notably China. With 2005 taken as the baseline, the growth is more notable, 0.3 percentage points from 0.5 per cent to 0.8 in 2019 (UNCTAD, 2016).

China, EU28 and the United States of America are the top trading partners of LDCs

In 2018, developing economies shipped most of their exports to the United States of America (US\$1.4 trillion), China (US\$1.1 trillion) and other Asian economies. For LDCs, the top export destination was China (US\$36 billion). LDCs in Africa and Haiti delivered goods worth US\$25.7 billion to China, more than to any other economy in the world (see figure 5). LDC exports in Asia were oriented towards China and the United States of America in 2018. The importance of the European Union as a trading partner for LDCs in Asia has increased significantly since the turn of the century, with exports reaching US\$49.9 billion in 2018. Intra-regional trade is also high for LDCs from East Asia and the Pacific, and low but rising for LDCs from most other regions.

Figure 5 Top 5 partners for LDCs in merchandise exports (Ranked by 2018, US\$ billions)



Source: UNCTAD (2020a).

As merchandise exports of LDCs are concentrated in a few markets, including those worst affected by the COVID-19 health crisis (China, France, Germany, the United States of America), it makes them even more vulnerable to decline in demand in these countries. At individual country level, LDCs are even more exposed to COVID-19 related economic disruptions. For example, in 2018, Angola exported around 57 per cent of its merchandise to China, Benin around 41 per cent to India, Burkina Faso around 54 per cent to Switzerland, Haiti around 82 per cent to the United States of America and Rwanda around 65 per cent to the United Arab Emirates (WTO, 2020a).

Finally, it's worth noting that the current health crisis has also challenged developing economies to boost their intra-regional trade and strengthen international trade agreements to harmonize their trade-related regulations, customs controls, and reduce both tariff and non-tariff barriers (see New protectionism versus inclusive trade).

Developing economies' trade hit by the downswing of the Chinese economy

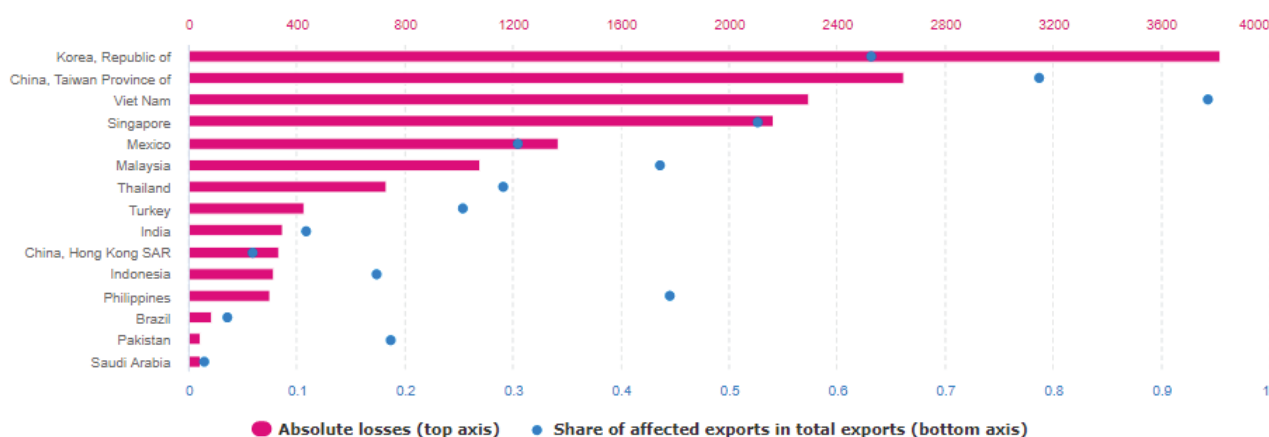
The coronavirus pandemic has instigated a global economic downturn the likes of which the world has not experienced since the Great Depression. GDP in the world's second largest economy –

China, fell by 6.8 per cent year-on-year between in January-March (WEF, 2020). In the first quarter of 2020, China's exports and imports dropped sharply in volume terms compared to the previous quarter, by 21 per cent and 11.5 per cent, respectively (UNCTAD, 2020a). The economic consequences of the economic downturn in China were quickly felt in other economies.

China is a major player in international trade as a manufacturer and exporter of consumer products, and as a key supplier of intermediate inputs for manufacturing companies globally. Today about 20 per cent of global trade in manufactured intermediate products originate in China (up from 4 per cent in 2002). UNCTAD (2020d) has analysed the UN Comtrade dataset for about 200 countries and 13 manufacturing sectors to measure each country's and industry's integration with the Chinese economy using the GLI of intra-industry trade.

According to this analysis, the economic downturn in China will lead to disruptions in GVCs and diverse spill-over effects across economic sectors and countries. The crisis may impact the supply of critical parts from Chinese producers, affecting economic output and trade in any country depending on their dependency of the Chinese

Figure 6 Top 15 developing economies' estimated losses in intermediate exports to China due to the COVID-19 crisis in 2020
(US\$ millions (top axis) and percentages (bottom axis))



Source: UNCTAD estimations based on UN Comtrade (United Nations, 2020).

Notes: The impact of other disruptions than those relating to the Chinese economy are not considered. Data refer to 2020 estimates based on 2018 data. The products used in the analysis are products that are categorized as manufacturing intermediate inputs at the industry level, HS 4-digit, aggregated to sectoral levels. The blue dot for each country refers to the share of exports of manufacturing intermediate products to China relative to exports of all products to the world.

economy. These impacts may spread faster than expected due to the common strategy of limited inventories and just-in-time production.

While the European Union, United States of America and Japan would be hit hardest, the Republic of Korea (US\$3.8 billion) would be worst hit among developing economies. The GVCs most affected by China span across sectors, especially communication equipment, different types of machinery and electronics as well as automotive industry. For the Republic of Korea, machinery and communication equipment are the sectors most dependent on China.

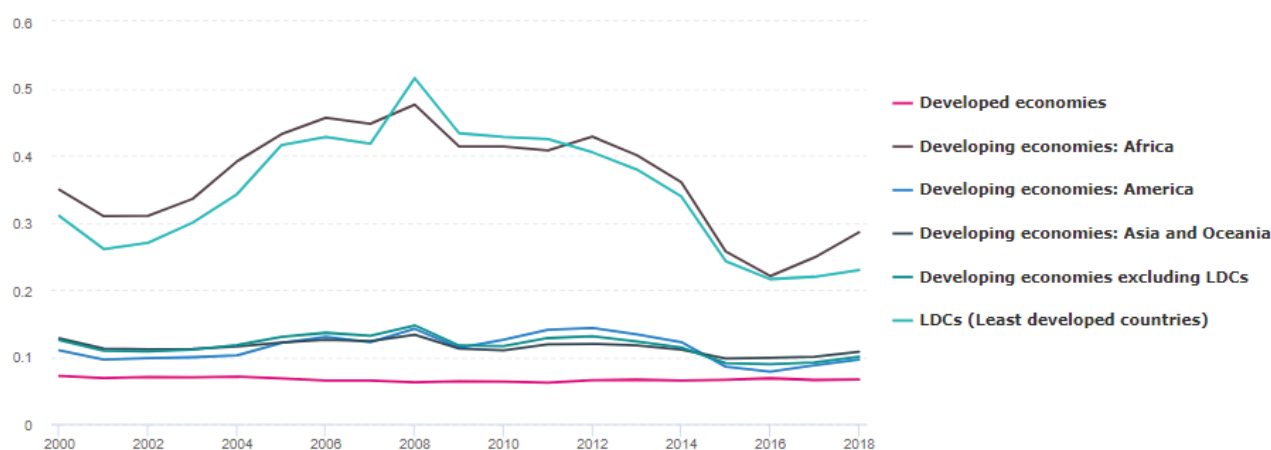
While Asian developing economies occupy the top of the list of countries most directly linked to China through GVCs, the effects would also be felt in Mexico (US\$1.3 billion), Turkey (US\$0.4 billion) and Brazil (US\$0.08 billion). In Mexico and Brazil, the automotive industry is most directly linked with Chinese value chains, while in Turkey the sector taking the brunt of the Chinese downturn would be textiles and apparel. Considering the wide-ranging impacts, the quick recovery of the Chinese manufacturing (see Towards sustainable industrialization and higher technologies) in March-April 2020 has brought some good news (UNCTAD, 2020e).

LDCs' export product mix becoming more diverse

The concentration of LDC exports, as measured by the Herfindahl-Hirschman Index¹, increased from 2000 to 2008. Since then concentration has gradually declined, converging with patterns typical of developing economies (see figure 7). Developing economies excluding LDCs have followed a similar trend. In other words, their export mix has become more diverse with a slight sustained set-back from 2016 to 2018.

Angola, Botswana and Guinea-Bissau are the three developing African countries with the highest concentration index, reaching an index value of more than 0.9, which indicates that their trade is concentrated on a very few products. Angola is highly dependent on trade in petroleum, Botswana on precious stones, and Guinea-Bissau on fruits and nuts.² In 2018, LDCs as a group recorded an average index of 0.23. Bangladesh had a relatively high export concentration index in 2018 (0.4), the highest index among Asian LDCs (UNCTAD, 2020a). Of developing economies, the product mix of exports is most concentrated in African countries. The export mix is more varied in the developing economies of America, with Guatemala, Mexico and Panama recorded the lowest concentration index in 2018, and Asia,

Figure 7 Product concentration index of exports in LDCs and developing economies (Percentage)



Source: UNCTAD (2020a).

Notes: 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.

where Turkey, Thailand and China are the top three most diversified countries.

It is worth mentioning that diversifying the strategic economic sectors of LDCs, such as food and health sectors, and empowering both productions and services, such as banking, retailing, and public services with high-level of digitization, represent possibilities for these countries to build more resilient and sustainable economies (World Bank, 2020).

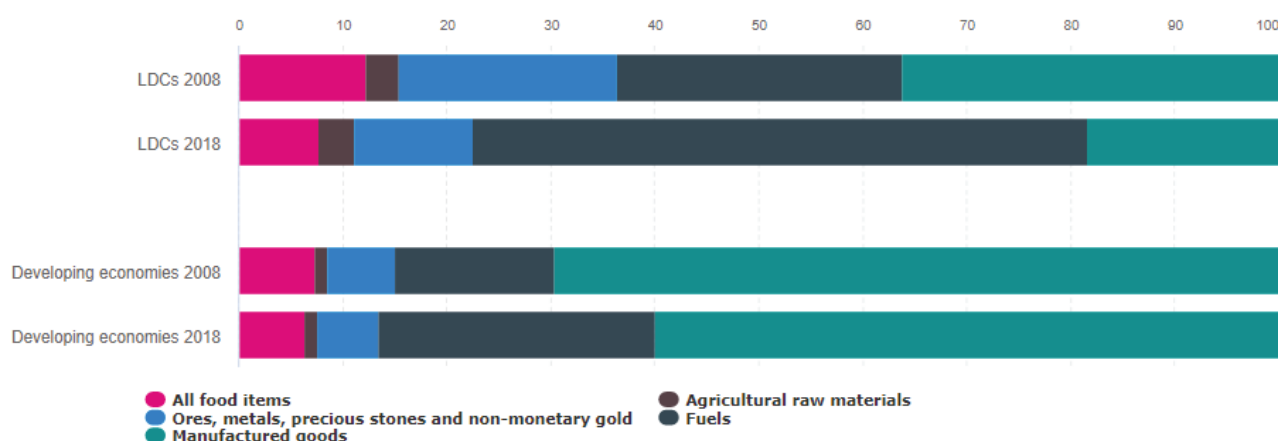
The structure of exports by product group has changed significantly in LDCs and developing economies over the last ten years (see figure 8). In 2018, manufactured goods accounted for 36 per cent of total exports in LDCs – a notable increase from 2008. However, only six LDCs—Bangladesh, Cambodia, Haiti, the Gambia, Nepal and Lesotho—received more than 50 per cent of their export revenue from exporting manufactured goods in 2018. Fuels formed the second largest product group in 2018 (27 per cent), while in 2008 they accounted for over half of the exports. The share of ores, metals, precious stones and non-monetary gold increased from almost 12 per cent to 20 per cent in the ten years from 2008 to 2018. The proportion of food items in exports also increased from eight to almost 12 per cent during the same period.

In 2018, manufactured goods accounted for about 70 per cent of total merchandise exports from developing economies – almost as much as from developed economies. The share of fuels has reduced from almost 27 per cent in 2008 to 16 per cent in 2018. Food continues to be strongly represented in the exports of some economies in South America and Eastern Africa in particular, and ores, metals, precious stones and non-monetary gold in the exports of several Southern and Western African and Central Asian economies.

LDCs are oriented towards commodity exports, accounting for more than 63 per cent of their goods exports. The periods when LDCs' exports declined more strongly than world exports (2008-2009 and 2014-2016) coincided with falls in commodity prices.

During the period between 2000 and 2019, LDCs recorded a first peak of exports in 2008 with more than US\$152 billion followed by a strong decrease caused by the financial crisis in 2008-2009. The second peak was recorded in 2013 with almost US\$194 billion. Thus, the global financial crisis of 2008 did not cause sustained declines (even though the commodity prices was connected with the financial crisis). Nevertheless, LDCs' exports seem to follow commodity price index trends (see figure 9). The decline in commodity prices has

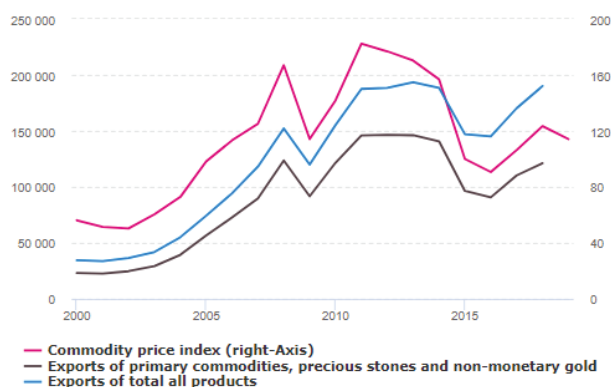
Figure 8 Export structure by product group in LDCs and developing countries (Percentage)



Source: UNCTAD (2020a).

Notes: For the composition of product groups please refer to UNCTAD (2020f).

Figure 9 **Commodities price index and LDC's total exports**
(commodity price index at 2015=100, exports in millions of US\$)



Source: UNCTAD (2020a).

Notes: Total all products refer to (SITC 0 to 8 + 961 + 971). Primary commodities, precious stones and non-monetary gold refer to (SITC 0 + 1 + 2 + 3 + 4 + 68 + 667 + 971).

caused a more persistent decrease since 2014. The current situation with COVID-19 should play out similarly, as the current decrease of commodity price index (29.3 per cent in March 2020) (UNCTAD, 2020g) will impact LDCs' exports. LDCs will need to diversify their exports to reduce their exposure to such crises.

Services exports had been increasing across economies

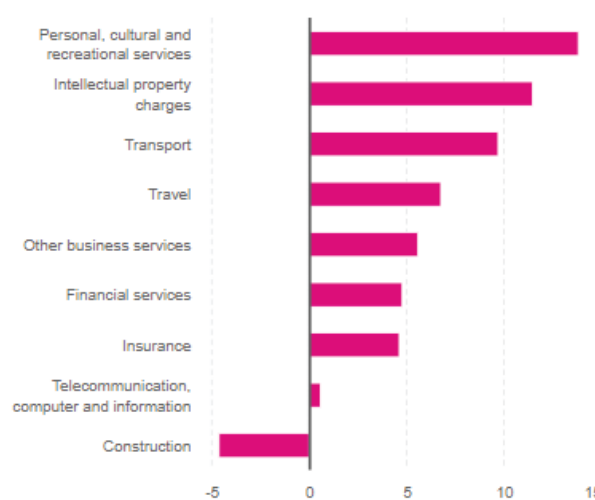
Before services were severely affected by the COVID-19 pandemic, the growth of services exports was a general trend across all economic regions, but mainly benefiting developed economies. In 2019, this group still accounted for 67.7 per cent of all traded services. With US\$1.8 trillion worth of services exported in 2019, developing economies took only 30 per cent of the global services market. LDCs' share amounted to almost 0.8 per cent of total services exports.

2019 recorded an increase of 24 per cent in exports of services compared with 20.7 per cent in 2005 (UNCTAD, 2020a). This trend might be explained by factors, such as the increasing commercialization of intangibles, the larger role of services in global value chains and the gradual liberalization of this sector.

Among broad service categories, travel has the most prominent role in developing economies' exports. At more than US\$578 billion, it accounted for 31.5 per cent of the services supplied internationally by developing economies. Transport is also an important export sector for the developing world, worth US\$366 billion in 2019. Grouped together, insurance and financial services, and business and intellectual-property-related services account for US\$822.6 billion of developing economies' exports.

Smaller in dollar value than transport and travel, but linked to travel, – exports of personal, cultural and recreational services have been the most dynamic sector in LDCs' services exports. They grew, on average, by over 13 per cent annually between 2010 and 2019. In the same period, notable annual average increases were recorded for charges for the use of intellectual property, transport and travel services (11.5 per cent, 10 per cent, and 6.8 per cent, respectively). Of the broad services items (Other service sector) which accounts for almost 45 per cent of the total traded services in the region, only construction services saw a downturn in the same period (-4.6 per cent).

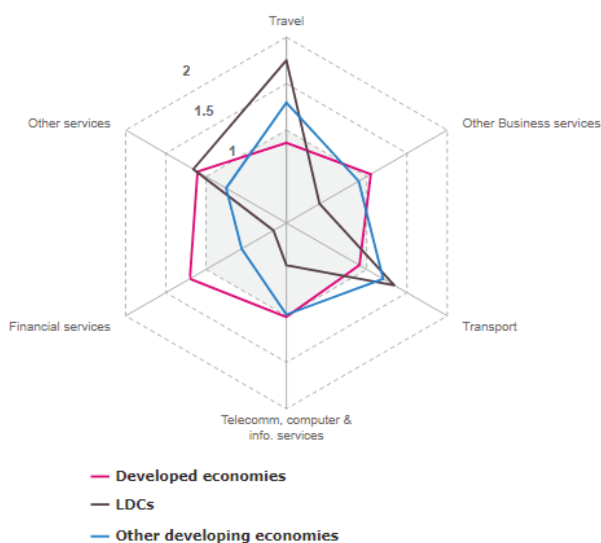
Figure 10 **Annual average growth of services exports in LDCs, by service category, 2010-2019**
(Percentage)



Source: UNCTAD (2020a).

Travel is the only type of service export where LDCs and other developing economies have a revealed comparative advantage³. The revealed comparative advantage of travel services for LDCs reached 1.75 in 2019 and was 1.3 for other developing economies (see figure 11). The value is also slightly greater than 1.34 for transport services.

Figure 11 Revealed comparative advantage in service exports, 2019 (Proportion)



Source: UNCTAD calculations based on data from UNCTAD (2020a).
Notes: The revealed comparative advantage is measured as the proportion of a country group's exports by service category, divided by the proportion of world exports in each category. A country or region is considered to have a revealed comparative advantage for a product or sector if the index is greater than one.

Exports of services requiring proximity worst hit in the time of COVID-19

There are four different modes of supply for traded across borders: (mode 1) cross-border trade mainly for services transacted via the internet; (mode 2) consumption abroad covering mainly health and education service for foreigners; (mode 3) commercial presence which is specific to locally-established entities like hotels, banks and construction; and finally (mode 4) movement of natural persons which involve for example foreign IT consultants or health workers⁴.

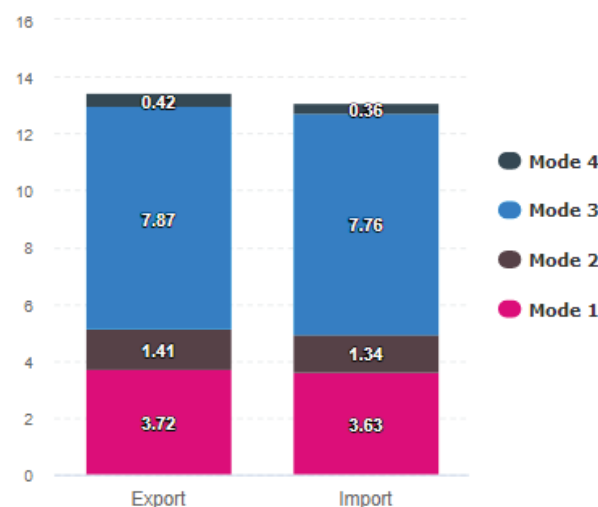
Figure 12 shows the distribution of global service trade by mode of supply. The data refer to 2017, but give a quite good idea about the mode of supply of services worldwide. More than US\$10 billion are exported via mode 1 and 3. Naturally, a big part of services provided by mode 1 continue to be exported in the time of COVID-19, but these services, including telecommunications, computer and information services account for less than 10 per cent of total service exports of developing countries.



The three other modes require proximity between importers and exporters. Thus, the related service sectors will be severely affected and most likely will take longer to recover.

As mentioned above, travel and transport are key sectors in driving developing countries service exports, accounting for more than 50 per cent of total service trade of the group. Those

Figure 12 Composition of global services trade by modes of supply, 2017 (Proportion)



Source: UNCTAD calculations based on data from WTO (2020b).

sectors are delivered mainly via mode 2, 3 and 4 and covering services such as education, travel, tourism and associated hotels, and restaurant services, as well as air passenger transport services and construction and other business services that require the movement of skilled and unskilled professionals across borders.

Travel and transport restrictions due to COVID-19 are likely to negatively affect the trade in services in 2020. Possible scenarios point to declines of 60 per cent to 80 per cent in international tourist arrivals in 2020. According to CCSA (2020), countries with the highest number of reported cases of COVID-19 (see In focus: COVID-19) account for about 55 and 68 per cent of global inbound and outbound tourism expenditure, respectively. The Joint Report (CCSA, 2020) warns that the effect of the crisis will spill out and be significantly more devastating for countries heavily dependent on tourism.

Impact of COVID-19 on trade

Baldwin (2020) argues that 2020 will experience a more severe trade turndown than the demand shock of the 2008-2009 crisis, as the COVID-19 crisis creates both a demand and supply shock. From the supply side perspective, production is affected for two reasons, because of reductions in labour supply, and because of disruption to value chains. Countries that rely on equipment and components from regions affected by the virus may experience disruptions in the production process (EIF, 2020).

From the demand side, demand for manufactured goods could fall considerably. During confinement, many shops are closed, and people are reducing shopping in person to avoid social contacts. Workers who are required to stay at home in line with “social distancing” measures tend to prioritize saving over spending, thus, propensity to consume decreases. Secondly, firms that are experiencing disruptions in the production process may decrease their consumption of intermediate goods.

The economies of developing and developed countries are highly interlinked. Exports from developing economies to developed countries (the most likely to be affected severely by COVID-19) accounted for more than 43 per cent of developing economies’ total merchandise trade in 2018, while intra-trade exports accounted for almost 55 per cent. Imports from developed economies to developing economies accounted for more than 30 per cent. Trade in goods and services comprised, on average, around 45 per cent of GDP in SIDS, and up to 30 per cent for LDCs (UNCTAD, 2020a).

Loss of US\$80 billion in exports revenues from tourism expected for 2020

(UNWTO, 2020)



That said, the impact of supply and demand shocks on trade can manifest in different ways depending on the country or region. Economies like China, Europe and the United States of America are mostly affected by direct impacts; the majority of developing countries are mostly affected, as of June 2020, by indirect impacts relating to their level of trade dependency with countries affected by the coronavirus. However, as COVID-19 further spreads to developing countries (see In focus: COVID-19), the direct impacts on those countries are likely to increase.

It is plausible to assume that resource-rich developing countries will be also affected by the strong reduction in commodity prices, for example, petroleum and precious metals (see figure X above), caused by reduced international demand for such goods, and that developed countries have been experiencing a drop in the production of transformed manufactured goods (see Towards sustainable industrialization and higher technologies) (UNIDO, 2020).

Global export is still dominated by goods, with a 76 per cent share in 2019. Exports of goods account for 83 per cent of total exports in developing economies and have become more

diversified with manufactured goods representing the largest item of merchandise exports (65 per cent of total goods exports in 2018). LDCs, on the contrary, are highly dependent on exports of commodities, which represent more than 70 per cent of their merchandise exports. High dependence on commodity exports makes most LDCs extremely vulnerable to global shocks, such as the current COVID-19 crisis.

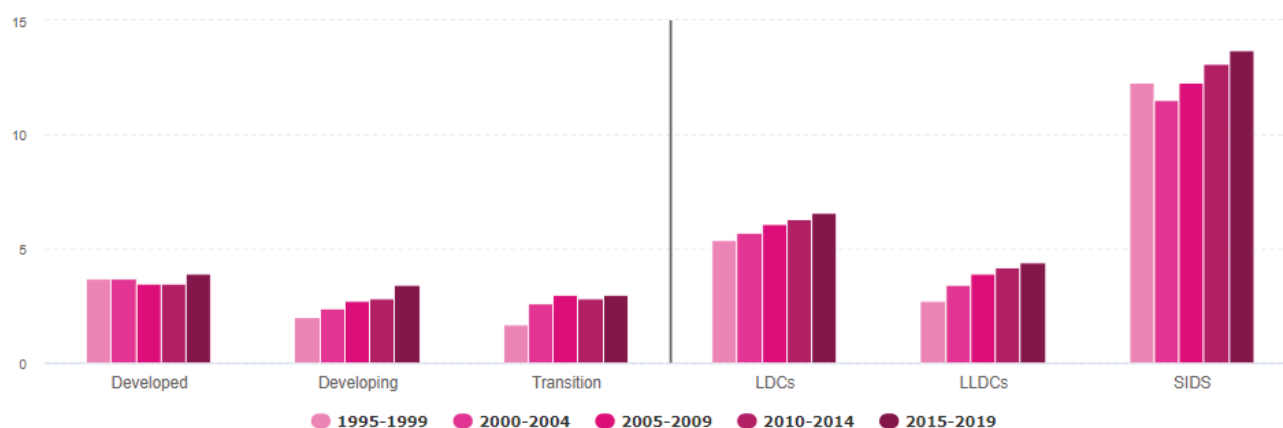
However, the impact of the COVID-19 pandemic will be equally devastating for LDCs and other developing countries that do not rely on commodities as a primary source of their foreign revenues. Non-commodity dependent LDCs, such as Bangladesh, Cambodia and Haiti, rely mostly on low-skilled and labor-intensive manufacturing exports, which are at risk of contracting sharply if global demand for manufacturing exports remains depressed in 2020 and beyond. The lack of sufficiently large domestic demand to absorb excess supply as external demand drops is likely to lead to mass layoffs of the labor force in the manufacturing sector. Much of the exports of these countries rely on intermediate imports from abroad, meaning that if the disruption in global production and supply chains continues, these economies may not be able to procure intermediate production inputs, even if there is demand for their products.

Tourism makes a significant contribution to sustainable development

One of the most important contributors to international trade in services is tourism. In addition to the direct service itself, tourism has large multiplier effects that extend to the domestic economy. It promotes growth and employment in a multitude of economic sectors, such as transportation, hotels and restaurants, retail trade, financial services and cultural services. It also attracts domestic and foreign investment and promotes the development of the private sector. For this is reason, UNCTAD has recognized that touristic services, if properly harnessed, can become an important engine for inclusive and sustainable economic growth in developing countries (UNCTAD, 2017).

For many developing countries, tourism is one of the most important exports and an essential source of revenue. Figure 13 shows that, on average, tourism contributes to the economy at comparable rates in developing, developed and transition economies. However, for LDCs and especially SIDS, this sector is responsible for a larger share of total economic activity. During 2015-2019, tourism accounted for, on average, 4.4 per cent and 13.7 per cent of LDCs and SIDS

Figure 13 Direct contribution of tourism to GDP by country group, average
(Percentage of total GDP)



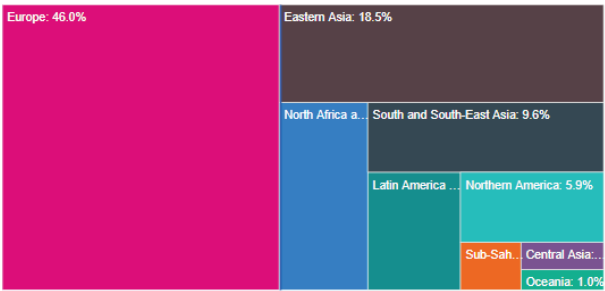
Source: UNCTAD calculations from World Travel & Tourism Council (2020).
Notes: Averages include only countries with available data.

GDP , respectively. Moreover, the contribution of tourism to the economy seems to be increasing over time.

As mentioned above, tourism has a multiplier effect on the domestic economy through several channels. One of these, depicted on map 2, is through its direct contribution to employment creation. In addition to SIDS, many countries in all geographic regions, including South-East Asia (Cambodia, Philippines), North Africa (Tunisia, Morocco), the Caucasus (Georgia), the Americas (Belize, Uruguay, Mexico), Europe (Croatia, Montenegro, Iceland, Greece) and Oceania (New Zealand), benefit greatly from the employment generated across the tourism industries. Overall, current estimates place tourism’s direct contribution to worldwide GDP at 3.3 per cent and to global employment at 3.9 per cent (World Travel & Tourism Council, 2020).⁵

Despite its increasing economic weight, touristic service supply is still relatively concentrated. More than 45 per cent of all international tourists were still travelling to European countries in 2019. As illustrated in figure 14, other regions of the world received a comparatively small share of international tourist arrivals. This is the case of Oceania, Central Asia, Sub-Saharan Africa and Latin America and the Caribbean, regions where

Figure 14 International tourist arrivals, distribution by region, 2018 (Percentage)

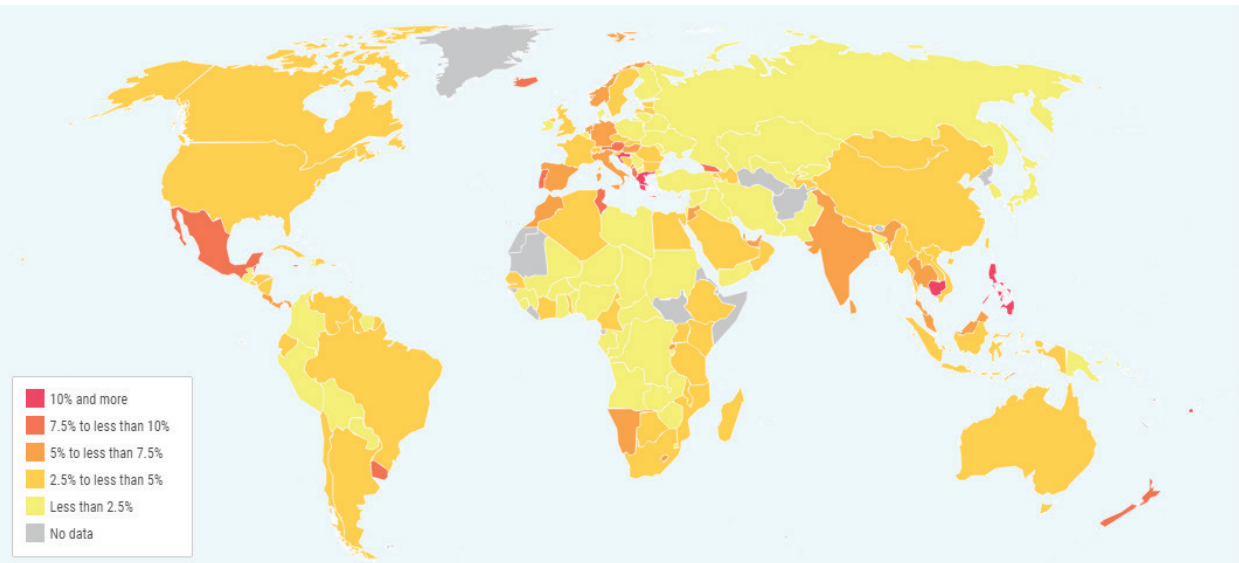


Source: UNCTAD calculations based on data from UNWTO (2020b).

many developing economies are located, including many LDCs. In many regions of the world, tourism still has unexploited potential as a means of development.

However, this is gradually changing. Worldwide tourist arrivals increased by almost 50 per cent between 2010 and 2018. While tourists travelling to Europe and Northern America increased by only 41 and 32 per cent, respectively, over the same period they increased by 93 per cent in South and South-East Asia and by a remarkable 243 per cent in Central Asia. The only developing region that did not benefit from this dynamism in tourism was Sub-Saharan Africa, where the number of tourists fell by nine per cent over the period.

Map 2 Direct tourism contribution to employment, 2019 (Percentage of global employment)



Source: World Travel & Tourism Council (2020).

Tourism remains vulnerable to global and regional risks

SDG target 8.9 aims to develop and implement policies to promote sustainable tourism that will result in more jobs and support of local cultures and products. However, even if tourism can bring substantial revenues and economic opportunities, it can also bring challenges for sustainable development. For example, tourism can help finance the preservation of historical and environmental treasures, but if poorly managed could also have the opposite effect (UNCTAD, 2016). Tourists also directly contribute to greenhouse gas emissions and climate change in many ways: through transportation by air, rail, road and sea, and by consumption of goods and services whose production is intensive in energy, water or other resources.

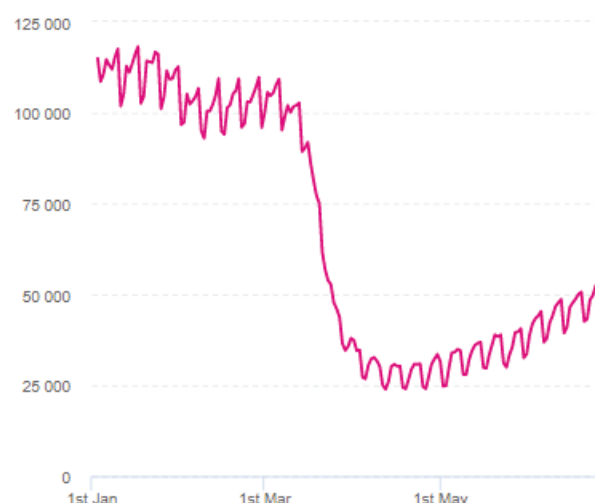


Tourism is a labour-intensive sector that could provide employment for a large share of people, including women and other underrepresented groups. It is also a sector with a high concentration of small and medium enterprises, self-employment and family businesses. For these segments, tourism-related economic activity could provide sustained livelihood opportunities and paths towards poverty reduction for women and local communities in developing countries (UNWTO and ILO, 2014).

However, as revealed by the precipitous decline in international travel and tourism in the aftermath of the COVID-19 outbreak, this is a pro-cyclical sector with high elasticity to global and regional economic trends. In addition, it is very sensitive to perceived security, health and environmental risks. Figure 15 shows the daily evolution of commercial flights during early

2020. We can start to detect a declining trend already at the beginning of the year. However, as more countries installed travel restrictions and encouraged the population to stay home, only a small fraction of scheduled flights were maintained, leading to an unprecedented decline in global flight activity. This fall had a large, direct impact on airlines and the air transportation sector at large. But it also negatively affected businesses and individuals that, directly or indirectly, benefit from providing goods and services to the tourists and business travellers that those cancelled flights would have brought. Although data are not yet available, a similar trend is expected in travel by other modes of transports.

Figure 15 Worldwide number of commercial flights, 2020
(Number of flights)



Source: Flightradar24 (2020).

Indeed, recent figures already show a catastrophic year for the sector. Tourist arrivals to Thailand fell by 52 per cent in the first four months of 2020, compared to the same period in 2019 (UNCTAD calculations based on data from Refinitiv (2020). Over the same period, the Republic of Korea recorded a fall of 62 per cent in the number of visitor arrivals (Korea Tourism Organization, 2020). UNWTO (2020a) expects an annual fall of between 60 to 80 per cent in international tourist arrivals in 2020, while

OECD (2020) expects a 45 per cent decline in the international tourism economy in their most optimistic scenario and a 70 per cent fall in their most pessimistic. However, there is still a large degree of uncertainty surrounding such estimates and the full impact of the coronavirus disease outbreak will only be known once countries start lifting travel restrictions and touristic activity gradually recommences.

These figures show that, while international tourism could provide substantial opportunities for many developing economies, it remains exposed to high global and regional volatility.

Growth in tourism is resulting in increasing amounts of investment in infrastructure: buildings, traffic networks and access to transport services, land take and supply services in destinations. This has a direct impact on the environment in terms of resource use (land and water), biodiversity and waste generation.

Notes

1 The Herfindahl-Hirschman Index (HHI) is a measure of market concentration. A higher index value indicates a more concentrated export structure.

2 Products classification refers to three-digit level of SITC Revision 3.

3 The revealed comparative advantage is measured as the proportion of a country group's exports by service category, divided by the proportion of world exports in each category.

4 Examples of the four Modes of Supply (from the perspective of an "importing" country A) (WTO, 2020c)

Mode 1: Cross-border - A user in country A receives services from abroad through its telecommunications or postal infrastructure. Such supplies may include consultancy or market research reports, tele-medical advice, distance training, or architectural drawings.

Mode 2: Consumption abroad - Nationals of A have moved abroad as tourists, students, or patients to consume the respective services.

Mode 3: Commercial presence - The service is provided within A by a locally-established affiliate, subsidiary, or representative office of a foreign-owned and — controlled company (bank, hotel group, construction company, etc.).

Mode 4: Movement of natural persons - A foreign national provides a service within A as an independent supplier (e.g., consultant, health worker) or employee of a service supplier (e.g. consultancy firm, hospital, construction company).

5 WTTC also calculates that the total contribution of tourism to the economy. This includes, in addition to the direct impacts, the indirect contribution (tourism-related investment spending, government collective spending and domestic supply chain purchases of goods and services) plus the induced contribution (spending of those directly and indirectly employed by the tourism sector). According to these estimates, the total contribution of tourism is 10.4 per cent of GDP and 9.8 per cent of employment. For details on the methodology of these estimates, see WTTC and Oxford Economics (2018).

6 A country is considered to be export-commodity-dependent when more than 60 per cent of its total merchandise exports are composed of commodities.

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II. New protectionism versus inclusive trade

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 tariff-average (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: Average tariffs faced by developing countries, LDCs and SIDS (Tier I)

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 (Tier I)

Key messages

- As of 25 May 2020, 303 Regional Trade Agreements (RTAs) were in force
- Africa imposes some of the highest import duties
- While 60% of agricultural trade was duty-free in 2018, remaining tariffs were around 16%.
- At more than 10%, Middle- and low-income countries face the highest average tariffs on processed goods
- In 2018, developed countries applied 4% tariffs rates to imports from LDCs.
- South Asia and Sub-Saharan Africa faced the highest intraregional tariffs in 2018
- Share of zero tariffs applied to LDCs' exports up from 54% in 2010 to 67% in 2018
- The average tariff on COVID- 19 medical products is almost 5%
- Technical barriers to trade affect more than 30% of product lines and almost 70% of world trade
- In LDCs and developing countries, about 40% of imports are subject to NTMs

The Addis Ababa Action Agenda (United Nations, 2015) acknowledges that international trade is an engine for inclusive economic growth and poverty reduction. Target 17.10 is of paramount importance to advancing economic growth and fostering global competitiveness as it promotes a universal, rules-based, open, non-discriminatory and equitable multilateral trading system. Market access conditions are an important factor for the effectiveness of trade, and tariffs are an important determinant of market access.

Do trade reforms lead to economic growth?

Recent research in trade theory suggests that trade reforms which significantly reduce import barriers have on average a positive effect on economic growth, although the economic effect of such trade policies vary across countries (Irwin, 2019). Falvey et al. (2013) report that economic growth is roughly 1.7 percentage points higher after trade reforms than a benchmark (compared to the situation without any trade

reforms). Easterly (2019) finds that the positive correlation between a good trade policy and economic outcomes has increased since the 1990s. Piketty (2014) notes that free trade and economic openness are ultimately in everyone's interest. On the other hand, revenues accrued from tariffs may constitute a significant portion of a government's public revenue, particularly in low-income countries, where the need for coordination of tariff liberalization with other tax policies is of particular importance.

Trade agreements

In 1947, major economies involved in international trade signed the GATT, an agreement through which countries entered into "reciprocal and mutually advantageous arrangements aimed at the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment in international commerce" (WTO, 2020a).

Article 1 of the "GATT-94" stipulates that members set their tariffs on a MFN basis in such

a way that any advantage, favour, privilege or immunity granted to any product originated in and destined for other countries becomes immediately and unconditionally applicable to all contracting parties (WTO, 2020b).

The conclusion of the “GATT-94” multilateral trade negotiations led to the creation of the WTO, with a clear mandate to develop an integrated, more viable and durable multilateral trading system. The WTO members set a maximum limit for tariffs levied on all agricultural goods and the majority of non-agricultural goods.¹



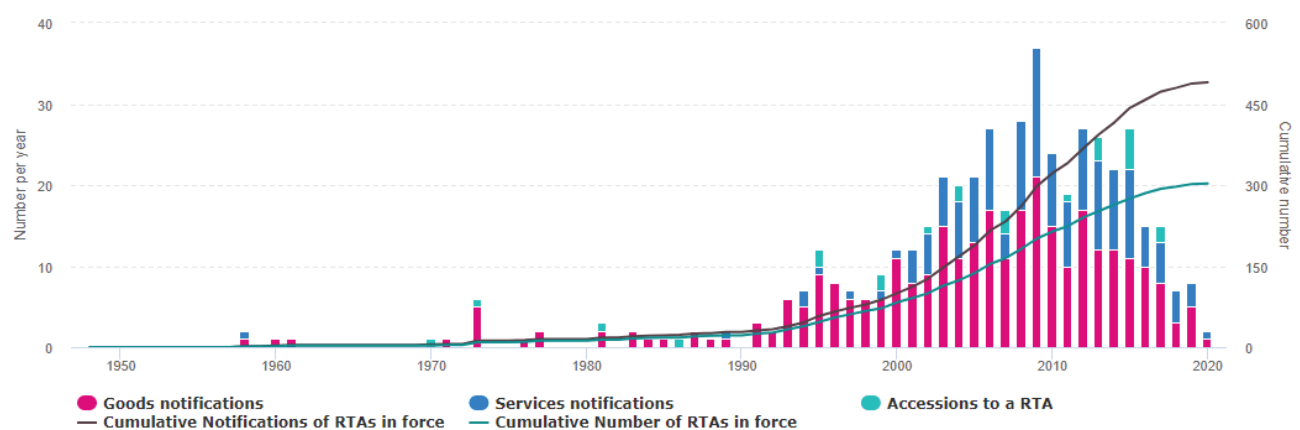
Since then, most economies across the world have negotiated bilateral or multilateral trade agreements with the objective of reducing barriers to trade and promoting exchanges among members. In 1948, when GATT became operational, no formal regional trade agreements (RTAs) existed. Nowadays, practically all countries participate in at least one RTA, with some countries forming more bilateral and regional RTAs than others. According to the

WTO Regional Trade Agreements Database, as of 1st June 2020, 303 RTAs were in force, as compared to 291 in January 2019 (WTO, 2020c) (Figure 1).

The proliferation of preferential agreements among key developing countries is significant. The most recent example is the AfCFTA, which entered into force in May 2019. The AfCFTA creates a market comprising more than 1.3 billion people and a combined national income of US\$2.5 trillion (United Nations, 2020a).

RTAs can serve as an important means of advancing gender-responsive trade policy. In June 2020, UNCTAD released a policy brief (UNCTAD, 2020a) on making trade agreements work for gender equality. An analysis of over 500 RTAs shows that although the inclusion of gender provisions is not new, only 74 agreements refer explicitly to gender issues (Monteiro, 2018). Often these provisions prohibit gender-based labour discrimination (ILO, 1958), referring to fundamental principles and rights at work, such as equal pay for work of equal value (ILO, 2020). The newly adopted ILO Violence and Harassment Convention (ILO, 2019) is expected to become an important reference in trade agreements. Some of the more recent RTAs include a separate chapter to promote gender equality. They list concrete areas of cooperation to promote women’s participation in the economy. So far, however,

Figure 1 Evolution of regional trade agreements over time

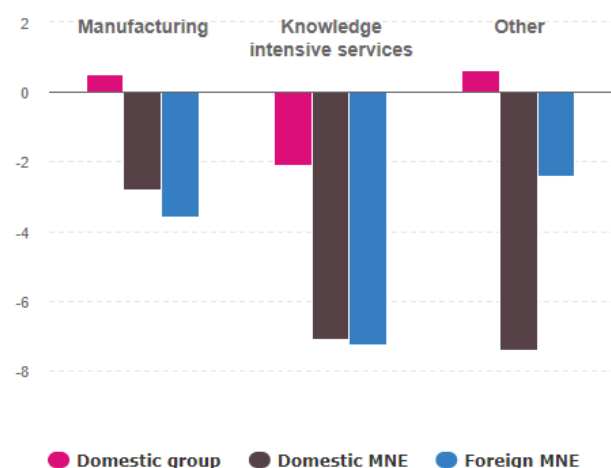


Source: WTO (2020c).

only a few trade agreements call for the collection of sex-disaggregated data, use of indicators and analysis of gender statistics.

To this end, UNCTAD (2018b) developed a conceptual framework and a set of indicators on gender equality which focus on MNEs and foreign traders. A case study on Finnish data reveals that the gender pay gap tends to be larger in high-paying jobs in foreign multinationals and in enterprises that trade internationally. In Finland, the gender gap is smaller in domestically owned businesses. The UNCTAD research paper (Luomaranta et al., 2020) provides a blueprint, showing how business and social statistics can be linked to enable an analysis of gender inequalities in trade. The results indicate that even for a country with high gender equality, like Finland, trade is still an area where inequalities persist. RTAs could serve as an important tool to advance and monitor gender equality in the economy.

Figure 2 Women's pay/men's pay in high paying categories (ISCO 1-3), by enterprise type
(Percentage point difference to independent firms)



Source: Luomaranta et al. (2020).

Notes: ISCO 1-3 refers to the major groups 1-3 of the International Standard Classification of Occupations, namely managers, professionals, technicians and associate professionals.

In Finland, there are striking differences between firm types, and they are especially remarkable in knowledge intensive services. Therein, the ratio of women's pay to men's pay in foreign owned multinationals is seven percentage points smaller than in independent firms.

Making non-discriminatory tariff reforms work for development

Even though most developed countries have pushed for lower tariffs in recent years, there are still many parts of the globe where they remain high. In general, tariffs on imports of both agricultural and non-agricultural products tend to be higher in developing countries. Some of the highest import duties can be found in Africa, where Gambia stands out with an average tariff of 18.1 per cent. The country with the highest

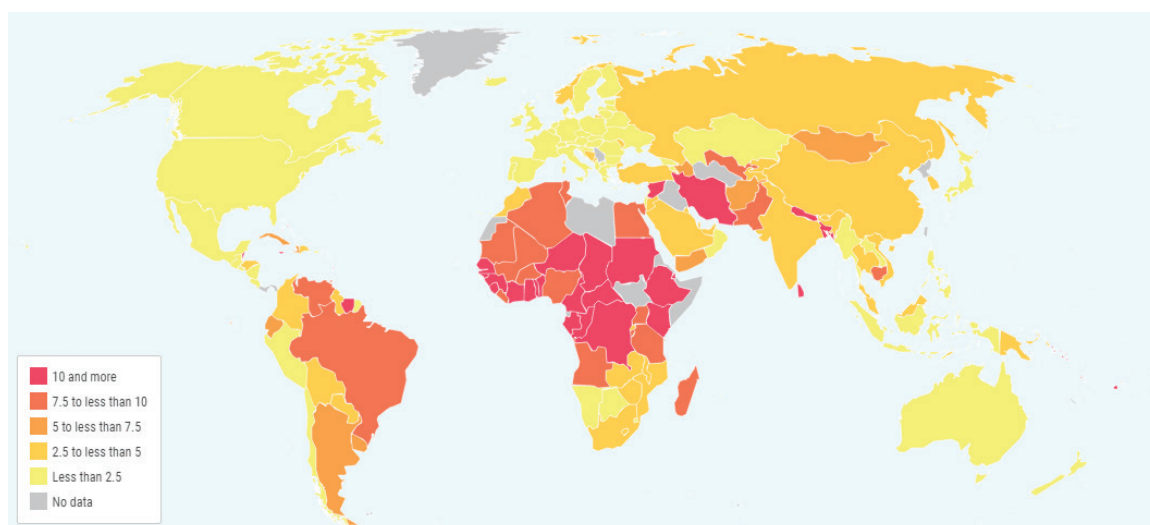


weighted average tariff worldwide is Palau at 34.6 per cent. Among major global economies, India imposes a weighted tariff-average of 4.9 per cent while China's average rate is 3.4 per cent. The United States of America applies a weighted average tariff of 1.6 per cent on its imports, one of the lowest rates worldwide. The weighted average tariff, applied in the EU, was 1.7 per cent in 2018. In LDCs, weighted average tariffs vary from 2.4 per cent (Tuvalu) to 30.3 per cent (Solomon Islands). The lowest weighted average tariffs at zero per cent are recorded in Hong Kong SAR, China; Macao SAR, China and Brunei.²

Since 2008, both multilateral and preferential tariffs have been trending downwards. Tariffs on agricultural and natural resources have been reduced both through MFN tariffs and more widespread preferential access. According to UNCTAD (2020c), the simple average of the world MFN tariffs for agricultural products in 2018 remained relatively high at around 16 per cent, although they have declined by about two percentage points since 2008. Among the countries with the largest levels of agricultural trade, Egypt, the Republic of Korea, Turkey, and India maintain the highest

Map 1

Worldwide weighted average tariff, latest available data (SDG 17.10.1)
(Percentage)



Source: World Bank estimates (2020a), based on UNCTAD (2020b), WTO (2020d) and WTO (2020e).

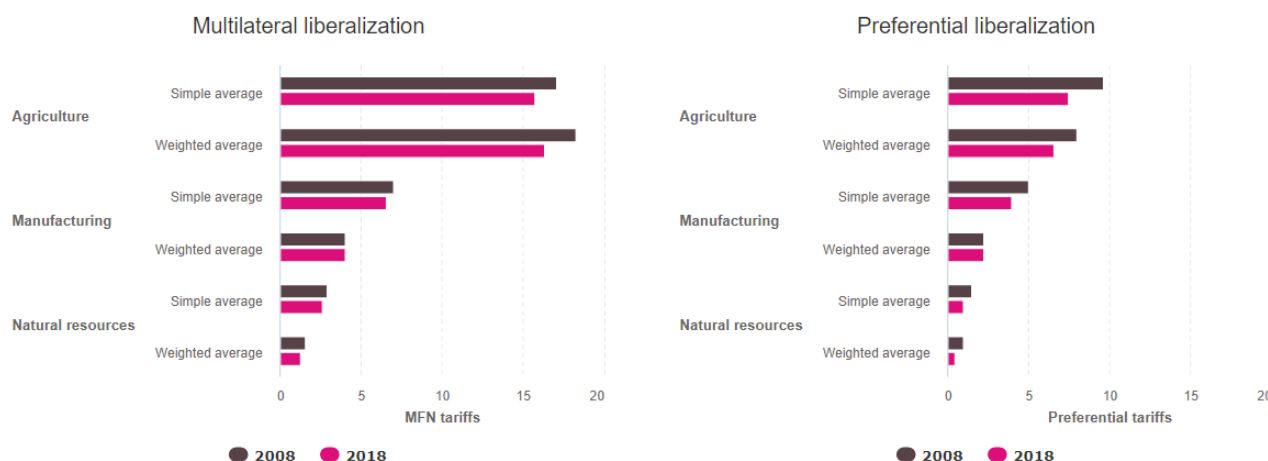
MFN agricultural tariffs, with simple averages exceeding 30 per cent (WTO, ITC & UNCTAD, 2019).

The simple averages of the world MFN tariffs and preferential tariffs for natural resources in 2018 continued to decline and were below three per cent and one per cent, respectively. The same indicator for manufacturing products averaged about seven per cent in 2018. The proliferation of PTA schemes has resulted in the decline of tariffs in this sector by about one percentage point (see figure 3).

Tariffs applied to exports of LDCs and developing countries are slowly reducing

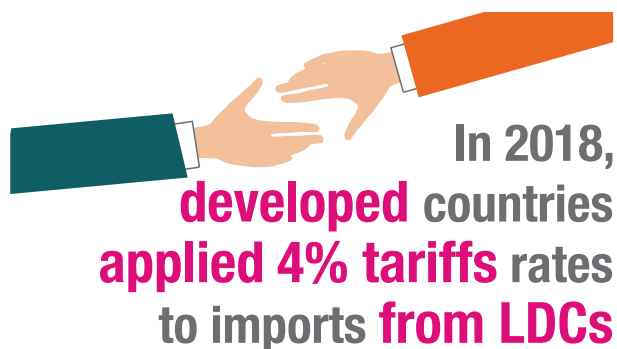
The average level of customs tariff rates (indicator 17.12.1) faced by developing countries and LDCs illustrates the pace at which the multilateral system is advancing toward the implementation of duty-free and quota-free market access (United Nations, 2020b).

Figure 3 **Multilateral and preferential tariff liberalization**
(Percentage)



Source: UNCTAD, ITC and WTO calculations based on UNCTAD (2020b), ITC (2020) and WTO (2020d).

SDG target 17.12 aims to “realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries...”. Recognizing LDCs’ special economic situation, developed countries and other economies³ agreed to grant LDCs duty-free and quota-free preferential market access.



The objective of the target 17.12 is to “realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries...”. Recognizing LDCs special economic situation, developed countries and other economies in a position to do so, agreed to grant LDCs duty-free and quota-free preferential market access.

Preferential market access for developing countries has been initiated by most developed countries since the early 1970s under the aegis of UNCTAD (2020d). These unilateral trade preferences called the GSP allow developed countries to apply different tariffs between different groups of trading partners without violating Article I

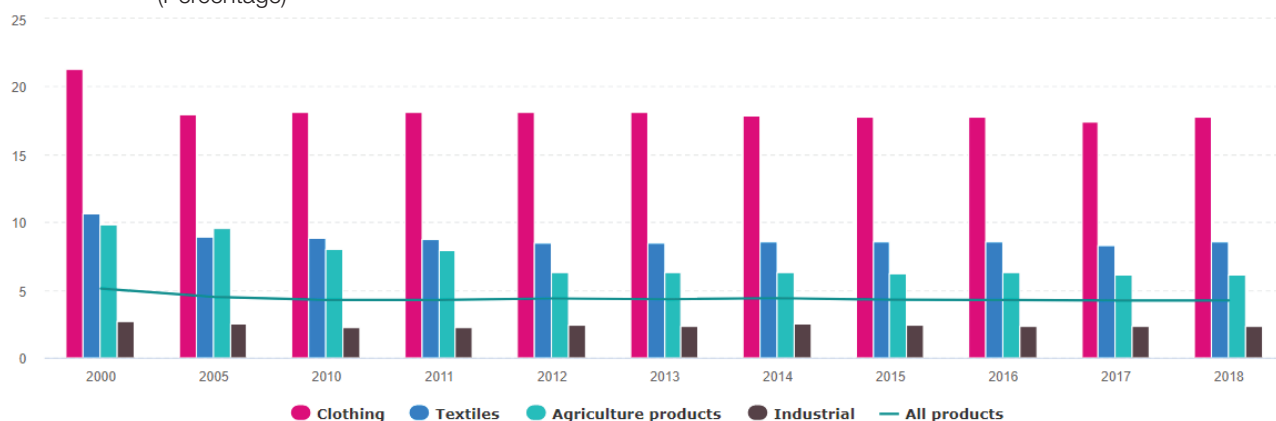
of the GATT requiring non-discriminatory and equal treatment of trading partners.

Trade preferences under the GSP program are granted, not only by the so-called QUAD countries, namely the EU, United States, Japan and Canada, but also by Australia, New Zealand, Norway, Belarus, Iceland, Kazakhstan, Russian Federation, Switzerland, and Turkey.

Figure 4 shows that import tariffs applied by developed countries to products from LDCs registered a slight decline since 2000 and amounted to about four per cent in 2018. The variations of tariffs faced by LDCs across product groups are considerable. In particular, tariffs for clothing and textiles remained high in 2018 and amounted to 18 per cent and nine per cent, respectively. This could be partly explained by the exclusion of some large Asian exporters from certain preferential tariffs.

In addition to the GSP scheme and LDCs preferences, many developed countries grant trade preferences to other developing countries, either within the GSP or as a separate program (Klasen et al., 2016). For example, the European Commission’s EBA initiative implements a slightly less preferential GSP+ tariff for vulnerable countries, respecting international conventions on human and labour rights, environmental protection and good governance (European Commission, 2019). Canada, apart from the GPT applicable to developing nations, grants a non-

Figure 4 Average tariffs applied by developed countries to exports from LDCs, by sector (SDG 17.12.1) (Percentage)



Source: UNCTAD, ITC and WTO calculations based on UNCTAD (2020b), ITC (2020) and WTO (2020d).

reciprocal CCCT to certain Caribbean nations (WTO, 2020f). This applies also to the Least Developed countries Tariff.

Import restrictiveness differs substantially across countries, and even within the same region. Table 1 presents a matrix of the average tariff levels imposed on trade flows between regions in 2018. Intraregional trade is generally subject to lower tariff trade restrictiveness than interregional trade. However, this is not the case for exports from sub-Saharan Africa and South Asian countries, for which market access often enjoys better interregional trade conditions than for intraregional trade. South Asia and Sub-Saharan Africa face the highest intraregional tariffs, with tariffs of 5.7 per cent and 2.3 per cent respectively, in 2018. A large number of South–South trade flows are still burdened by relatively high tariffs. For example, exports from Latin American countries to the South Asian region face a tariff of about 16 per cent (UNCTAD, 2020c).



North–North tariffs are on average lower than North–South tariffs because of tariff peaks within product groups, which are of significant export interest to developing countries, such as agriculture and apparel. However, low income countries, within product categories, do receive higher preference margins, averaging three percentage points above other countries (World Bank, 2020b). Some countries, such as Lesotho and Afghanistan, receive preference margins as much as ten percentage points.

Table 1 Tariff restrictiveness, matrix by region, 2018
(Percentage)

Importing Region	Exporting Region						
	Developed economies	East Asia	Latin America	South Asia	Sub-Saharan Africa	Transition economies	Western Asia and North Africa
Developed economies	1.5	2.3	1.1	2.0	0.5	1.6	0.8
	-0.4	-0.2	0.3	-0.8	0.1	0.9	0.2
East Asia	4.3	1.9	4.4	4.1	3.1	3.8	2.8
	-1.6	-1.4	0.0	0.1	1.1	1.4	0.2
Latin America	3.3	7.9	1.0	11.3	1.9	1.6	3.1
	-0.5	-1.8	-0.6	-2.0	-0.5	0.1	-0.5
South Asia	9.5	6.8	16.2	5.7	5.4	6.6	6.0
	0.1	-2.7	8.6	-2.5	-0.8	0.9	-1.8
Sub-Saharan Africa	7.1	9.4	9.4	9.1	2.3	7.1	6.6
	-1.2	-1.6	0.1	1.5	-1.7	0.2	0.8
Transition economies	3.0	3.8	6.4	4.2	1.9	0.9	4.7
	-3.5	-4.1	-3.9	-6.1	-1.0	0.8	-3.1
Western Asia and North Africa	4.6	5.4	4.5	4.2	2.5	9.2	2.4
	0.5	0.0	-1.3	0.2	0.4	8.0	0.3

Source: UNCTAD (2020c)

Note: Changes between 2008 and 2018 are shown in smaller font.

Tariffs on processed goods tend to exceed those on raw materials or semi-processed goods in many of the largest markets. This tariff escalation, designed to protect high value-added industries, hampers the diversification of exports of developing countries and increases their dependence on unprocessed goods subject to high price volatility. For example, the EU applies a bound rate of zero per cent on imports of cocoa beans, but a 7.7 per cent, and 15 per cent ad-valorem duty on cocoa powder and chocolate crumb containing cocoa butter, respectively (FAO, 2003). Figure 5 shows that middle and low-income countries impose, at over ten per cent, the highest average tariffs on processed goods.

The objective to improve market access conditions for LDCs' exports by giving special and differential treatment to LDCs in accordance with the WTO agreements was not only outlined in SDG target 17.12, but also in SDG target 10.a. The following section will cover SDG target 10.a.

More than half of exports from developing countries are now eligible for duty-free treatment

Most developed countries grant either full or nearly full duty-free and quota-free, i.e. DFQF market access for LCDs, and an increasing number of developing countries are in the process of extending similar treatment to most imports from LDCs. Australia, New Zealand, Norway and

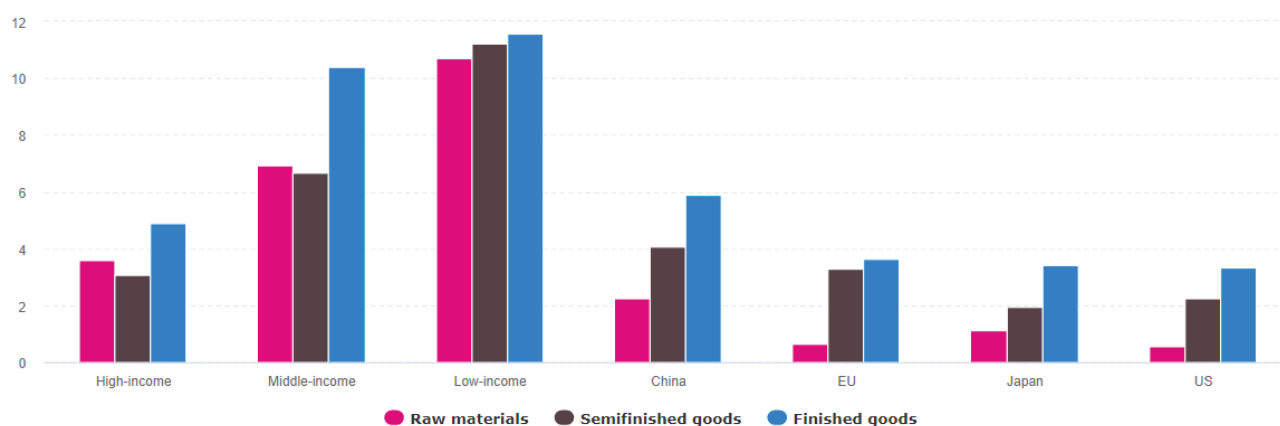


Switzerland provide full duty-free access through preferential LDC schemes. For Canada, Chile, the European Union and Japan, 97 per cent of tariff lines are free of duty for products originating from LDCs. China, Iceland, India, Korea and Montenegro grant duty-free access for LDCs to around 90 per cent or more of their tariff lines (WTO, 2019).

However, progress on export expansion from LDCs is slow. Despite considerable growth of LDCs' exports since 2000, their share in world trade in 2019 accounted for less than 1 per cent, whereas the share of LDCs in world population was more than 13 per cent (UNCTAD, 2020e).

Tariff barriers remain an issue in some countries, notably the United States. In 2017, some 60 per cent of LDC exports were dutiable under the United States' GSP scheme for LDCs, in dollar terms, with a trade-weighted average tariff of over ten per cent (WTO, 2019).

Figure 5 Simple average of MFN tariffs applied by groups of products, 2017 (Percentage)

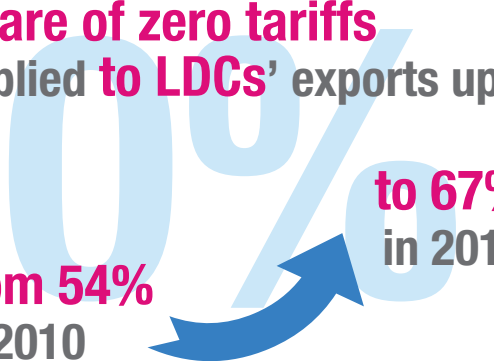


Source: World Bank (2020b)

**Share of zero tariffs
applied to LDCs' exports up**

**from 54%
in 2010**

**to 67%
in 2018**



SDG indicator 10.a.1 shows the extent to which special and differential treatment has been applied through import tariffs.⁴

LDCs were granted duty-free market access on more than 67 per cent of tariff lines in 2018 (figure 6); the respective share for all developing countries was around 52 per cent. The proportion of duty-free tariff lines to LDCs' exports has risen from 53.8 per cent in 2010, an increase of almost 14 percentage points, thus showing the commitment of international community to boost exports from poorest countries. The corresponding increase for developing countries in general amounted to more than 8 percentage points.⁵

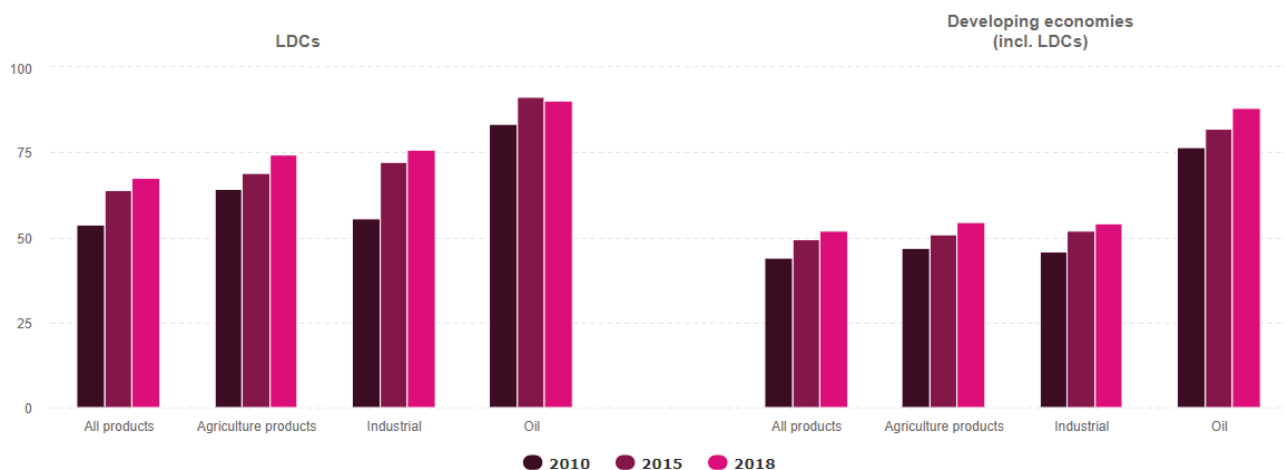
The highest growth of 36 per cent was observed in the zero-duty trade of industrial products, followed by the trade in agricultural products (15.7 per cent) (See figure 6).

Figure 7 shows that over 60 per cent of agricultural trade in 2018 was duty-free, with 20 per cent of this accounting for duty-free on the MFN basis and the rest under preferential tariffs. Preferential access is important for trade in agricultural products and manufacturing products, for which the remaining tariffs are fairly high, averaging to 20 per cent for agriculture, and around ten per cent for manufacturing products. For natural resources, preferential access is less important, as trade in these goods is largely tariff-free under MFN rates. The remaining tariffs are generally very low, with tariffs averaging 5.6 per cent.

**While 60% of
agricultural trade
was duty free in 2018,
remaining tariffs
were around 16%**

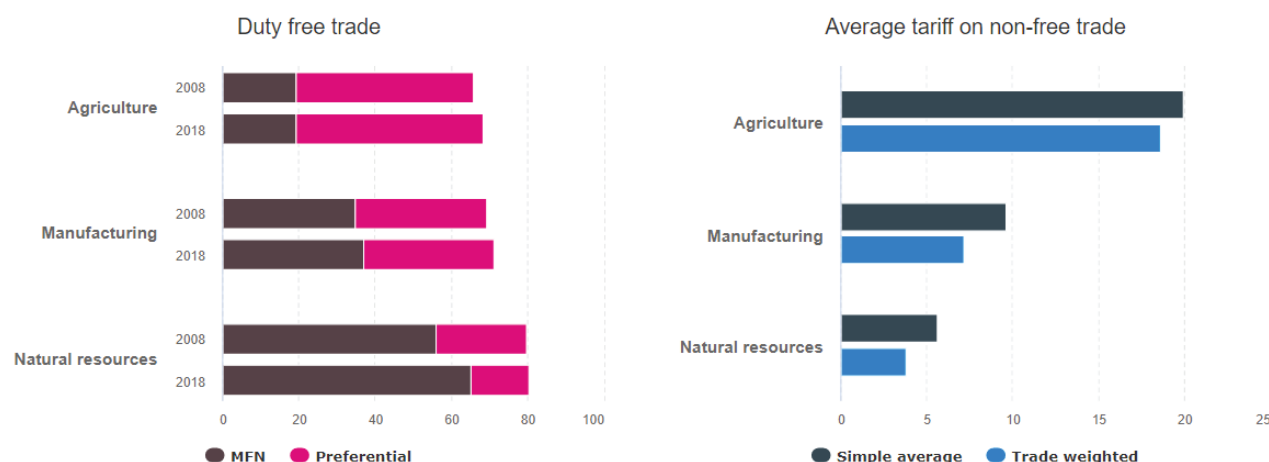


Figure 6 Proportion of tariff lines worldwide with zero duty applied to products from developing countries and LDCs, by product (SDG 10.a.1) (Percentage)



Source: UNCTAD, ITC and WTO calculations based on UNCTAD (2020b), ITC (2020) and WTO (2020d).

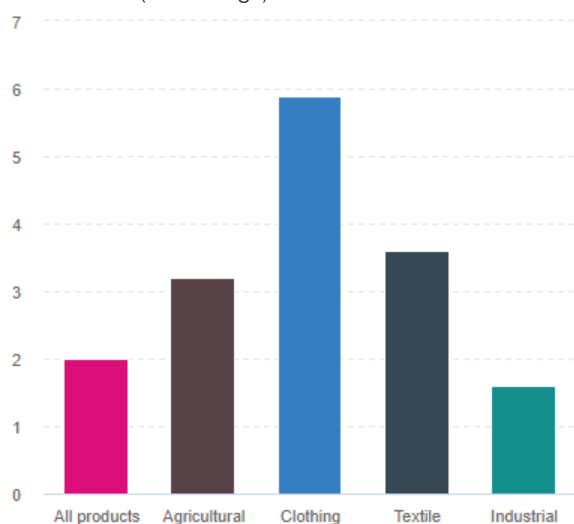
Figure 7 Free trade and remaining tariffs, by broad category
(Percentage)



Source: UNCTAD calculations based on United Nations (2020c) and UNCTAD (2020b).

The true value of the LDCs' export competitiveness that is granted duty free treatment can be in part measured by the magnitude of the preferential tariff margin, that is the difference between the preferential tariff rates applicable to LDCs' exports and the non-preferential tariff rates. The higher margin indicates the greater market shares of LDCs in preference granting countries. Figure 8 shows that LDCs' preferential margins are the strongest in low-skill manufactures, such as, clothing, providing a tariff advantage

Figure 8 Preferential tariff margins for LDC exports in developed-country markets, 2017
(Percentage)



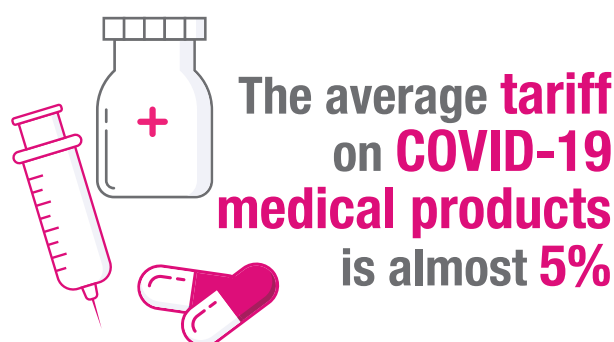
Source: UNCTAD calculations based on ITC data in United Nations (2020d).

of six percentage points in entering developed countries markets vis-à-vis foreign competitors. Preferential margins are also substantial for textiles and agricultural products (between three and four percentage points).

UNCTAD provides assistance to the LDCs in the elaboration of studies on DFQF market access. To this end UNCTAD produced two handbooks and a database on utilization of trade preferences (UNCTAD, 2020f).

Free trade is critical to fight COVID-19

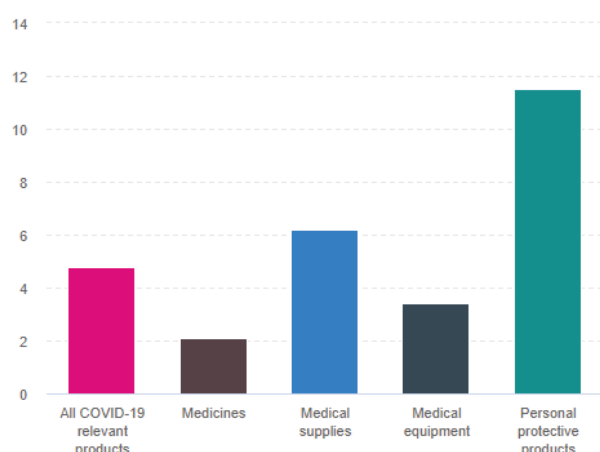
The COVID-19 outbreak has put a spotlight on the important role of trade in medical products, and specifically trade in certain critical products for diagnostics and treatment of patients with the new coronavirus disease as well as personal protective equipment (PPE). The taxes governments impose on imported life-saving products, while



maintaining a source of government income, may impact the flow of critical medical goods across territories and impair the affordability of these products for hospitals, health-care professionals and low-income patients in their countries.

According to the WTO, the average tariff on COVID-19 relevant medical products was 4.8 per cent (WTO, 2020g). Although this level is lower than the 7.6 per cent average tariff for non-agricultural products, some medical products, such as, protective supplies used in the fight against COVID-19, receive an average tariff of 11.5 per cent, which can go as high as 27 per cent in some countries (see figure 9).

Figure 9 Average MFN applied duty of COVID-19 relevant medical goods, by category (Percentage)



Source: WTO (2020g).

Weighted average applied tariffs on key COVID-19 products in the developing countries with the highest number of cases are generally above six per cent (see table 2). Personal protection equipment products, such as, aprons, medical masks and protective clothing are subject to tariffs of over ten per cent. For example, the Islamic Republic of Iran, one of the most severely affected countries in the early days of the outbreak, imposes a tariff of 65 per cent on medical masks and 100 per cent on protective clothing (Espitia et al., 2020).

As reported by Evenett (2020), before the

pandemic, 78 governments taxed imports of soap at rates of 15 per cent or more. 15 nations currently implement non-tariff barriers on imports of protective equipment and 23 impose non-tariff barriers on imported disinfectant. Customs duties on imports of key medical supplies, used to fight the coronavirus pandemic, could affect the movement and accessibility of these products and exacerbate the spread of the coronavirus. The author called on countries to eliminate unilateral tariffs and implement “a tariff-and-aid initiative that sweeps away the barriers which impede medical supplies reaching locations where they are desperately needed.”

The World Bank (2020c) has published a list of trade policy do’s and don’ts in response to COVID-19. The do’s include measures to facilitate trade by reducing tariffs to zero on COVID-related medical products and food products and removing quantitative restrictions and export taxes. Some developing countries affected by COVID-19 have started implementing import reforms. For instance, Pakistan introduced tax and import duty exemptions for medical and testing equipment, while Brazil eliminated tariffs on medical and hospital products. Zimbabwe waived duties on COVID-19 materials, and Zambia suspended excise duties on imported ethanol for use in alcohol-based sanitisers. Although these policy changes are temporary, this is a step in the right direction in addressing the COVID-19 health crisis.

The rising importance of non-tariff measures

NTMs, often impede imports more than border duties. Trade costs associated with NTMs are estimated to account for as much as 1.6 per cent of global GDP, or US\$1.4 trillion (United Nations, 2020a), more than double that of ordinary customs tariffs. For intra-African trade, the average import-weighted tariff is almost 7 per cent, while the ad-valorem equivalent cost of non-tariff barriers is estimated to be 14.3 per cent (UNECA, 2020). In order to help African governments monitor and eliminate NTMs which impede trade flows, UNCTAD and the African Union jointly

Table 2 Trade-weighted applied tariffs, last year available
(Percentage)

Importing countries	Case Management						Diagnostics	Hygiene			Personal Protection Equipment						
	Bougies, catheters, drains	Flow-splitter for oxygen supply	Humidifier, non-heated	Patient monitors and pulse	Respirators	Venturi mask	Enzymes	Chlorine	Hand sanitizers	Liquid soap	Apron, heavy duty	Gloves, examination, non-sterile	Medical masks	Nitrile and sterile gloves	Other medical headwear	Protective clothing	Protective goggles
Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	10.7	13.6	11.9	10.5	13.6	8.8	1.0	7.0	14.4	17.1	17.4	16.0	21.9	35.0	19.1	22.6	17.1
Colombia	0.7	0.3	0.3	1.4	1.2	0.6	0.0	0.3	0.8	4.9	11.9	14.9	4.6	9.3	13.6	2.4	8.8
Ecuador	0.0	4.3	3.4	0.0	4.0	0.0	0.0	0.0	1.2	4.8	17.5	14.8	47.6	12.2	23.3	57.8	23.1
Egypt	1.4	1.9	1.2	1.9	1.9	1.4	1.1	3.7	6.1	1.6	19.7	8.8	14.8	9.9	11.5	3.1	8.4
India	5.9	6.5	5.5	6.8	7.1	5.9	8.8	5.8	8.4	7.3	9.5	0.4	8.8	0.1	9.4	7.4	8.5
Indonesia	1.8	1.5	2.4	2.5	3.1	2.7	3.6	0.9	2.1	2.7	3.3	1.2	1.5	0.4	2.0	2.2	0.6
Iran (Islamic Republic of)	17.6	10.0	18.4	18.0	4.0	9.6	10	4.0	18.0	55.0	45.0	35.0	65.0	57.5	30.0	100.0	35.0
Lebanon	3.5	1.1	0.6	3.6	2.8	2.8	1.7	0.0	2.4	2.0	4.7	4.6	3.3	4.9	4.3	41.1	4.5
Malaysia	0.0	5.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	20.0	0.0	10.0	0.0	0.0	0.0	0.0
Mexico	0.1	0.0	0.9	0.0	0.0	0.1	0.1	0.4	0.1	0.9	6.1	0.0	2.1	9.3	2.5	1.9	6.1
Pakistan	7.0	10.9	3.4	2.7	1.8	2.6	19.5	20.0	19.7	20.0	16.1	16.5	19.7	5.4	15.2	20.0	6.5
Peru	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.2	0.8	0.8	4.9	1.1	2.8	0.5	5.1	0.1
Philippines	0.2	1.4	0.1	0.0	0.5	0.4	1.0	2.5	1.0	1.8	0.3	0.1	1.3	0.1	0.6	5.1	0.2
Russia	0.0	0.0	0.4	1.0	0.0	1.1	4.8	6.4	6.1	6.1	6.1	10.0	0.1	9.9	8.8	12.1	4.6
Serbia	0.6	0.2	0.3	0.6	0.3	0.6	0.3	0.0	0.1	0.1	8.6	0.6	2.1	8.3	2.8	3.7	1.6
South Africa	0.0	0.0	2.8	0.0	0.0	0.0	0.0	6.9	5.0	4.9	9.5	19.9	16.7	14.6	9.0	13.2	0.0
Thailand	3.2	0.0	0.0	0.0	0.0	0.0	3.8	1.6	4.1	2.9	1.5	0.0	2.1	0.3	3.8	2.5	0.5
Turkey	0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.3	6.2	0.3	4.1	0.5	1.5	5.3	2.4

Low Medium High Very high

Source: Espitia, Rocha, Ruta (2020).

developed an on-line platform - NTBs reporting, monitoring and eliminating mechanism (African Union, 2020), which became operational on 13 January 2020. African countries could gain US\$20 billion each year by tackling NTMs, such as, quotas, excessive import documents or unjustified packaging requirements, at the continental level – far in excess of the \$3.6 billion they could save by eliminating tariffs (Vanzetti et al., 2018).

NTMs, as policy instruments, can be either directly or indirectly linked to sustainable development. Direct linkages include policies that have an immediate impact on social and environmental issues and help achieve SDGs: food security (SDG 2); nutrition and health (SDG 3); protect endangered species and the environment (SDGs 14 and 15); ensure sustainable production and consumption (SDG 12); energy (SDG 7); and combat climate change (SDG 13). On the other

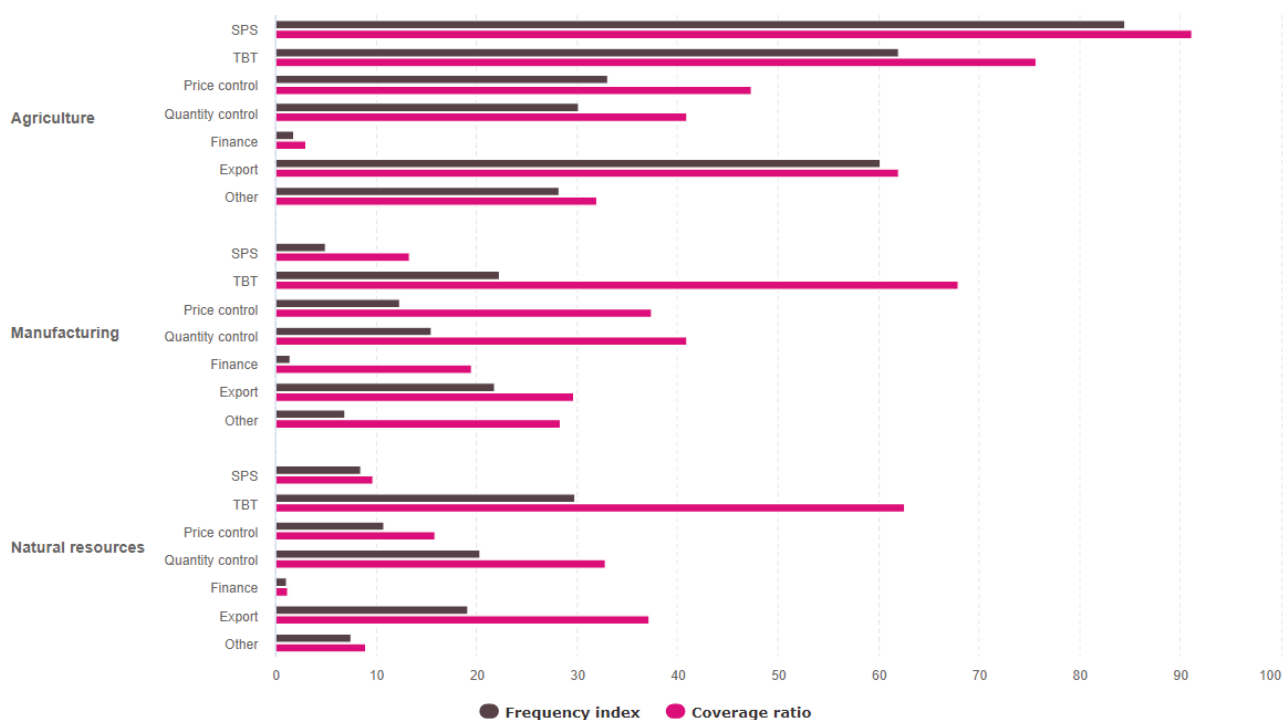
hand, indirect linkages may arise from trade policies that influence trade, which in turn can restrict economic growth and create negative spill over effects on sustainability objectives (UNCTAD, 2020g).

Today, a considerable number of NTMs are regulatory measures, which respond to a public demand for protection against environmental and health hazards (UNCTAD, 2020h). Technical NTMs, such as TBT, which includes labelling, standards on technical specifications and quality

Technical barriers to trade affect 30% of product lines and almost 70% of world trade



Figure 10 NTMs in world trade, by type and broad category, 2018
(Percentage)



Source: UNCTAD calculations based on (UNCTAD, 2020b).

Note: The frequency index is defined as the percentage of HS six--digit lines covered; and coverage ratio is defined as the percentage of trade affected.

requirements, as well as all conformity-assessment measures, affect more than 30 per cent of product lines and almost 70 per cent of world trade (figure 10). Sanitary and phytosanitary measures, which typically prevail in agriculture, affect almost 20 per cent of world trade, followed by price control measures which affect about 15 per cent of world trade.

In LDCs and developing countries, about

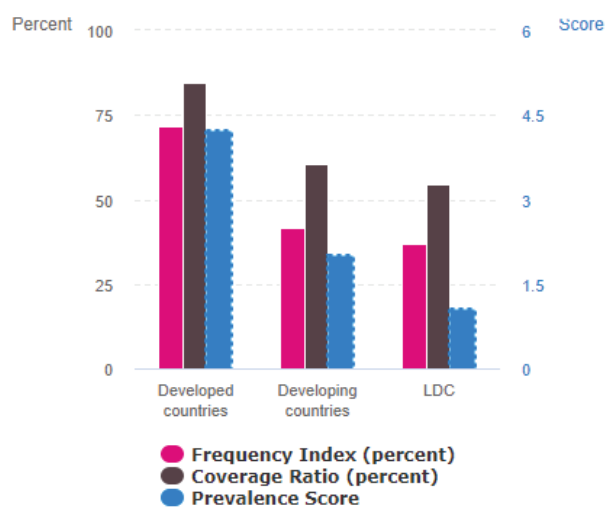
40%
of imports
are subject to NTMs

In LDCs and developing countries, about 40 per cent of imports are subject to NTMs, this is less than half as much as in developed countries

(figure 11). NTMs in developing countries and LDCs are less diversified than in developed countries. On average, developing countries use two different NTMs on any regulated product, and LDCs one, compared to four in developed economies.

The COVID-19 crisis has shown the importance of trade policy in fighting the current pandemic. The impact of NTMs barriers on trade of medical goods is of particular importance during the current health crisis. Governments have been challenged to find the right balance between the need to import medical supplies and protective equipment against the loss of tariff revenues associated with them. In order to facilitate the trade of essential medical supplies, for example, the EU and China have employed "green lanes" for fast customs clearance. In March 2020, Brazil introduced new legislation that simplifies the customs clearance process for articles used to

Figure 11 NTMs in world trade, by development status, 2018



Source: UNCTAD calculations based on ITC data in United Nations (2020d).

combat the spread of COVID-19. Argentina streamlined the import clearance process of certain critical medical products, and the Islamic Republic of Iran removed an import ban on ethanol, used to produce sanitiser (Baldwin and Evenett, 2020).

In spite of the positive steps undertaken by many countries to facilitate the import of medical products, some nations still employ non-tariff policies that limit imports of medical consumables (Evenett, 2020). For example, 12 nations discourage imports of medicine: India has four non-tariff policies, followed by the Russian Federation (three) and Indonesia (three). Indonesia also has the most non-tariff barriers against foreign soaps – two are import licensing requirements and one is an internal tax that targets imported goods.

Statistics for NTMs are still incomplete. As of today, TRAINS (UNCTAD, 2020b) database developed by UNCTAD in partnership with several regional and international organisations is the most complete collection of publicly available data on NTMs at the HS six-digit level. As of 2018, UNCTAD has collected comprehensive and comparable NTMs data covering 109 countries and containing more than 65,000 measures.

Notes

- 1 According to WTO, for non-agricultural products the product coverage of tariff binding by developed country members was 100 per cent, while that of developing country members was around 73 per cent (WTO, 2020h).
- 2 Data are classified using the Harmonized System of trade at the six- or eight-digit level. Tariff line data were matched to the SITC revision 3 codes to define commodity groups and import weights. To the extent possible, specific rates have been converted to their ad valorem equivalent rates and have been included in the calculation of Weighted mean applied tariff. Import weights were calculated using the UNSD's Commodity Trade (Comtrade) database. Effectively applied tariff rates at the six- and eight-digit product level are averaged for products in each commodity group. When the effectively applied rate is unavailable, the most favoured nation rate is used instead.
- 3 Following the WTO Hong Kong Ministerial Decision in 2005 (WTO, 2015).
- 4 Limitations of this indicator include the following: (i) Tariff-based measures are only a part of trade limitation factors. (ii) Inability to comply with rules of origin criteria limits the utilization of preferential treatments. (iii) Using data on zero-tariff lines assumes full utilization of benefits. (iii) Low MFN tariffs mean that duty-free treatment is not always preferential (United Nations, 2019).
- 5 Proportion of total number of tariff lines applied to products imported from least developed countries 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 on how many products developing countries and LDCs will have free access to Developed countries markets (United Nations, 2020b).

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III. Trade, agriculture, food security and biodiversity

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

Key messages

- **As of April 2020, 39 WTO members had introduced temporary export restrictions on food as a response to COVID-19**
- **85 % of imports of basic food to Africa comes from outside of the region**
- **25 out of 28 SIDS are net food importers**
- **More than a third of LLDCs faced high general food prices over 2016 – 2017.**
- **19 % of receipts for agricultural producers in OECD countries are a result of government support**
- **Non-technical import measures are currently the most common new harmful trade intervention on food products**
- **Sales by UNCTAD BioTrade entities grew by 18.6 % from 2018 to 2019**

Goal 2 of the 2030 Agenda sets out to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”. As with other SDGs, realizing this goal will require a multifaceted approach. One part of the equation is the necessity for properly functioning food commodity markets. To ensure that markets around the world have access to nutritious food requires international trade and cross-border cooperation. In the context of climate change, with growing risks for predictability of harvests and uncertainty regarding the sustainability of many regional crops, the importance of trade in food commodities may well increase rather than diminish.

Two targets belonging to SDG 2 deal with the proper functioning of food markets. Target 2.c, sets out to limit or reduce price volatility through better access to market information. Furthermore, target 2.b aims to avoid market distortions by eliminating export subsidies and equivalent measures. Cooperation via multilateral trade has an important role to play in order to alleviate hunger, complementing other efforts, such as, increasing ODA and OOFs to the agricultural sector (see Official support for sustainable development).

Increasing food insecurity due to COVID-19 calls for more international cooperation

The Global Report on Food Crisis, highlighted the importance of keeping “critical food supply chains operating, so people have access to life sustaining food” (Food Security Information Network, 2020; United Nations, 2020a). The report finds that even before the COVID-19 pandemic, 135 million people globally lived under food crisis conditions, most often driven by conflict and insecurity. In addition, 183 million people lived in stressed food conditions, and were at risk of falling into crisis if faced with an additional shock. Lockdowns worldwide due to the COVID-19 pandemic have raised concerns about food insecurity, especially in poorer countries, and highlighted the fragility of global food supply chains. In May 2020, the Famine Early Warnings Systems Network (2020) identified South Sudan, Yemen and Nigeria as the areas of highest concern. These were all conflict areas where COVID-19 could aggravate the risk of famine.

The May 2020 update of the United Nations Global COVID-19 Humanitarian Plan (UNOCHA, 2020) more than tripled the funding requirements from the initial US\$2 billion in the first appeal in March 2020. Among growing humanitarian needs, the

response plan notes a marked deterioration in the food security situation. The food security sector represents the largest component of the response plan's updated requirements of US\$6.7 billion, with a total of US\$1.6 billion (FAO, 2020a).

Through Article XI of GATT-94 parties agree, in principle, to not apply export bans or restrictions. However, members are allowed to apply temporary restrictions to safeguard products such as food (WTO, 2020a). As of 23 April 2020, 39 WTO members (including individual EU countries) introduced temporary export prohibitions and restrictions on food to ensure food stability within their territories. Kazakhstan, for instance, introduced export quotas on several cereal products and banned exports of buckwheat, white sugar, potatoes, carrots, turnips and whipped cabbage. Russia limited sales of wheat through June 2020 to protect its supplies. Viet Nam and Myanmar restricted exports of rice, and El Salvador banned exports of certain dried leguminous vegetables (ITC, 2020).

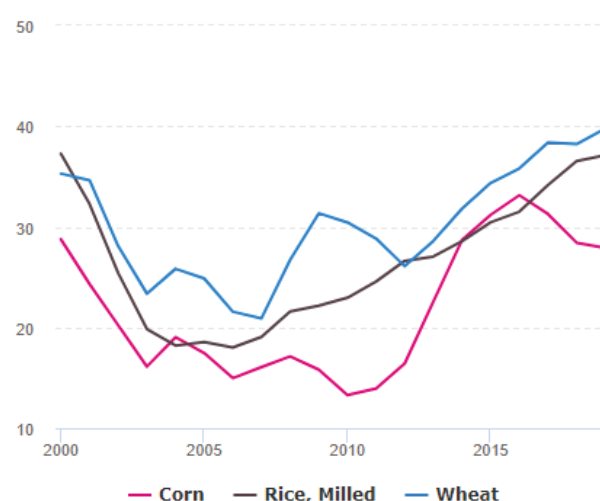
**As of April 2020,
39 WTO members
had introduced
temporary
export restrictions on food
as a response to COVID-19**

The heads of WTO, FAO and WHO, in a Joint Statement on 31 March 2020, advised against such measures, asking countries to “show solidarity, act responsibly and adhere to our common goal of enhancing food security, food safety and nutrition and improving the general welfare of people around the world” (WTO, 2020b). The WTO Agreement on Agriculture (2020c) also requires countries to give due consideration to the food security needs of others while considering temporary export restrictions on food. If the number of export restrictions continues to grow, they could disrupt the global food supply chain,

and “imperil global food security, especially in atomized net food-importing developing countries” (UNCTAD, 2020a).

UNCTAD warned that there is a growing fear that food markets are going to be affected by logistical constraints and labour shortages, thereby putting pressure on prices. In China, the biggest importer of soybeans, the price of soybean futures increased by 5 per cent between 27 and 30 March 2020 as a result of fears of logistical disruptions to supply markets. UNCTAD also finds that low-income countries are particularly vulnerable to external shocks, as they devote 37 per cent of their merchandise export revenue to food imports, more than five times the share by developed economies (UNCTAD, 2020a).

Figure 1 World stock-to-use ratio of select food commodities



Source: Source: UNCTAD calculations based on United States Department of Agriculture (2020).

Notes: Years are standard international trade years that depend on hemisphere and that does not correspond exactly to calendar years. The selected commodities are the most commonly recorded commodities in the dataset. The world total is based on the sum of domestic consumption and the sum of ending stocks for individual economies for a given year. The number of economies with data on both measures varies between 119 and 121 for corn, 114 and 117 for rice, and 118 and 124 for wheat. The sum of individual economies' stocks in millions of metric tons for the market year 2019 was 312.9 for corn, 295.9 for wheat and 181.3 for rice.

Past food crises have made the world more prepared for the current one. Figure 1 shows that in 2019 global stock-to-use ratios for key staples were substantially higher than in 2008, when the market conditions for these products were tight. China's stocks of rice and wheat alone were sufficient for up to 13 months of domestic

consumption. Thus, stockpiling food is arguably not the strategy to pursue presently; instead, one of the most important measures to combat food insecurity is to keep international trade channels open (International Food Policy Research Institute, 2020).

Increasing trade in food – small change in actors

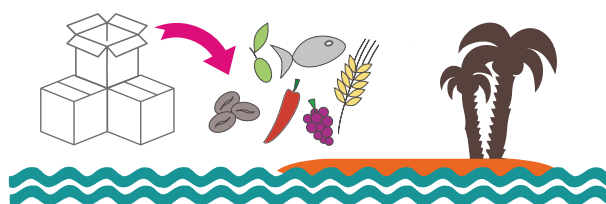
In 2018, 6.6 per cent of all world merchandise imports consisted of basic food. However, at country level, the importance of food to individual countries' import basket can vary considerably. Of the total value of merchandise imports from 2016 to 2018, food comprised 42 per cent of imports in Haiti and Benin. The same figure was above 30 per cent for Somalia, Yemen, American Samoa, Eritrea, Guinea-Bissau, Gambia, and Wallis and Futuna Islands (UNCTAD, 2020b).

85% of imports of basic food to Africa comes from outside of the region



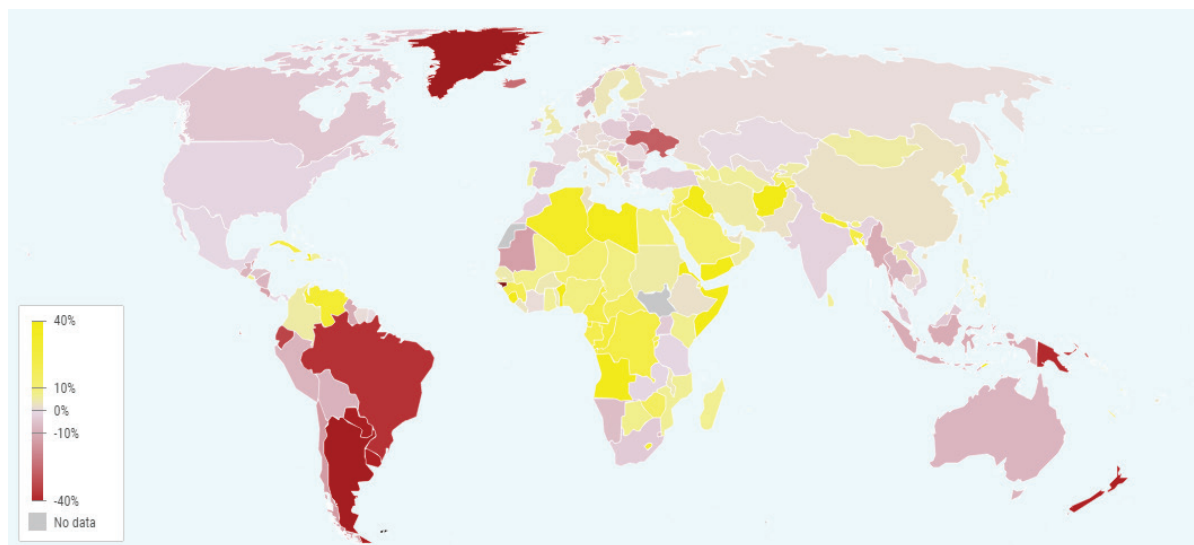
The median of economies' net imports of basic food, defined as imports minus exports of these products, reached 5.2 per cent of total merchandise imports for the period 2016-2018. South America is home to several net food-exporting countries while many net-importing countries are found in the Middle East and Africa. Another prominent group of net food importers are the SIDS.

25 out of 28 SIDS are net food importers



Only the Marshall Islands, Micronesia and Seychelles are net exporters of basic food. At the same time, many islands and other economies with access to oceans are net exporters of basic food – the extreme being the Falkland Islands where 83 per cent of exports are crustaceans, mollusks and aquatic invertebrates (see map 1). At regional level, Latin America and the Caribbean together with Oceania are net food exporters while Africa and Asia are net food importers (see table 1).

Map 1 Net import of food as a ratio to total imports, 2016-2018 (Percentage)



Source: World Bank estimates (2020a), based on UNCTAD (2020b), WTO (2020d) and WTO (2020e). UNCTAD calculations based on UNCTAD (2020b).

Notes: Net food imports are calculated as imports minus exports of basic food excluding tea, coffee, cocoa and spices (SITC 0 + 22 + 4 less 07) during the years 2016-2018. The percentage displayed is reached by dividing net food imports with total imports of all products for the economy in the same period.

Table 1 Total imports of basic food and the share of intra-group imports by geographical region
(Billions of US\$ in current prices and associated percentages)

Group of economies	Food imports ^a	Extra-group imports ^b		Net food imports ^c	
	2018 (Billion of US\$)	2001 - 2005 (per cent)	2016 - 2018 (per cent)	2001 - 2005 (per cent)	2016 - 2018 (per cent)
Africa	69.3	85.4	84.8	5.9	6.9
Northern America	143.4	65.0	70.4	-1.2	-1.4
Latin America and the Caribbean	79.2	63.6	61.6	-9.8	-13.4
Asia	477.9	60.8	64.7	5.8	7.3
Europe	522.0	27.9	26.4	3.3	0.8
Oceania	17.1	67.8	73.4	-15.2	-13.6

Source: UNCTAD calculations based on UNCTAD (2020b).

Note: Food, basic excluding tea, coffee, cocoa and spices (SITC 0 + 22 + 4 less 07).

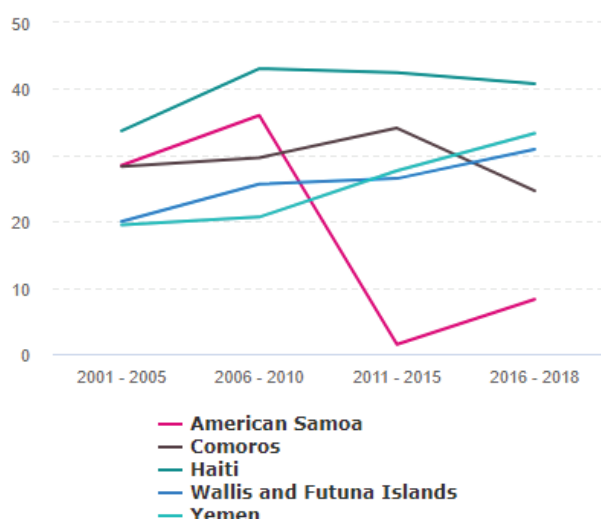
a Billions of US\$ in current prices.

b As a ratio to total food imports.

c As a ratio to total imports of all products.

Several economies consistently have had the highest net food imports as a ratio of total imports over the two last decades (see figure 2). One exception is American Samoa that was among the top three net food importers at the beginning of the 2000s. There, the net food imports have decreased as a result of growing exports of animal feed.

Figure 2 Net food imports as ratio to total imports, selected economies
(Percentage)



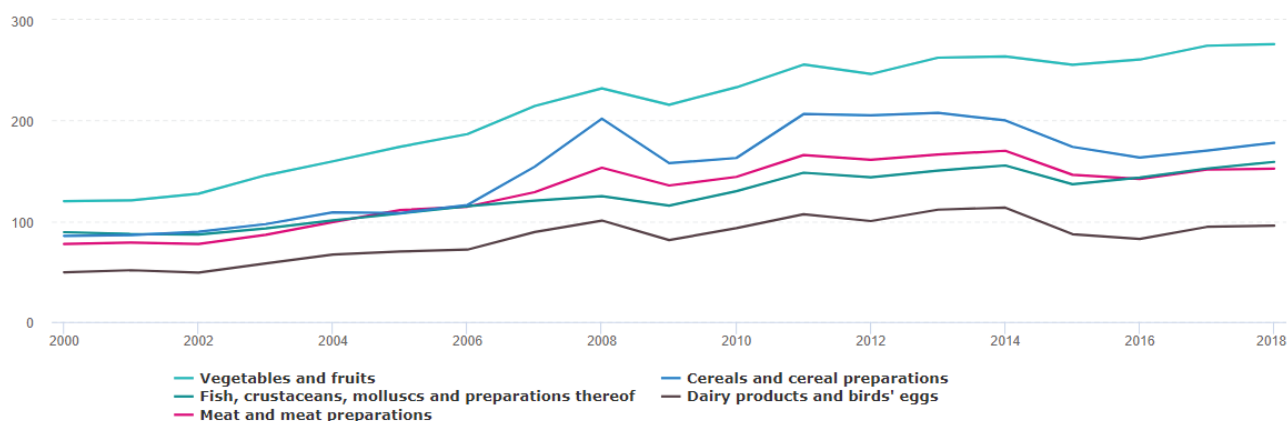
Source: Source: UNCTAD calculations based on UNCTAD (2020b).

Notes: Figures are by five-year periods and from 2016 to 2018. Net food imports are calculated as imports minus exports of the product group "food, basic excluding tea, coffee, cocoa and spices (SITC 0 + 22 + 4 less 07)". The percentage displayed is reached by dividing net food imports with total imports of all products in the corresponding period. Included economies are the top three either in the period from 2001 to 2005 or from 2016 to 2018.

A noticeable change has occurred over time in the total food trade; the value of exports in basic food in constant 2018 prices has doubled since 2000, reaching almost US\$1.3 trillion in 2018, up from US\$590 billion in 2000. The increase has been driven by improvements in market access, innovation, and the fact that economic and population growth has slightly outpaced the growth of merchandise trade in general. As mentioned above, 6.6 per cent of all merchandise trade in 2018 was basic food, compared to 5.5 per cent in 2000. This has been accompanied by a slow and steady decrease in the export concentration index for basic food from 0.155 in 2000 to 0.127 in 2018. The export concentration of basic food has slightly outpaced the concentration index for total exports during this period UNCTAD (2020b).

Trade in vegetables and fruits, the most traded food-product group, has grown steadily over the last two decades and accounted for 20 per cent (US\$ 276 billion) of all exports in total basic food in 2018 (see figure 3). Grains accounted for 14 per cent of exports of basic food.

Figure 3 Total world export of selected food product groups
(Billions of US\$ at constant 2018 prices)



Source: UNCTAD calculations based on UNCTAD (2020b).

Note: Product groups are SITC product groups 01 - 05. These five groups together constituted 66.6 per cent of the world export in basic food in 2018. All product groups except dairy products and birds' eggs are in the top five in total export value. Fruits includes also nuts. See UNCTAD (2020c) for the product classification used.

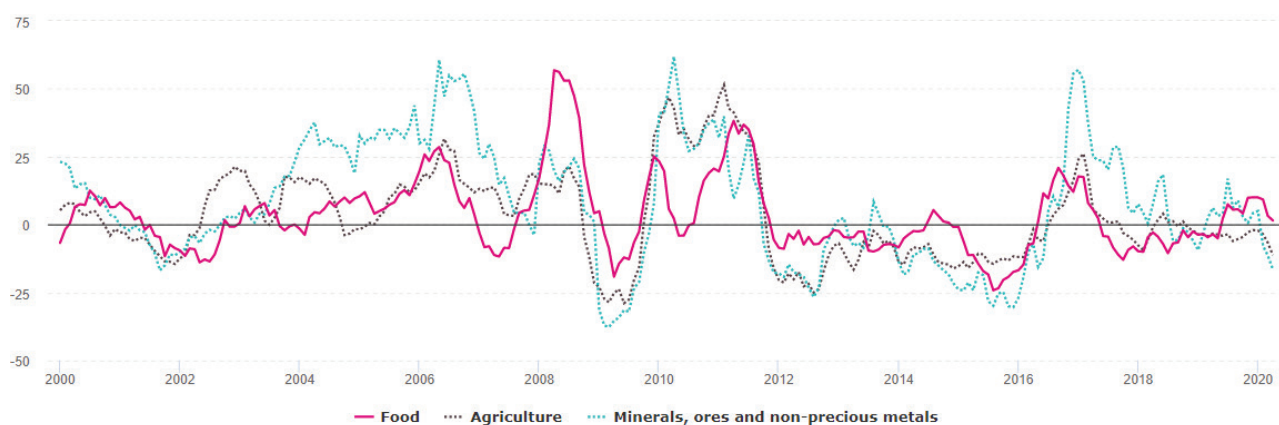
Price information is valuable and is being gathered more often

Since 2012, the general trend for food prices has been decreasing. However, like other commodities, the price of food has increased over the longer term. Stable increases in prices give consumers and producers a theoretical chance to budget and plan but volatile prices are more disruptive to the livelihoods of people on both sides of the market. There is a strong correlation between food prices and commodity prices generally, though food

prices have tended to be less volatile than, for example, non-edible agricultural raw materials or metals (see figure 4). However, sharp rises in food prices between 2007 and 2008 and again in 2011 highlighted the need to develop methods to track price volatility (Baquenado, 2015).

Spikes in food prices can deny low-income families' access to sufficient nutritious food. Abnormalities in food prices are in themselves strong indicators of potential threats to food security and provide valuable warning signs, signaling the need for

Figure 4 Growth rate for selected subindices of UNCTAD's Free Market Commodity Price Index
(Percentage, monthly, year-on-year)



Source: UNCTAD (2020b)

action. Prices carry broad information about recent changes in supply and demand as well as signals about expectations and risks for future food markets. They can be observed easily and frequently (Kalkuhl et al., 2016).

More than a third of LLDCs faced high general food prices over 2016 – 2017



The methodology for the SDG indicator of food price anomalies¹ relies on identifying food prices with growth rates that differ from the historical average (United Nations, 2020b; Baquedano, 2015). Grains are some of the most tracked or monitored food products, most particularly rice (see table 2).² The group of economies most affected by high general food prices from 2016 to 2017 were LLDCs, where the proportion of economies affected was 37 per cent, ahead of LDCs (21 per cent) and SIDS (4 per cent) (FAO, 2020c).

Food price anomalies and volatility are often combined with losses in agricultural income,

climate extremes, reduced food access and extreme changes in the quantity, quality and diversity of food consumed (FAO, 2018). The episodes of high food price volatility pose a major threat to food access, especially in developing economies, including LDCs. These episodes are expected to become more frequent with the rising number of extreme climate-related events.

Agricultural export subsidies are vanishing but production is still supported

International trade in open and transparent markets may alleviate the effects of external shocks. UNCTAD has long called for increased transparency and tighter regulation of commodity markets to help avoid speculative bubbles (UNCTAD, 2012). Applying these initiatives in food markets can contribute to food security.

WTO members have agreed that export subsidies may have harmful effects on international trade (see GATT Article XVI, WTO, 1986). Agricultural subsidies were originally intended to aid domestic producers and farmers in areas where agricultural production costs were high and to ensure the production of enough food to meet domestic needs. Agricultural export subsidies are a form of government intervention to modify a country's terms of trade. They protect producers from international market competition; i.e., economies where the costs of production, such as labour or land, are cheaper. As such, subsidies may have many spillover effects for the global economy where they can exacerbate price volatility and food price spikes. They allow exporters to gain market share without the efficiencies that should accompany such growth.

The WTO Agreement on Agriculture, which came into force in 1995 (WTO, 2020c), has placed limits on export subsidies that distort agricultural trade in order to prevent the disposal or dumping of surplus commodities on global agricultural markets. Following the 2015 Nairobi Ministerial Conference, WTO members have taken steps to phase out export subsidy entitlements from their WTO schedule of commitments in order

Table 2 Food price anomalies, 2017 (SDG 2.c.1)

Type of product	Number of economies with price data	Categorization of price		
		Abnormally low	Normal or moderately low/high	Abnormally high
Maize	49	10	37	2
Millet	10	1	8	1
Rice	61	4	53	4
Sorghum	16	0	15	1
Wheat	43	3	39	1

Source: UNCTAD calculations based on United Nations (2020c).

Notes: Abnormal prices are defined as a compound growth rate of one standard deviation or more from the historical mean (United Nations, 2020b). Products are not comparable since product prices are recorded in different economies.

to level the playing field between developed and developing economies. Apart from a few selected agricultural products, developed countries agreed to remove export subsidies with immediate effect, and most developing countries agreed to do so by 2018. However, developing countries will retain the flexibility to cover marketing and transport costs for agriculture exports until the end of 2023, while the poorest and food-import dependent developing countries will be granted more time to reduce export subsidies (WTO, 2020d).

Notifications of agricultural export subsidies were between US\$ three and four trillion in the early years of the 2000s but have since decreased substantially. The 2015 Nairobi package³ has further strengthened WTO members' commitment to abolish trade-distorting subsidies in agricultural markets. In 2018, only three economies notified WTO about agricultural export subsidies to a total value of US\$33 million (see figure 5).

However, governments still provide substantial support to agricultural producers through budgetary transfers and policy measures that amount to a market price support (OECD, 2019). In OECD countries, these forms of support sum to about US\$247 billion in 2018, which accounts for about 19 per cent of gross farm receipts. In 2000, this figure was 32.3 per cent (OECD, 2020a).

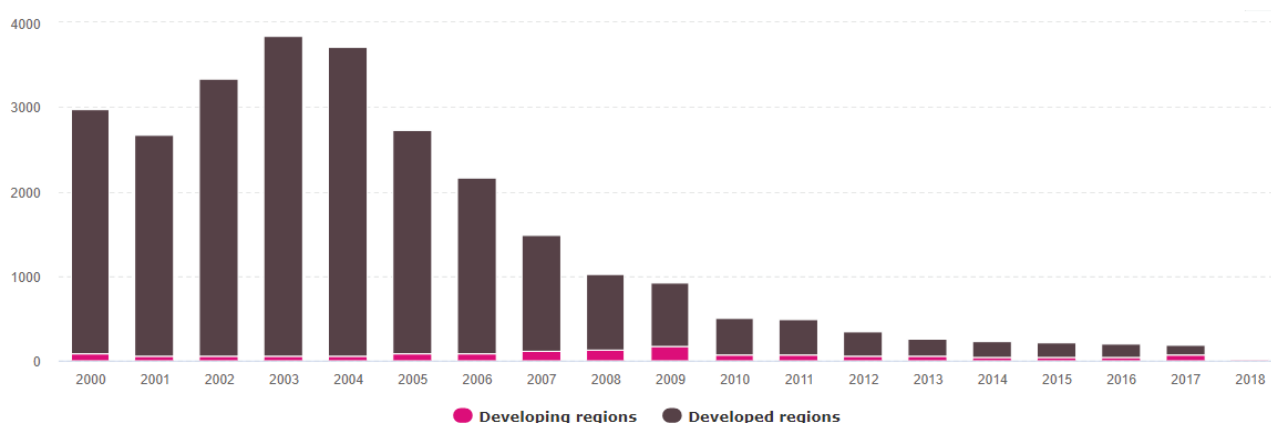
19% of receipts for agricultural producers in OECD countries are a result of government support



Agricultural markets are further supported by budgetary transfers to consumers and by general service supports that are not paid directly to producers but has the agricultural sector as its main beneficiary. A report by the Food and Land Use Coalition (2019) estimates that, globally, the agricultural sector is supported to the tune of US\$700 billion per year.

The report by the Food and Land Use Coalition (2019) found that the current use of agricultural subsidies leads to inefficient land use and that there are huge opportunities in reorienting subsidies away from high carbon-emitting production and incentives for deforestation and redirecting them towards more sustainable practices. The positive effects would be manifold, including improving global health and combatting climate change. There is a trend in developed economies towards payments to producers that are conditional on production practices that preserve public goods, such as, biodiversity (OECD, 2019).

Figure 5 Notifications to WTO of agricultural export subsidy outlay (SDG 2.b.1) (Percentage)



Source: United Nations (2020c).

Notes: Only export subsidies notified to WTO by members who are required to do so are included (United Nations, 2020b).

Other intervention measures

Governments have a wide range of policy instruments at their disposal, including tariffs and NTMs. As mentioned in Barriers to trade tariffs on agricultural products are generally considerably higher than those for manufactured products or natural resources. Tariffs are slowly being reduced and NTMs, besides export subsidies, are playing an ever greater role in international trade.

There are multiple links between NTMs and the SDG goals. NTMs threaten trade openness, but not all measures are harmful. Some measures relate to health and environmental protection. Transparent technical import measures can encourage exporters to fulfill requirements that in turn promote sustainable agriculture. Meeting the challenge of navigating the competing ways that NTMs can affect food security is part of UNCTAD's work in this area (UNCTAD, 2020d).

Most countries impose some form of technical import measure to at least one food product. On average a countries impose technical import measures on products from 13 out of the 17 HS chapters covering food products. Non-technical import measures and export measures are equally common and cover almost as many food product groups. On a more detailed level, sanitary and phytosanitary measures as well as technical barriers to trade are the most common NTMs on basic food (see table 3).

OECD (2019) found that government support for agriculture is predominately provided via measures that distort production and trade. About half of support to agricultural producers is in the form of market price supports that create gaps between effective producer prices and international market prices. The resulting price distortions vary widely between economies but have generally been decreasing over the last two decades. In 2000, agricultural producers received 33 per cent more for their products than international market levels, compared with only 12 per cent in 2018 (OECD, 2020a).

GTA systematically documents trade interventions by traded product and classifies their probable effect as harmful or liberalizing⁴. Though export subsidies seem to be disappearing, the GTA database contains examples of other measures applied to food products that can be deemed harmful to the global food market. No new technical import measures have been documented as being implemented during the past five years – regardless of their evaluated effect. On the other hand, there were 448 new harmful tariffs and 499 new harmful non-technical import measures implemented (Global Trade Alert, 2020)⁵. In both cases, these outweigh the corresponding liberalizing steps taken in the same category and period. Notably, in a period of vanishing notifications of export subsidies, GTA found 71

Table 3 Relative prevalence of categories of NTMs for food products

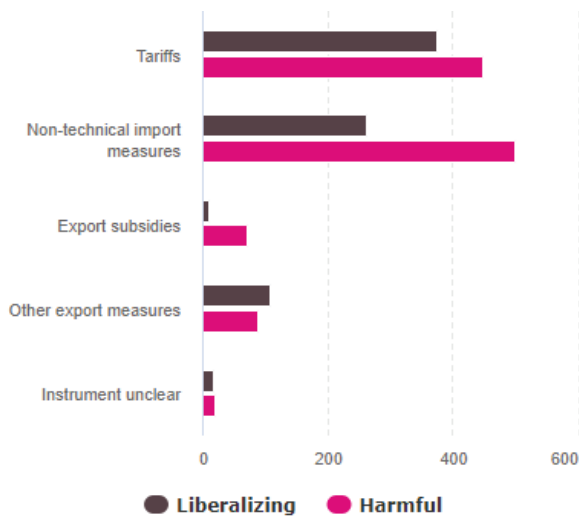
<i>NTM category</i>	<i>Number of members imposing</i>	<i>Number of product groups affected per member</i>
Contingent trade protective measures	3	0.4
Export measures	71	11.8
Non-technical import measures	72	12
Other non-technical import measures	27	4.1
Pre-shipment inspection	59	7.2
Price control measures	64	9.4
Quantity control measures	68	8.5
Sanitary and phytosanitary measures	72	12.8
Technical barriers to trade	70	11.1
Technical import measures	72	13.3
Wheat	43	1

Source: UNCTAD calculations based on UNCTAD (2020e).

Notes: Measures as of May 2020. Only measures affecting all countries are included (bilateral measures are excluded). Product groups considered are HS chapter 01-24 excluding 05 – Products of animal origin, not elsewhere specified or included, 06 – Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage, 09 – Coffee, tea, mate and spices, 13 – Lac; gums, resins and other vegetable saps and extracts, 14 – Vegetable plating materials; vegetable products not elsewhere specified or included, 22 – Beverages, spirits and vinegar, and 24 – Tobacco and manufactured tobacco substitute. There are, in total, 91 countries in the database. Number of product groups affected per country refers to the average (over countries) of how many of the included 17 product groups had at least one product to which the measure was imposed.

new interventions classified as harmful export subsidies on food (see figure 6). The difference between this observation and official SDG data, shown in figure 5, can be explained by differing definitions and by the fact that economies that have pledged to not use export subsidies are not required to notify the WTO if they do (United Nations, 2020b).

Figure 6 Trade interventions implemented between 2015 and 2019 for food products by type and effect
(Number of documented interventions)

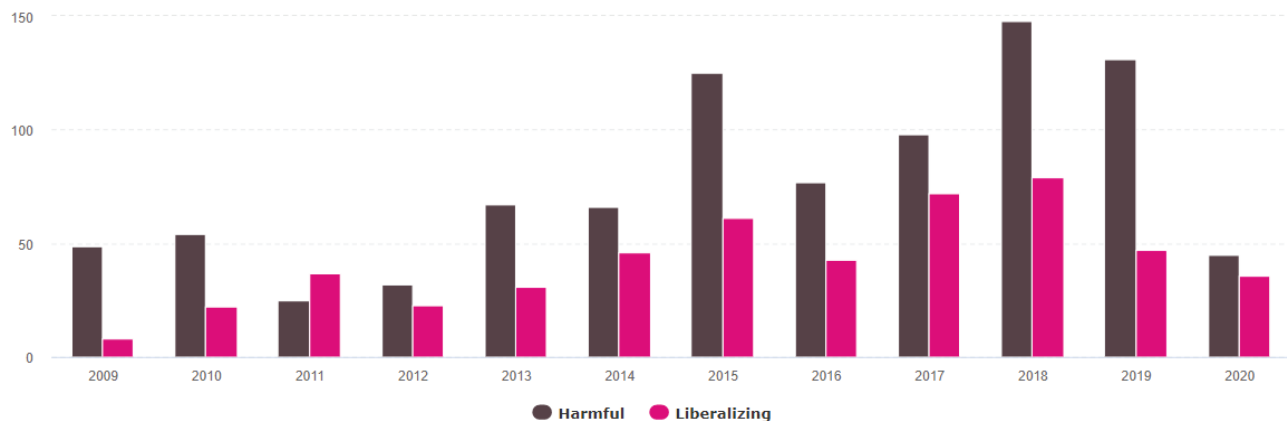


Source: UNCTAD calculations based on Global Trade Alert (2020).
Notes: Included products are HS codes 01-24 minus 05, 06, 09, 13, 14, 22 and 24. The database also contains a total of 42 interventions evaluated "potentially harmful" not displayed.

A review of trade policy changes since 2006 by Bellmann and Hepburn (2017) showed a resurgence of market access protection and government subsidies in order to maintain domestic farm incomes. Indeed, after correcting for the fact that newer interventions have had a shorter time to be documented, analysis of the interventions in the GTA database shows an uneven but upward trend in harmful measures imposed on food products. Moreover, there have been more harmful than liberalizing measures each year since GTA started documenting trade interventions, with the sole exception of 2011 (see figure 7).

Non-technical import measures are currently the most common new harmful trade intervention on food products

Figure 7 Trade intervention by year and effect
(Number of documented interventions)



Source: UNCTAD calculations based on Global Trade Alert (2020).
Notes: To ensure comparability between years, only interventions documented in the database before the end of the same year are included.

UNCTAD work on trade in biodiversity-related products

Trade in agricultural or food products is only part of total trade on products based on biodiversity (BioTrade). This category comprises all products with a biological origin, including vegetable and animal species found on land, water or air. Since 1996, UNCTAD's BioTrade Initiative has fostered trade as an incentive for biodiversity conservation and improved economic and social welfare, particularly in developing countries, through sustainable trade activities. UNCTAD and BioTrade partners focus on enhancing biodiversity-based sectors, creating an enabling policy environment and sustainable sourcing capacities for BioTrade companies, access and benefit-sharing, and increased trade in value-added (UNCTAD, 2020f).

In response to the 2030 Agenda and the SDGs, as well as to reflect evolving legal and policy frameworks, and building on partners' decade-long experience, UNCTAD completed a new version of the BioTrade P&C in early 2020 (UNCTAD, 2007, 2020g). The P&C guide the collection, production, transformation and commercialization of biodiversity-related products and services under sustainability criteria.⁶ These are promoted under the Global BioTrade programme, launched by UNCTAD in 2018 with the support of the Swiss State Secretariat for Economic Affairs SECO (UNCTAD, 2020h).

**Sales by
UNCTAD BioTrade entities
grew by 18.6%
from 2018 to 2019**



BioTrade is being implemented in over 60 countries worldwide in sectors, such as, personal care, phytopharma, food, fashion, handicrafts, textiles and natural fibres and sustainable

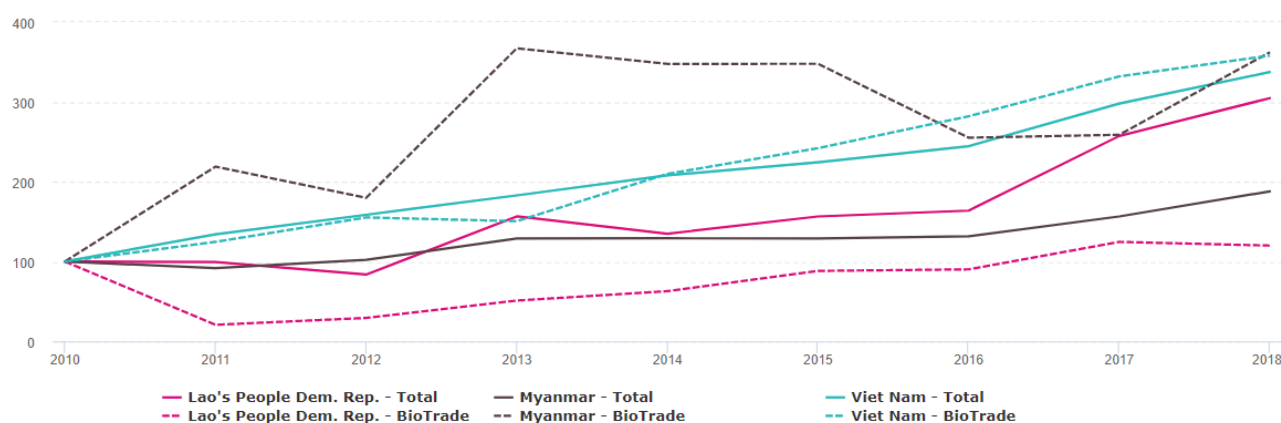
tourism, among others (UNCTAD, 2016). Sales by BioTrade companies and initiatives reported in 2019 amounted to €5.15 billion, an increase of 18.6 per cent on 2018 (UNCTAD, 2020i). The BioTrade Initiative directly supports SDGs 1, 2, 5, 8, 10, 12, 14, 15 and 17 and additionally contributes to the Post-2020 global biodiversity framework to be adopted during the 15th Conference of the Parties to the Convention on Biological Diversity, postponed until 2021 (UNCTAD, 2020j).

BioTrade in practice: Supporting the SDGs in the Mekong region

For years, megadiverse countries in the Mekong region have been leaders in developing products and services based on the sustainable use of biodiversity. The regional BioTrade project in Southeast Asia, implemented by Helvetas Swiss Intercooperation, has been supporting companies in implementing the BioTrade P&C in Lao PDR, Myanmar and Viet Nam since 2016 (Helvetas, 2020a).

BioTrade is contributing significantly to the 2030 Agenda by conserving biodiversity, generating livelihoods and food security for rural populations and vulnerable groups, and helping developing countries increase their exports. In 2019, the total exports of BioTrade companies connected to the Regional Biotrade Project reached US\$12.2 million for biodiversity-related products, an increase of almost 300 per cent on 2018. Similarly, 13,540 people (52 per cent of whom are women) in Viet Nam, Myanmar and Lao PDR were employed or enjoyed increased incomes due to the Regional Biotrade Project (Helvetas, 2020b). For instance, BioTrade companies working with jujube production in Myanmar have increased women's employment while conserving biodiversity in the area, due to the beneficial effects of jujube trees on climate stability and ecosystem services, and the sustainable collection of the fruits (Wilson et al., 2019).

Figure 8 Trade value indices for BioTrade and total exports, Lao PDR, Myanmar and Vietnam
(Index, 2010 = 100)



Source: UNCTAD calculations based on United Nations (2020d).

Providing the latest data on trade in biodiversity-related products

UNCTAD is also developing a statistical tool providing updated trade flows for biodiversity-based products and will host information from BioTrade partners under a set of “Trade and biodiversity profiles”. A pilot exercise was conducted to identify trade flows of BioTrade priority species and products (grouped in over 180 HS Codes) from 2010 to 2018 in 14 BioTrade beneficiary countries in Africa, Latin America and Southeast Asia.

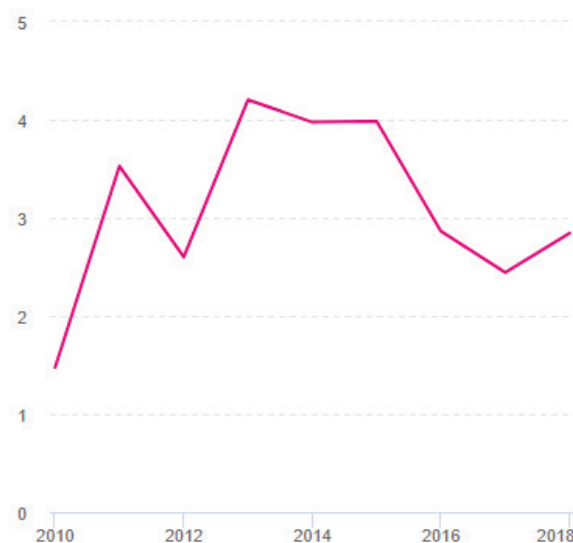
The results of this exercise for Myanmar, Lao PDR and Viet Nam show an increase in exports for the three countries from US\$1.6 billion in 2010 to US\$5.2 billion in 2018. The top six biodiversity/BioTrade export products were edible fruits, fish meat, non-alcoholic beverages, nuts and other seeds, food preparations, and cosmetics and toilet preparations. As shown in figure 8, BioTrade has grown at a faster rate than overall exports in Viet Nam and, especially, in Myanmar. In Lao PDR, after a large fall in 2011, BioTrade and general exports followed similar trends until 2016.

BioTrade products still have a small weight in the total exports for these countries, but this share has shown a growing trend in Myanmar, and since 2011 in Lao PDR. For example, from 2010 to 2018, Myanmar registered a 262 per cent growth

in the exports of the selected BioTrade products, three times faster than for overall exports. As a result, the share of BioTrade in total exports in this country increased from 1.5 per cent in 2010 to 2.8 per cent in 2018 (with a maximum of 4.2 per cent in 2013) (see figure 9).

The increasing demand among consumers worldwide for natural and environmentally friendly products continues to offer growing opportunities for BioTrade.

Figure 9 Share of BioTrade products in total trade, Myanmar
(Percentage)



Source: UNCTAD calculations based on United Nations (2020d).

Notes

- 1 SDG indicator 2.c.1.
- 2 The FAO collects and disseminates food commodity prices via the Food Price Monitoring and Analysis database (FAO, 2020b). In May 2020 this database contained over 1400 time series of domestic food prices. The prices tracked differs from economy to economy. In May 2020 there were annual indicators of food price anomaly for five cereal products for 2016 and 2017 in the Global SDG Database (United Nations, 2020c).
- 3 The Nairobi Package contains a series of six Ministerial Decisions on agriculture, cotton and issues related to LDCs (WTO, 2020e).
- 4 A small portion of measures documented in the GTA database are evaluated as “potentially harmful”. These are excluded from the present analysis.
- 5 It is important to note that the number of interventions does not necessarily represent the proportional impact of exports affected by them.
- 6 The BioTrade P&C are also aligned to the objectives of multilateral environmental agreements, including the Convention on Biological Diversity, the Convention on International Trade in Endangered Species and Wild Fauna and Flora, the Ramsar Convention on Wetlands, and others.

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IV. Policies to promote trade (International cooperation and multilateral mechanisms)

Target 8.a: Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-related Technical Assistance to Least Developed Countries.

- Indicator 8.a.1: Aid for Trade commitments and disbursements (Tier I)

Key messages


- In 2018, Aid for Trade disbursements totalled US\$45.4 billion LDCs' share of Aid for Trade ticked back up to 30 per cent in 2018.
- Africa receives the largest share of global Aid for Trade: US\$17.0 billion in 2018
- In 2018, energy sector received one fourth of the Aid for Trade to Africa
- By April 2020, 80 countries had introduced export restrictions as a result of the COVID-19
- ODA levels are projected to fall in 2021 up to 16 per cent as compared to 2019 levels as a result of COVID-19

What is Aid for Trade?


The Aid for Trade initiative was launched at the 2005 WTO Ministerial Conference in China, Hong Kong (SAR) (WTO, 2015). It is aimed at helping developing countries, particularly LDCs, build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and, more broadly, to engage in international trade. The assistance is targeted at enhancing national trade policy and regulations, developing infrastructure and building productive capacity (UNCTAD, 2016, Target 8.a).

The 2019 joint OECD-WTO Aid for Trade monitoring and evaluation exercise highlighted the importance of diversification, with a focus on promoting growth in the manufacturing sector for African countries. Export diversification is an indispensable part of economic growth and structural transformation, and remains an important development objective for many developing countries (OECD and WTO, 2019). Export demand for manufactured products facilitates growth of the manufacturing sector, thus giving an impetus for structural transformation (see Sustainable industrialization and technology). Industrialization is also paramount for LLDCs as “a thriving labour-intensive manufacturing base is best at generating productive employment” (Bolesta, 2019).

**In 2018,
Aid for Trade
disbursements totalled
US\$45.4 billion**



**LDCs' share
ticked back
up to 30% in 2018**



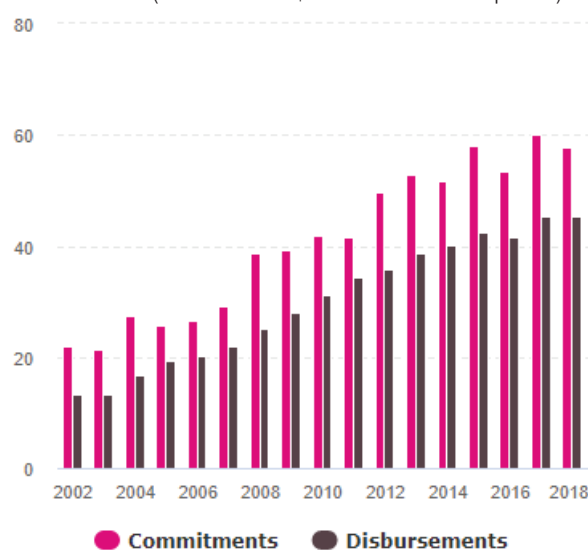
Academic research and donor evaluation programmes provide evidence of the positive impact of Aid for Trade (OECD and WTO, 2019). Such evaluation can be limited by scarcity of useful data and methodological challenges (Razzaque and te Velde, 2013). According to OECD and WTO (2013), for every dollar of Aid for Trade, on average eight dollars in exports is generated;

this reaches up to twenty dollars for the poorest countries. A recent study on the effectiveness of Aid for Trade suggests that a one per cent increase in Aid for Trade for policies and regulations (as a percentage of GDP) induces a 0.15 per cent decline in tariff volatility (Gnangnon, 2019). The latter study supports the finding that Aid for Trade has a more positive impact on countries with higher economic and political stability (OECD and WTO, 2013).

Increase in Aid for Trade levelled off in the last few years

Aid for Trade commitments and Aid for Trade disbursements have increased by 50 and 81 per cent, respectively, during the last ten years. In 2018, Aid for Trade commitments totalled US\$57.8 billion and disbursements US\$45.4 billion in constant 2018 prices. The corresponding figures in 2002 were US\$38.7 billion and US\$25.1 billion. While there has been a positive trend in annual Aid for Trade commitments, their volatility has increased somewhat in recent years, mitigating that growth. In 2016, Aid for Trade commitments declined by 7.7 per cent from the previous year and in 2018 by 3.7 per cent, while they grew in 2015 and 2017 by about 12 per cent. Realised disbursements remained more stable (see figure 1).

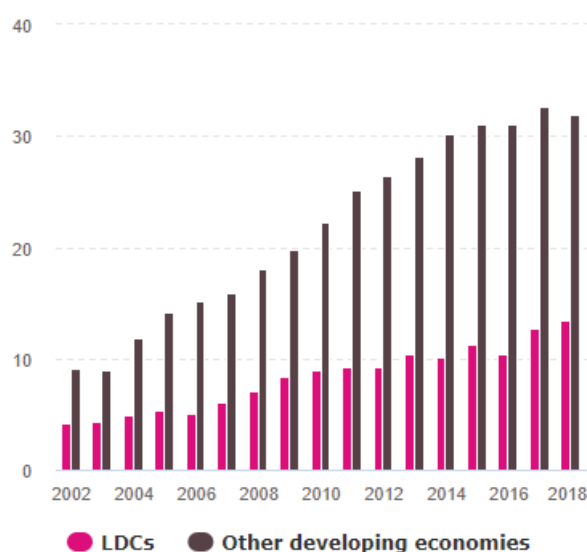
Figure 1 Aid for Trade flows to developing economies, 2002-2018
(Billions of US\$ in constant 2018 prices)



Source: UNCTAD calculations based on data from OECD (2020b).

The disbursements to LDCs almost doubled in ten years from US\$7.1 billion in 2008 to US\$13.4 billion in 2018 (OECD, 2020b). LDCs' share of Aid for Trade peaked at just over 30 per cent of the total in 2009, after which it gradually declined to 25 per cent in 2016. In 2017 and 2018, this share ticked back up to 30 per cent (see figure 2).

Figure 2 Aid for Trade disbursements by recipient, 2002-2018
(Billions of US\$ in constant 2018 prices)



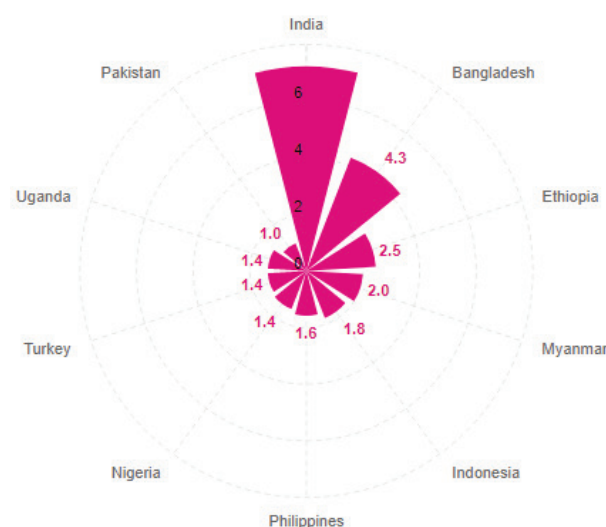
Source: UNCTAD calculations based on data from OECD (2020b).

Asia and Africa remain the primary recipients of Aid for Trade

Asia and Africa received most of the global Aid for Trade disbursements in 2018, US\$16.1 billion (36 per cent) and US\$17.0 billion (38 per cent), respectively. Figure 3 shows the largest Aid for Trade recipient countries.



Figure 3 Top 10 recipients of total Aid for Trade disbursements, 2018
(Billions of US\$ in constant 2018 prices)



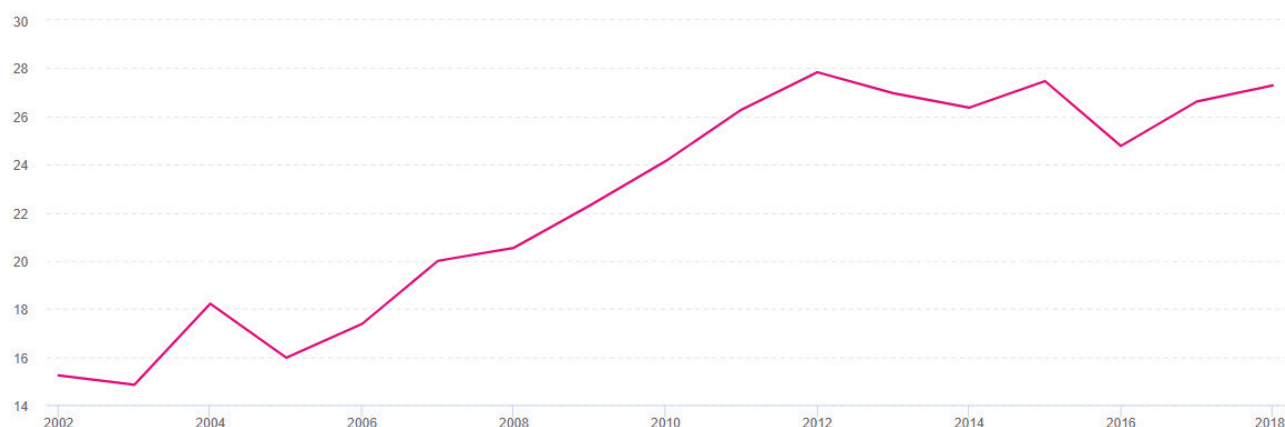
Source: UNCTAD calculations based on data from OECD (2020b).

The top ten Aid for Trade recipients shared about 35 per cent of total country-specific disbursements in 2018. They comprise five Asian and five African countries (Egypt, Ethiopia, Kenya, Tanzania and Morocco). Of these countries, Bangladesh, Ethiopia and Tanzania are LDCs. To put the 35 per cent in perspective, it should be noted that the total population of these top ten recipients accounts for 37 per cent of the total population of developing economies.

Official Development Assistance targets trade more often

The share of Aid for Trade in ODA has increased from 20.5 per cent in 2008 to 27.3 per cent in 2018. The share peaked in 2012 at 27.8 per cent but has plateaued since then (see figure 4). Aid for Trade is particularly important for countries whose trade depends on a narrow export basket. For example, in 2018, LDCs depend, on average, on only two¹ products for almost 70 per cent of their exports (UNCTAD, 2020).

Figure 4 Aid for Trade, share of net ODA disbursements
(Percent)



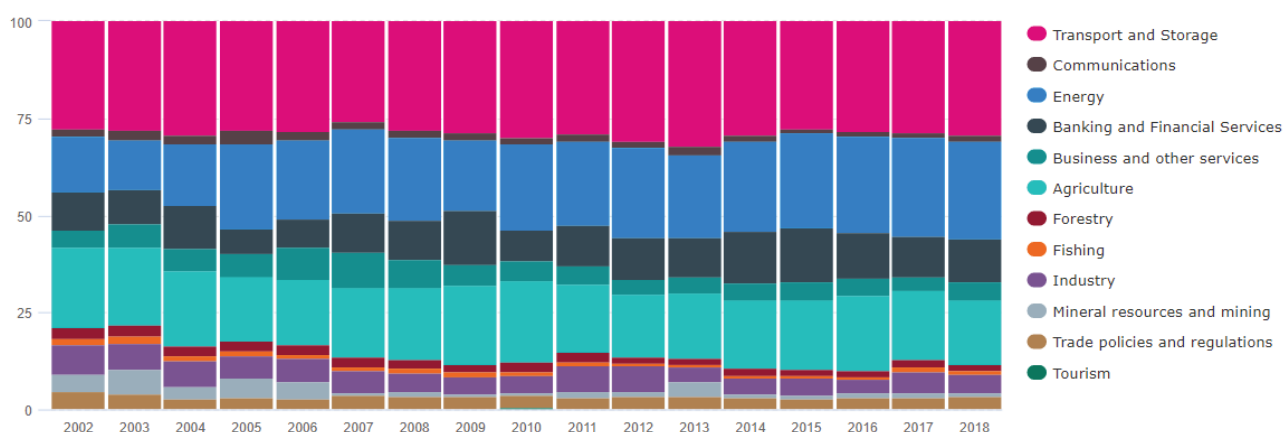
Source: UNCTAD calculations based on data from OECD (2020b).

Transport, energy and agriculture receive the majority of Aid for Trade

Aid for Trade provides support to economic infrastructure (56 per cent in 2018), productive capacity building (41 per cent) and trade policies (3 per cent). Economic infrastructure (transport, communication and energy) has consistently received over 50 per cent of Aid for Trade since 2010 (see figure 5). From 2008 to 2018, the share dedicated to transport and storage has remained rather constant at around 29 per cent of all Aid for Trade, whereas the share targeting energy has increased from 21 to 25 per cent.

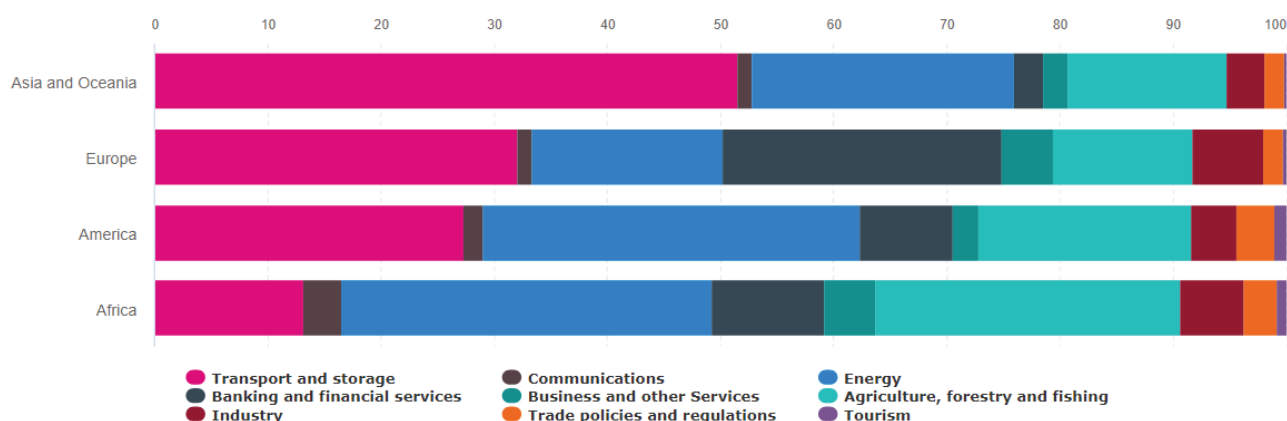
Aid for productive capacity targets economic activities that produce goods and services for trade. Agriculture, forestry and fishing together account for almost half of the support for productive capacity, while aid targeting banking and financial services constitute about 27 per cent. Aid for banking increased between 2008 and 2018 from US\$3.4 billion to US\$4.2 billion.

Figure 5 Distribution between sectors of total Aid for Trade disbursements
(Proportion of total)



Source: UNCTAD calculations based on data from OECD (2020b).

Figure 6 Aid for Trade by sector and region, 2018
(Proportion of total)



Source: UNCTAD calculations based on data from OECD (2020b).

Energy and transport overtake agriculture as a target of Aid for Trade in Africa

The sectors receiving Aid for Trade disbursements vary across regions. About 41 per cent of the Aid for Trade disbursements to Asia and Oceania go to transport, and together with energy these account for over 71 per cent of Aid for Trade to this region. At nearly 25 per cent, energy, and transport at 24 per cent, overtook agriculture, forestry and fishing (23.6 per cent) as the largest recipient sector of Aid for Trade in Africa. In Europe, on the other hand, banking and financial services receive the second largest share of Aid for Trade disbursements (26 per cent) after transport (32 per cent), while in America the largest sectors are transport (30 per cent) and energy (27 per cent).

**In 2018,
energy sector
received
one fourth
of the Aid for Trade
to Africa**



The COVID-19 related disruptions to global value chains - a major risk to LDCs

As noted earlier, LDCs often rely on a small set of export goods and, depending on the product mix, risk losing a significant portion of export revenues due to a sharp fall in demand caused by the COVID-19 pandemic and falls in prices (for commodity exporters). Global markets are severely impacted by the pandemic, which significantly increases the need for Aid for Trade to LDCs and other vulnerable countries. The disruptions to trade in LDCs relate to shortages of raw materials from China and other large economies, for example in the garment industry, and to widespread business closures in many countries affecting LDCs in sectors where they are involved as sub-contractors. Many LDCs also depend on services, which contribute a large share to their export revenue, GDP and employment, especially tourism and transport, which are badly hit by the pandemic.

According to WTO (2020), 80 countries and customs territories have introduced mostly temporary export prohibitions or restrictions as a result of the COVID-19 pandemic as of 23 April 2020. Most of these focus on medical supplies (e.g. facemasks and shields), pharmaceuticals and medical equipment (e.g. ventilators), but also

By April 2020, 80 countries had introduced export restrictions as a result of the COVID-19 pandemic



additional products, such as foodstuffs and toilet paper.

Although it is too early to predict the impact of COVID-19 on Aid for Trade flows, they will be critical for the most vulnerable countries, such as LDCs and LLDCs, in helping a swift recovery from the economic impacts of the pandemic. There could be a temporary decline in Aid for Trade due to resources being channeled toward COVID-19 response efforts in donor countries (figure 7). Since Aid for Trade, as part of ODA (see Official support for sustainable development), is linked to the GNI of each donor country, a reduction in global economic activity will generally mean decreased Aid for Trade flows unless special efforts are undertaken.

Several developed and some developing countries have announced stimulus packages, such as additional funding to businesses or fiscal policy measures to support their economies, which may not be feasible for LDCs. Global collaboration is needed to pool financial support – including a recent Call to Action (IMF, 2020) to suspend debt payments for IDA countries. Analyses by the World Bank warns that COVID-19 could push up to an additional 60 million people into extreme poverty (the share of the world's population living on less than \$1.90 per day) (CCSA, 2020).

ODA levels are projected to fall in 2021 up to 16% as compared to 2019 levels as a result of the COVID-19

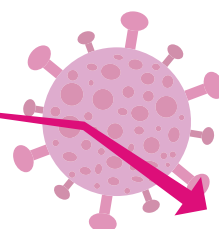
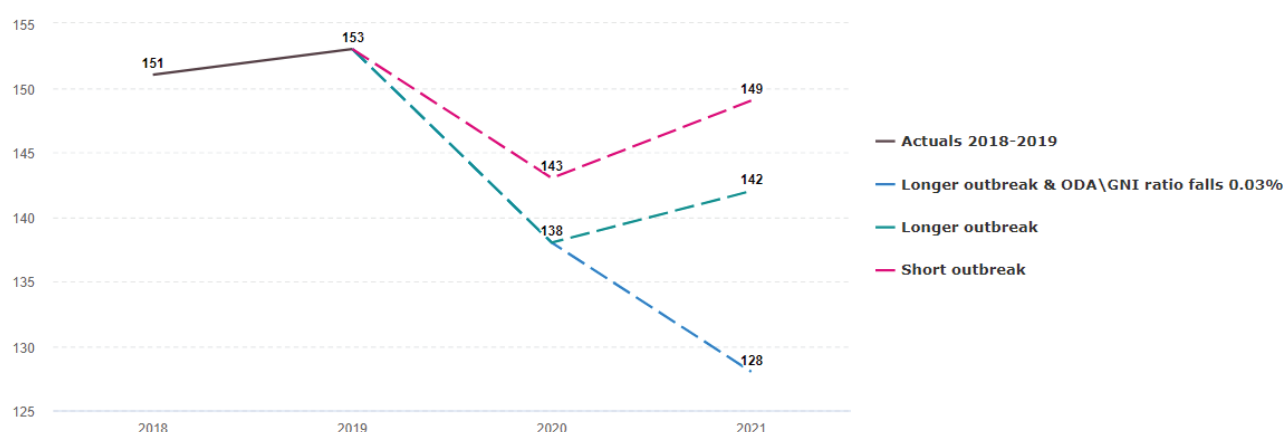


Figure 7 Possible impact of Covid-19 on 2021 ODA levels
(Billions of US\$ in constant 2019 prices)



Source: Development Initiatives (2020)

Notes

- 1 These two products refers to product "Live animals other than animals of division 03" and product "Meat of bovine animals, fresh, chilled or frozen".

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THEME 2

Productive Growth

*“Exploration is the engine that drives innovation.
Innovation drives economic growth”.*

– Edith Widder

Productive growth

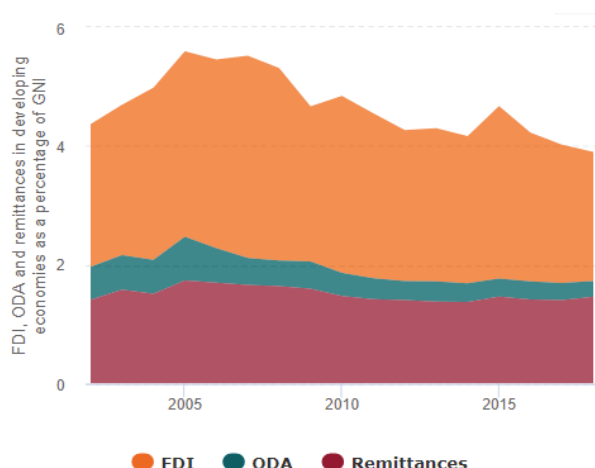
Sustained and inclusive economic growth is an essential requisite for poverty eradication and sustainable development. Productive infrastructure, access to ICT and new technologies, and a stable macroeconomic environment are some of the most important determinants of long-term growth. These are some of the topics covered in this theme of SDG Pulse, along with the domestic and international mechanisms available to finance these policies.

As shown in the statistics and insights presented in SDG Pulse, there are great opportunities to use infrastructure, new technologies, sound economic policy and stable financing mechanisms as enablers of growth. However, these same areas, when not properly managed, could also become obstacles for development. The SDG indicators allow countries to monitor these areas and identify the most urgent priorities.

Available data on these SDG indicators show a mixed picture. On one hand, there has been significant progress in developing economies in many areas, including access to ICT technologies among the population and a growing weight as transport hubs for global trade. On the other hand, there are also important concerns in many countries in terms of access to international sources of financing for development and their financial sustainability, for instance external public and private debt. In terms of domestic resource mobilization, the topic of illicit financial flows is increasingly considered as a significant threat to sustainable development, one requiring concerted national and international efforts to contain it.

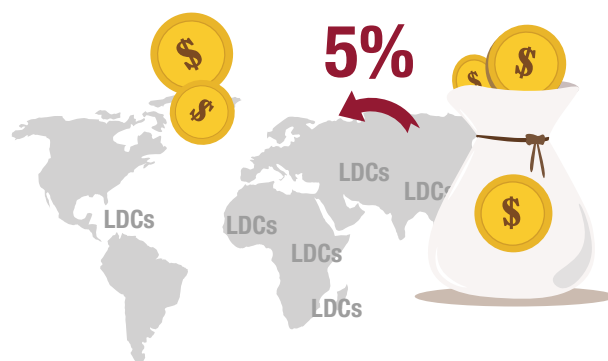
The weight of international financing sources for developing economies has decreased since 2005, but it still represents 4% of their GNI.

UNCTAD & OECD SDG indicator 17.3.1



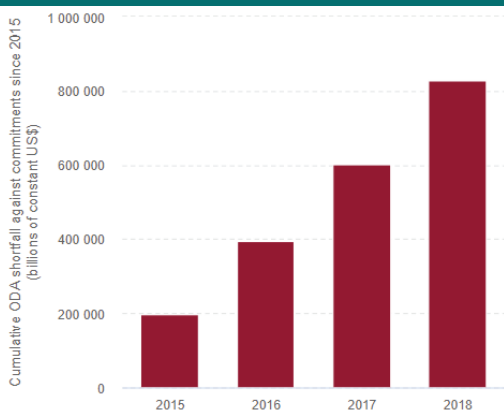
5% of private funds mobilised by development finance targeted LDCs in 2017-2018.

UNCTAD SDG indicator 17.5.1



Donor countries continue to fall short on their ODA commitments.

SDG indicator 17.2.1



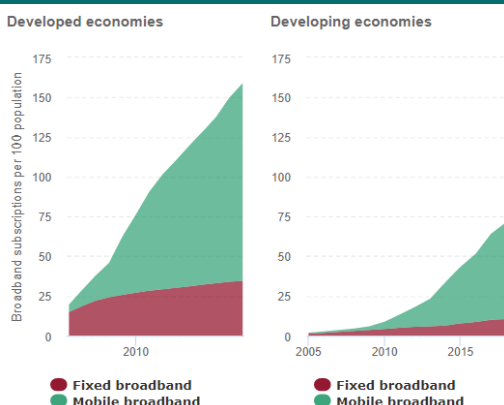
International maritime transport continues to increase in line with trade volume growth..

SDG indicator 9.1.2



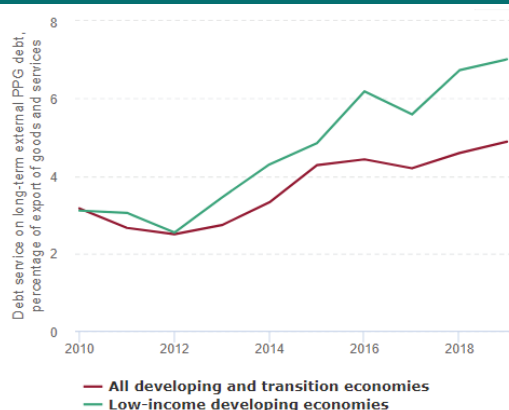
Access to ICT technologies, including broadband connections, continues to rise in developing countries, but they still lag behind the levels of developed economies.

SDG indicator 17.6.1



As external debt stocks in the developing world expand, debt service continues to rise, especially in low-income economies.

SDG indicator 17.4.1



IFFs now have an internationally agreed definition for the purpose of the 2030 Agenda for Sustainable Development.

UNCTAD & UNODC SDG indicator 16.4.1

Internationally agreed definition





I. Robust and predictable sources of financing for sustainable development

SDG 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

- SDG indicator 10.b.1: Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment, and other flows) (Tier I/II)

SDG target 17.3: Mobilize additional financial resources for developing countries from multiple sources.

- SDG indicator 17.3.1: Foreign direct investment, official development assistance and South-South cooperation as a proportion of gross national income¹ (Tier I)

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

- Indicator 17.5.1: Number of countries that adopt and implement investment promotion regimes for least developed countries (Tier III)

Key messages

- **LDCs received less than 2% of global FDI inflows in 2018**
- **Between 2002 and 2018, FDI, ODA and remittances accounted for 9% of GNI for LLDCs on average and almost 11% for SIDS**
- **COVID-19 put negotiations for investment agreements to a halt**
- **5% of private funds mobilized by development finance targeted LDCs in 2017-2018**
- **LDCs received US\$1.3 billion through investment guarantees in 2017-2018**

Many countries lack the capacity to mobilise sufficient funds under the right conditions to support programmes and implement reforms towards sustainable development. In addition, even at an aggregate level, there can be considerable fluctuation in resource flows from one year to the next (United Nations, 2017). These economic flows can also have a vastly different impact on short and long-term sustained development depending on their source, type and volume. For this reason, financing strategies for the 2030 Agenda receive a prominent role in all implementation strategies.

There are two crucial challenges when it comes to financing development programmes. First, there is a general need for more resources to achieve the SDGs. Second, it is important to find the right mix and adequate terms of financing in order to have a lasting effect and reach those individuals, households and communities with the most urgent needs and where the highest impact can be achieved.

Different external financing sources are better for different aspects of development

The outcome documents of the most recent United Nations International Conferences on Finance for Development (Monterrey Consensus: United Nations, 2003; Addis Ababa Action

Agenda: United Nations, 2015) state that the primary responsibility for financing development belongs to the countries themselves. Therefore, governments must enhance their domestic resource mobilization so that financing needs are met in a predictable and sustained manner. However, the international community also has an important role to play. Sources of external financing include international trade, FDI and other private flows (from businesses and individuals), international financial and technical cooperation, and external debt. These different forms of economic flows are, however, not assumed to be equal in their effect on development.

International trade has expanded significantly in previous decades under the existing multilateral trading system, while many new and longstanding challenges remain. These issues are covered in Multilateralism for Trade & Development. International trade is an important engine for economic growth. With adequate support and fostering mechanisms, trade can encourage long-term investments and higher productivity, create jobs and livelihoods for millions, and provide important resources to finance public services and policy interventions. However, a high dependence on international markets could increase exposure to global volatility and macroeconomic imbalances, as well as imperil vulnerable or immature domestic industries to excessive competition. If not managed properly, trade can

create imbalanced development opportunities thus promoting inequality across population groups, as well as between women and men (see Luomaranta et al. (2020) and *The Many Faces of Inequality*).

Public debt is another essential financing mechanism for development. As long as funds raised by external or domestic borrowing support strategic productive investment, they can foster growth without threatening future financial stability. It is, therefore, important for countries to reach long-term debt sustainability. This topic is covered in depth in *Developing countries' external debt sustainability*.

FDI remains a vital source of financing for development. With inflows of US\$740 billion in developing and transition economies in 2018, FDI was the largest source of external financing in these countries (UNCTAD, 2019). Moreover, these flows are directly linked to the main drivers of productive growth and employment creation: establishment of new businesses and greenfield investments; expansion of operations; acquisition of machinery and equipment; upgrade of technology, knowledge and innovation; and others. However, FDI inflows are not distributed evenly among countries; instead, they are concentrated among countries with higher growth prospects, stronger rule of law and respect for contracts, and stable institutions. This means that some countries with urgent financing needs may be bypassed. FDI to LDCs represented only 1.8 per cent of global inflows in 2018, for example (UNCTAD, 2019). In addition, this source of external financing remains tied to macroeconomic performance and the global economic climate. It is, therefore, typically a pro-cyclical flow that may be absent in times when sustained financing is most needed. The promotion of FDI in LDCs will be covered later in this chapter.

Remittances lack the employment creation potential of FDI because they are managed directly by individuals and are mostly directed towards household consumption. Their capacity to raise productive investment is, therefore, limited. However, remittances are an indispensable source of income for many countries. In LDCs, for

example, they are the most important source of external financing, remaining substantially higher than FDI in 2018 (US\$40 billion compared with US\$24 billion) (UNCTAD, 2019). Remittances are also a stable source of income for families, contributing to housing, nutrition, health and education. Thus, they act as an important social safety net. In addition, in countries with an active support policy, remittances have become a significant source of funds for improving social and economic infrastructure.

**LDCs
received
less than 2%
of global FDI inflows
in 2018**



Official international support plays a unique role when it comes to supporting global development, especially for LDCs and other vulnerable economies. In addition to its concessional nature, official support is the only source of financing available in many cases. Especially in situations of low rentability or high risk, official support can become important for mobilizing additional resources. This source of funding is described in greater detail in *Official Support for Sustainable Development*.

In this context, it is also important to monitor South-South Cooperation. Links and connections between countries of the Global South have expanded in volume and scope over the previous decades. This is explained to a certain extent by the increasing political and economic weight of several emerging and developing economies across Asia, Africa and Latin America. It is now recognized as an important source of finance for development. Its importance is emphasized in the 2030 Agenda and the Addis Ababa Action Agenda. However, for a variety of reasons, including the lack of a universally accepted definition and opacity regarding its scope and coverage, South-South Cooperation has proven hard to quantify (Besharati and MacFeely, 2019). For this reason, at the 51st session of the UN

Statistical Commission in 2020, a special working group on the measurement of development support was established to develop an indicator for SDG target 17.3 (United Nations Statistical Commission, 2020, decision 1). This work will include recommendations on how to measure South-South Cooperation.

Recent trends in external financing

Financing for development is a crucial element of 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 [...]” To this end, SDG indicator 10.b.1 measures total resource flows for development. Figure 1 presents recent trends in these flows for three groups of economies, LDCs, LLDCs and SIDS, that face heightened challenges in achieving their development goals.

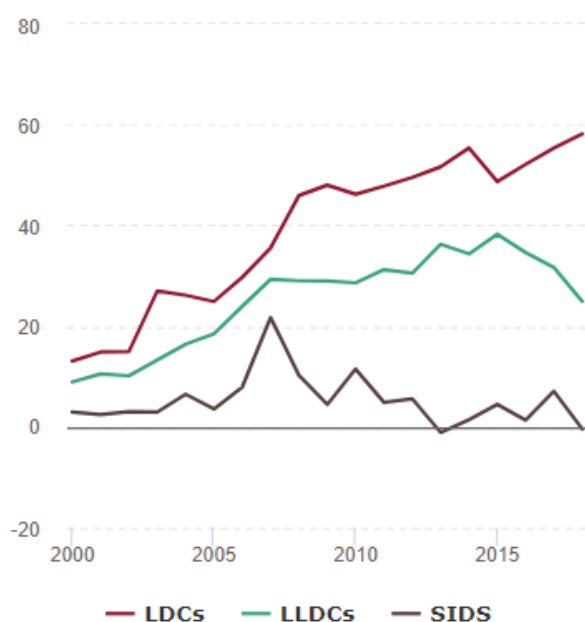
Even expressed in current prices, the trends in external financing have not been homogeneous through time or across country groups. Resource flows to LDCs increased fourfold between 2000

and 2018. However, most of this increase was registered before 2010. Since then, total external funding for LDCs has increased at a slower rate and with some transitory reversals. Figure 1 shows a more disappointing evolution for LLDCs. The years from 2000 to 2007 showed sustained growth in funding, followed by several years of stagnation. An improvement during the years 2012 to 2015 was followed by three straight years of decline, falling back to 2006 levels in 2018. Funding for SIDS has shown more modest volumes and greater volatility. After a peak of US\$22 billion in 2007, external financing has seen steep declines, practically drying out in 2018.

The use of this variable as a measure of external financing for development for SDG indicator 10.b.1 has received some criticism. Some important sources of funds are missing. For example, remittances, an important flow in many developing countries, is not included. Furthermore, only the 30 DAC countries and 17 non-DAC countries are included. OECD (2019a) acknowledge that the coverage of private sector flows from non-DAC donors should be expanded. This is a particularly important omission at a time when South-South Cooperation is increasingly important as a source of revenue and a driving force for collaboration among developing and transition economies. Thus, the official data of this indicator are likely to under-estimate total financial flows for development.

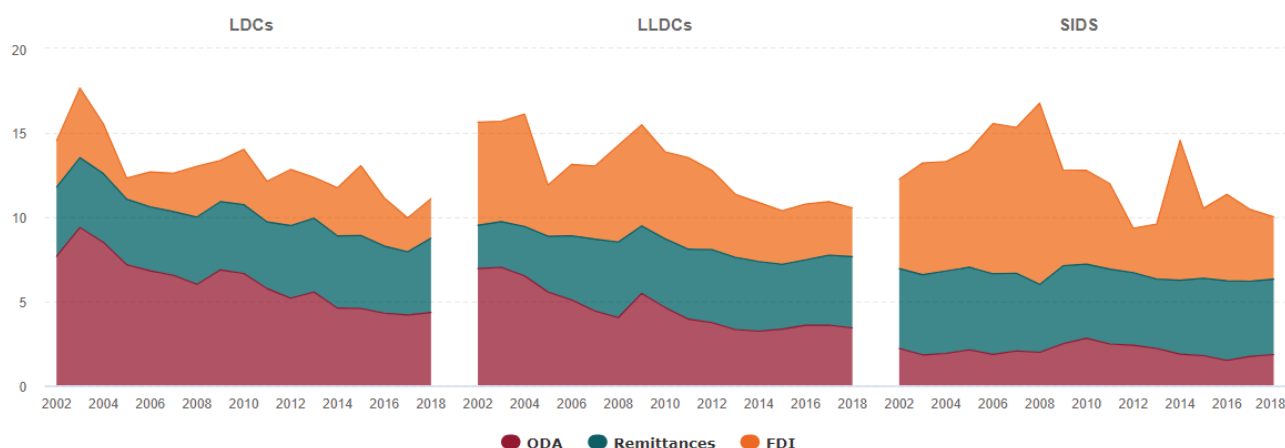
SDG indicator 17.3.1, of which UNCTAD is a co-custodian, also examines financial support for development from multiple sources, but as a proportion to GNI. This transformation puts external financing in context with all sources of income in the national economy. Figure 2 shows the results for LDCs, LLDCs, and SIDS. The figure also includes remittances because, although not part of the official SDG indicator, they are an important revenue source for many countries.

Figure 1 Total resource disbursements for development (SDG 10.b.1)
(Billions of current US\$)



Source: UNCTAD calculations based on data from OECD (2020d).

Figure 2 FDI, ODA and remittances
(Percentage of GNI)



Source: UNCTAD calculations based on data from OECD (2020a) and World Bank (2020).

Figure 2 shows the importance of external financing flows to LDCs, LLDCs and SIDS. The three sources combined on occasion amount to 15 per cent or more of total GNI, though in recent years this share has been decreasing, driven mostly by slowdowns in FDI or ODA. In fact, although a sizable source of financial flows, FDI shows high volatility, in addition to a downward trend since 2008 for LLDCs and SIDS. Remittances for all three groups routinely account for more than 4 per cent of GNI and they are significant both in terms of high volume and low volatility. They have surpassed FDI for all three groups since 2013, apart from SIDS in 2014 and 2016. Remittances represent a more stable inflow than FDI, with a standard deviation almost 10 times lower over the period covered in figure 2. The observed downward trends for FDI and ODA in these groups of economies indicate room for policies to attract investment and other sources of funds to the places where they are most urgently needed.

There is a risk that the measures to contain the COVID-19 outbreak may put a brake on all the sources of financing described above. The global economic recession that will likely be felt in 2020 will entail less available official and private resources, capital flight from developing economies and increased risk aversion, higher unemployment and lower wages, and rising financing costs.² A consequence of this may be reversals in hard-earned progress towards development goals. As described in each of the chapters cited above, it is crucial to implement measures aimed at sustaining the financing sources of the most vulnerable economies.

National and international investment policies of home countries promote investment in developing countries

SDG target 17.5 encourages countries to promote investment for LDCs. All developed economies have implemented some policies and measures to encourage outward FDI, including investment in LDCs and other developing countries. Emerging economies have also begun to do so. These policies include mainly investment guarantees, financial and fiscal support, as well as the conclusion of IIAs. Furthermore, governments of countries receiving investment have also put in place investment policies and measures to attract inward FDI to their economies.

**Between 2002 and 2018,
FDI, ODA and remittances
accounted for
9% of GNI for LLDCs
on average and almost
11% for SIDS**

The intention of SDG indicator 17.5.1 is to measure the “number of countries that adopt and implement investment promotion regimes for developing countries, including LDCs”. As a result of work done by UNCTAD, as the custodian of this indicator, the definitions and measurement methodologies were agreed upon in late 2019 by the IAEG-SDG (United Nations, 2020a). This is the outcome of various consultations about policies and measures that home countries (i.e., donor countries) could adopt to promote their FDI outflows to developing countries, including LDCs. These consultations have also helped identifying data sources and promoted discussions on how these efforts could be measured in the SDG context.

Even if most home countries do not yet have in place investment promotion regimes targeting specific groups of countries, such as LDCs, progress on these indicators can be assessed by looking at the number and amount of investment guarantees and financial and fiscal support that home countries and international institutions have provided to investors when investing in LDCs and other developing countries. In addition, one can count the number of BITs concluded with LDCs, as this type of IIAs are concluded bilaterally and can thus be allocated to LDCs.



Governments have quickly adopted new policy measures to support crucial domestic businesses affected by the COVID-19 pandemic and are also putting in place measures to facilitate investment, especially in the home country but also abroad. Still, the COVID-19 outbreak is likely to affect the number of IIAs concluded in 2020. The conclusion of an IIA usually requires intensive negotiations involving the travel of government

officials, organization of domestic consultation meetings and preparatory steps that vary from one country to another. To date, a number of negotiating rounds for BITs and other investment treaties have been cancelled or postponed due to the outbreak, including many bilateral Summits on trade and investment.

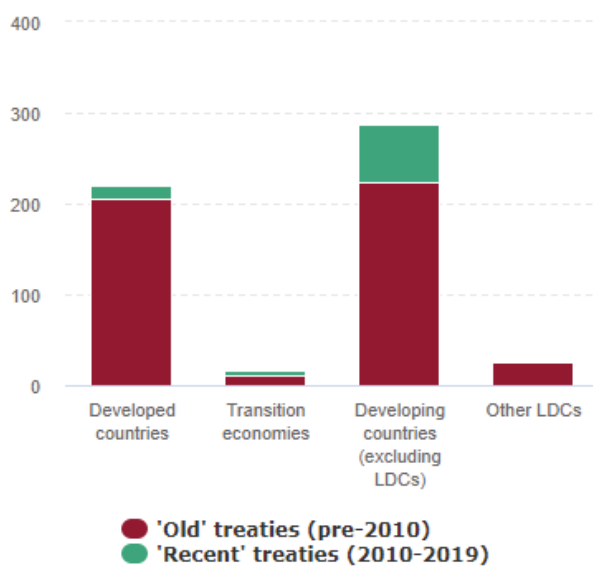
Modernizing international investment agreements slowed down

UNCTAD works with members states to modernize IIAs using the Investment Policy Framework for Sustainable Development developed in 2012 (UNCTAD, 2015). Since then, over 150 countries have formulated new sustainable, development oriented and equitable IIAs. These modernized IIAs emphasize investment for sustainable development and focus on reforming investment policy.

This work is also supported by UNCTAD “Action Packages” for investment to mainstream SDGs into IPAs and investment strategies (UNCTAD, 2018). Modern industrial policies often directly promote SDG-related industries, such as clean energy, electric vehicles, ecotourism, health care and education, but the process of modernizing industrial policies is slow. This progress is now further slowing down, at least momentarily. In the first three months of 2020, only two new IIAs were concluded, this is low in comparison to the ten IIAs concluded in the same period in 2019. The extent of the impact of COVID-19 on the total number of IIAs for the year 2020 will depend on the evolution of the pandemic.

In 2019, the number of effective treaty terminations exceeded the number of treaties concluded, with only 22 newly signed IIAs compared with 34 “old generation” IIAs terminated. At the same time, many of the new treaties were large regional treaties, particularly in Africa and Asia, and also for LDCs (UNCTAD, 2018). When reviewing investment promotion for LDCs, it is possible to analyse bilateral IIAs, namely BITs concluded with LDCs. According to UNCTAD (2020b), developed economies have 220 BITs in place with

Figure 3 Bilateral investment treaties with LDCs by development status of donor countries



Source: UNCTAD calculations based on data from OECD (2020d).

LDCs. Transition economies have established 17 BITs with LDCs and developing economies (other than LDCs) about 288 BITs. In addition, LDCs have some 28 BITs in place with other LDCs (see figure 3).

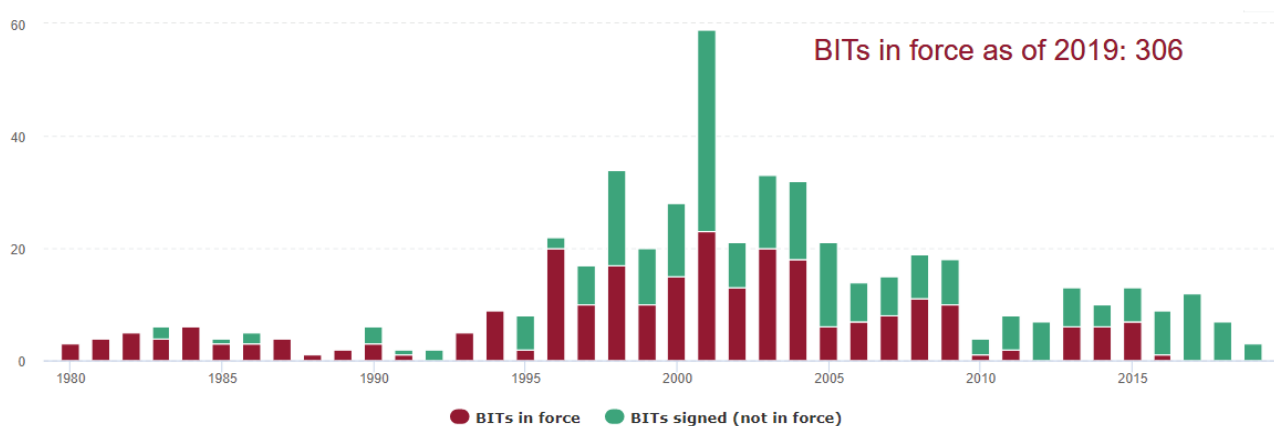
Treaty making with LDCs peaked at the turn of the millennium but fell to a low point in 2010, when only three new BITs were signed and one entered

in force. Thereafter, the pace of treaty making with LDCs began to revive slightly. The increase in developing countries' BITs after 2000 reflected a growing emphasis on investment in development strategies related to South-South cooperation, as well as the emergence of some developing country firms as global players (UNCTAD, 2006) (see figure 4). This pace, however, has slowed down since 2017.

Typically, LDCs' BITs with other countries are still "old generation" treaties that are in need of modernization so that they can help achieve more sustainability-oriented development outcomes. BITs and other IIAs could be reformed in five areas: (i) safeguarding the right to regulate, while providing protection; (ii) reforming investment dispute settlement; (iii) promoting and facilitating investment; (iv) ensuring responsible and sustainable investment; and (v) enhancing systemic consistency (UNCTAD, 2017). LDCs concluded 86 "new generation" BITs between 2010 and 2019, while 467 existing "old generation" BITs, dating from before 2010, have not yet been updated.

Even recent BITs with LDCs make little reference to investment in sustainable development. For example, out of 30 new LDCs' BITs, analysed by UNCTAD, just over 50 per cent (17 treaties) have a reference to sustainable development (or a related concept) in the preamble or contain a

Figure 4 Number of BITs with LDCs signed and entered in force each year



Source: UNCTAD (2020a).

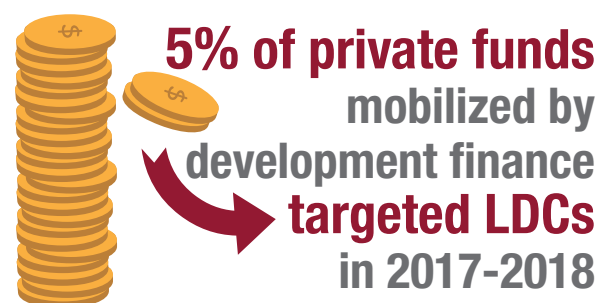
corporate social responsibility clause.

Developed economies, including many EU member states, have the largest number of BITs with LDCs; for instance, Germany has 33. The top ten economies, listed in table 1, are also well placed to contribute to the modernization of trade agreements with LDCs to consider sustainable development and social responsibility. The LDCs with the most BITs in place with other economies comprise Yemen, Ethiopia and Sudan (see table 1). Efforts to modernize investment treaties would have a potentially large effect on these LDCs to promote investment for development.

Africa was the main recipient for development finance

OECD (2019b) collects data on funds mobilized from the private sector by development finance interventions, such as investment guarantees, syndicated loans, credit lines and direct investment in companies. A total of US\$205.2 billion was

mobilized globally from 2012 to 2018, with a 28 per cent increase in 2018 from the previous year. In 2017 and 2018, five per cent of the amounts mobilized supported projects in LDCs, totalling US\$2.2 billion.



In the period 2017-2018, development finance was divided evenly across the five continents. Among LDCs, the top recipients were Uganda, Myanmar, Benin, Mauritania and Bangladesh, receiving half of the support to LDCs. The top sectors receiving development finance in LDCs were energy (US\$677 million), banking (US\$503 million), industry and construction (US\$303 million) as well as communications (US\$211 million).

Table 1 Economies with the most BITs with LDCs, as of end-2019

Top 10 developed countries with most BITs with LDCs

Top 10 LDCs with BITs

<i>Developed country</i>	<i>Number of BITs</i>	<i>LDC country</i>	<i>Number of BITs</i>
Germany	33	Yemen	36
Switzerland	25	Ethiopia	32
France	19	Sudan	30
Belgium and Luxembourg	17	Bangladesh	29
United Kingdom	18	Senegal	28
Netherlands	16	Mozambique	27
Italy	15	Cambodia	26
Portugal	8	Guinea	24
Spain	8	Laos	23
Sweden	7	Mali	22
		Mauritania	22

Source: UNCTAD (2020a).

Note: Belgium/Luxembourg are included as a group because they negotiate treaties together as an economic union (Ministry of Foreign and European Affairs, Luxembourg, 2018).

LDCs received US\$1.3 billion through investment guarantees in 2017-2018

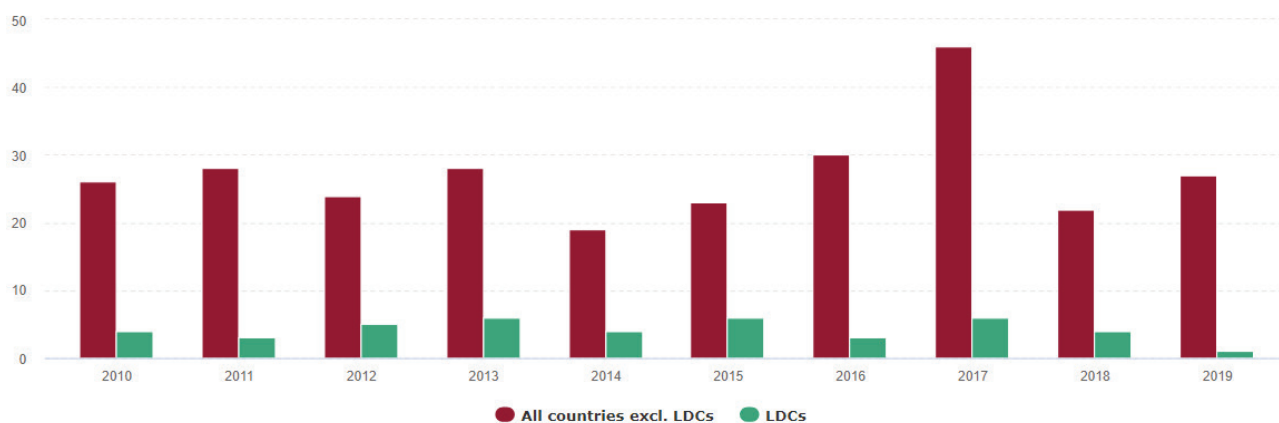
Overall, investment guarantees were the instrument that mobilized the most funds for LDCs (US\$1.3 billion) in 2017 and 2018, accounting for about 58 per cent of the total. Direct investment accounted for 16 per cent and syndicated loans for eight per cent, while credit lines and co-financing both accounted for seven per cent. The largest bilateral providers included France (US\$268 million), the United States of America (US\$232 million), the United Kingdom (US\$151 million), Finland (US\$119 million) and the Netherlands (US\$72 million). The flows from Finland consisted of direct investment only; the Netherlands mainly offered syndicated loans; whereas the other three utilised more often investment guarantees.

LDCs' own measures help to attract investment

A complete direct measure of SDG indicator 17.5.1 is not yet available. Instead, in addition to the data presented above, investment promotion regimes put in place by LDCs themselves, or other outward investment promotion measures directed to LDCs, can be examined. LDCs' own investment promotion regimes play an important role in attracting FDI (see figure 5).

Between 2010 and 2019, at least 315 new investment promotion and facilitation measures were introduced around the world, of which 42 by LDCs. These measures mainly include investment facilitation, investment incentives and special economic zones. Investment incentives are the most common mechanism, accounting for almost half of all new measures (48 per cent). Investment facilitation was more common in countries other than LDCs. Africa (29 per cent) and Asia (36 per cent) accounted for the bulk of new promotion and facilitation measures introduced by all countries between 2010 and 2019. Africa also accounted for 81 per cent of all promotion and facilitation measures introduced by LDCs during this period, with Asia accounting for the rest.

Figure 5 Number of new national investment promotion and facilitation measures



Source: UNCTAD (2020b).

Notes: This graph depicts data on positive investment measures (i.e., new investment promotion or facilitation schemes).

Notes

- 1 Indicator 17.3.1 was changed from as a proportion of total domestic budget to as a proportion of GNI (United Nations, 2020a, 2020b).
- 2 For example, World Bank and KNOMAD (2020) expect a decline in global workers' remittances of 20 per cent in 2020.

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II. Official international assistance plays a key role in financing for sustainable development

SDG target 2.a: Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries

- SDG indicator 2.a.2: Total official flows (official development assistance plus other official flows) to the agriculture sector (Tier I)

SDG target 9.a: Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States

- SDG indicator 9.a.1: Total official international support (official development assistance plus other official flows) to infrastructure (Tier I)

SDG target 17.2: Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries

- SDG indicator 17.2.1: Net official development assistance, total and to LDCs, as a proportion of the OECD DAC donors' GNI

Key messages

- Net ODA to developing countries reached 0.32% of donor countries' GNI in 2018, less than half the 0.7% target
- In 2018, 23% of all official international support was directed to infrastructure in economic sectors
- Official flows to infrastructure for LDCs totaled more than 1% of their GDP in 2018
- The agricultural sector receives only 3.6% of global official international support

The Addis Ababa Action Agenda on Financing for Development (United Nations, 2015) clearly identifies ODA and OOFs as a relevant element in the financing of sustainable development programmes. As shown in Robust and predictable financing sources, these flows are relatively small when compared to domestic public resources or private flows.

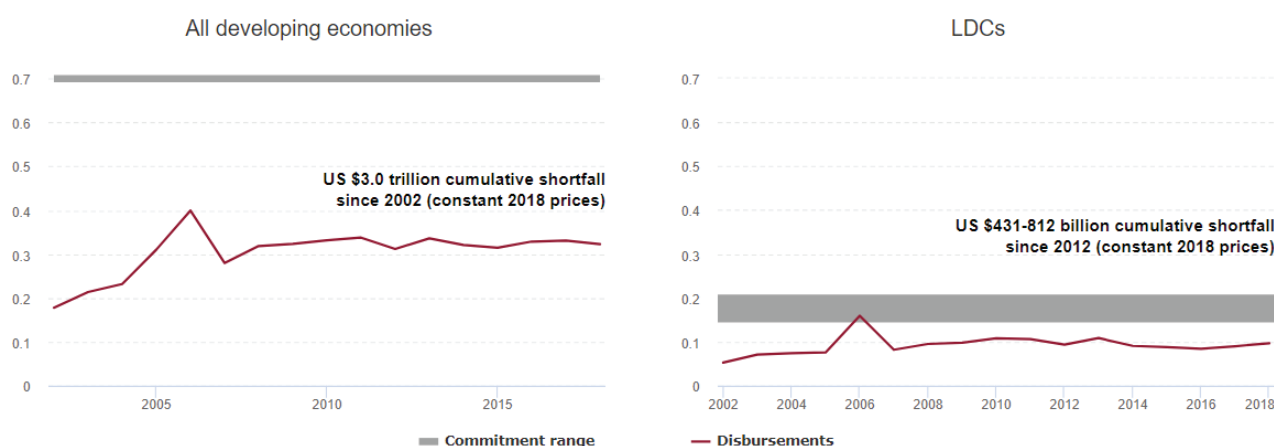
However, they still play an essential role since they frequently function as “seed funds” or catalysts of additional resource mobilization in sectors or projects where other funding options are limited, or where investors are reluctant to participate. Furthermore, for some countries in vulnerable situations, official funds are frequently the only source of financing available.

Net ODA to developing countries reached 0.32% of donor countries' GNI in 2018, less than half of the 0.7% target



For this reason, the importance of official flows is often highlighted in the 2030 Agenda. In fact, they are referred to in 11 targets, including sector-specific official support to agriculture¹, health², water and sanitation³, clean energy⁴, biodiversity⁵ and others.

Figure 1 Net ODA to developing countries and LDCs (SDG 17.2.1)
(Percentage of GNI commitments and actual disbursements)



Source: UNCTAD calculations based on OECD (2020a).

Notes: Cumulative shortfall since 2002, the earliest availability of relevant data. Under SDG target 17.2, developed economies commit to dedicate 0.7 per cent of their GNI for ODA to developing countries, including a range between 0.15 to 0.20 per cent specifically to LDCs.

Gaps in official support affect financing for development

It is important to highlight the commitment of developed economies under SDG target 17.2 to dedicate 0.7 per cent of their GNI to ODA to developing countries, including 0.15 to 0.20 per cent exclusively to LDCs. As shown in figure 1, actual ODA funds made available for developing countries have yet to reach half of this commitment in any year, while those made available to LDCs fare relatively better, although reaching their target range only once since 2002. The increasing cumulative shortfall could compromise the financing of the 2030 Agenda.

While there exists much debate around the efficacy of ODA in general, studies have found positive relationships with ODA in sectors such as agricultural productivity (Ssozi et al., 2019), water infrastructure (Botting et al., 2010) and infrastructure construction projects (Lee and Jeon, 2018). These and other studies note, however, shortcomings in how ODA is deployed and the difficulties in assessing its impacts.

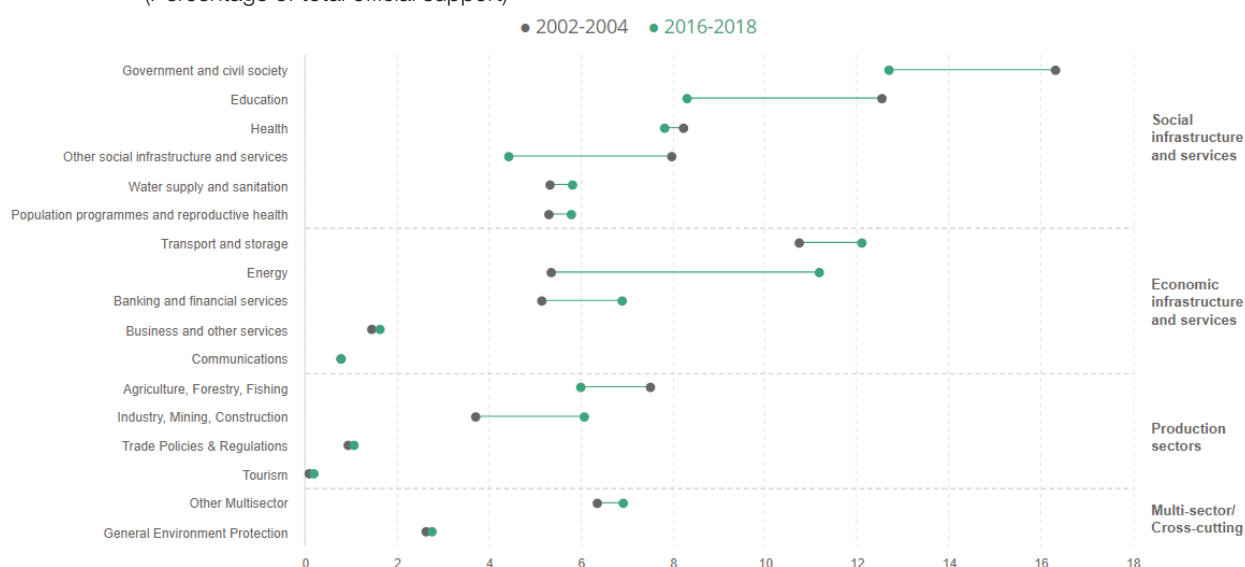
Reflecting such assessments of the efficacy of

official support, as well as changing priorities by both donors and recipients, the sectoral allocation of official support has changed substantially in the last 15 years. Figure 2 shows a shift in official support away from some social infrastructure sectors like education and civil society and into economic infrastructure related to energy, transport, banking and financial services and other areas. In terms of productive sectors, industry has been increasingly prioritised, while support to agriculture has declined.

Official flows play an important role in supporting the response to the COVID-19 pandemic and its fallout on sustainable development, as OECD (2020d) underlines. This applies in particular to LDCs and countries with financing constraints. OECD also stresses the importance of safeguarding ODA budgets and ensuring the continuation of official support during this health and economic crisis.

This chapter covers concessional resources to two areas: economic infrastructure and agriculture. Although the role of this source of financing is essential everywhere, in these two areas they are directly linked with productive growth and its contribution to sustainable development.

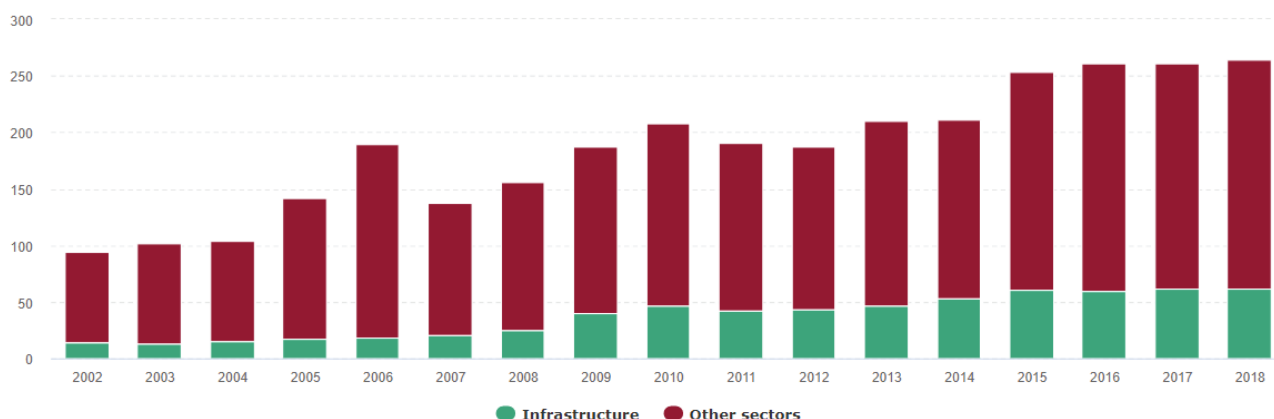
Figure 2 Changes in the allocation of official international support by sector
(Percentage of total official support)



Source: UNCTAD calculations based on OECD (2020a).

Note: For a complete description of the sectors and their coverage, see OECD (2020b).

Figure 3 Official international support, total and to infrastructure (SDG 9.a.1)
(Billions of constant 2018 US\$)



Source: UNCTAD calculations based on OECD (2020a).

Note: Official international support to infrastructure includes sector codes in the 200 series of the DAC classification (see note 7).

Official flows remain supportive of infrastructure projects

Investment in modern and efficient economic infrastructure (transport, information and communication technologies, water supply, electrical power) is essential to achieving sustainable development objectives. Long-term strategies for economic growth, poverty reduction and environmental sustainability all have infrastructure development as a common element. A 2015 report (Bhattacharya et al., 2015) estimates that the global economy needs to invest between US\$5 and 6 trillion (in constant 2010 prices) in economic infrastructure every year

over the period from 2015 to 2030. Additional funds equivalent to US\$600 to 800 billion per year would be necessary to make this investment sustainable. Developing countries will account

In 2018, 23% of all official international support was directed to infrastructure in economic sectors

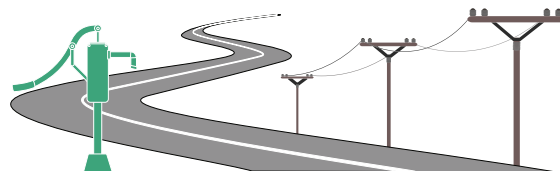
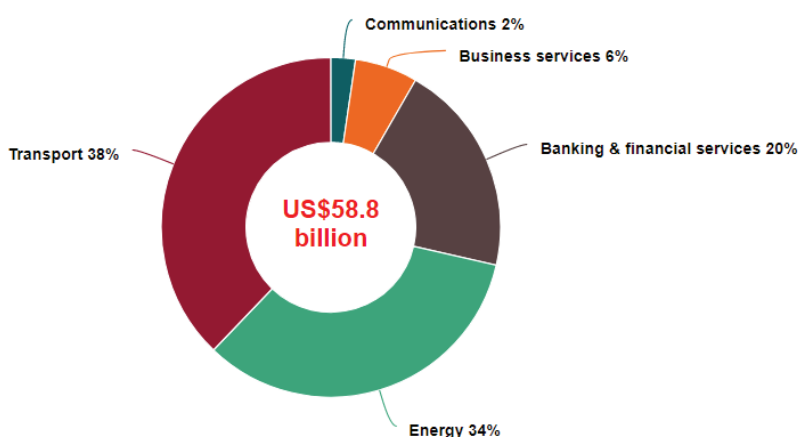


Figure 4 Distribution of official international support to infrastructure, 2018



Source: UNCTAD calculations based on OECD (2020a).

Note: Official international support to infrastructure includes sector codes in the 200 series of the DAC classification (see note 7).

for about two thirds of the investments required to accommodate higher growth and structural change. These figures do not take into account soft infrastructure, which also plays an important role in economic development, including, for example, national data infrastructure (UNCTAD, 2016).

Woetzel et al. (2016) estimate the sectoral breakdown of global infrastructure needs with a 2030 horizon as 38 per cent for transport, 30 per cent for power, 17 per cent for telecommunications, and 15 per cent for water. Given these needs and the current and expected investment trends, the largest infrastructure investment gaps will be concentrated in the generation and distribution of electricity, followed by transport infrastructure.⁶ In addition, significant additional resources are needed across all sectors for climate change mitigation and adaptation (UNCTAD, 2019).

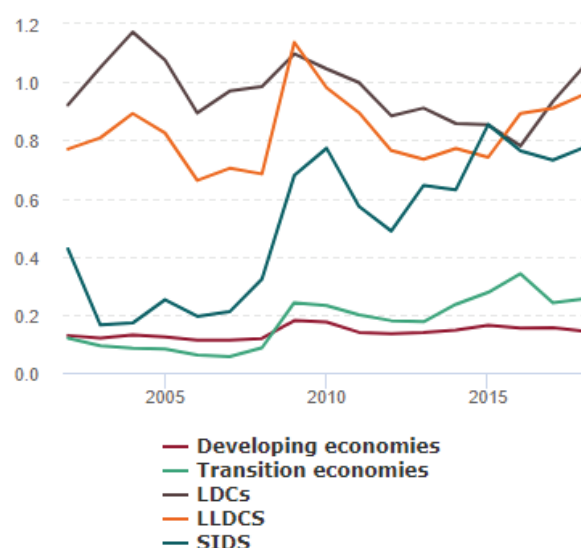
Even if most of the funds for infrastructure investment will come from the public sector and private actors, including through public-private partnerships and other forms of blended finance, ODA will also play a significant role, particularly for LDCs and countries in vulnerable situations. For this reason, SDG indicator 9.a.1 monitors “total official international support (official development assistance plus other official flows) to infrastructure”.⁷

An important source of funding for infrastructure in LDCs, LLDCs and SIDS

In 2018, just ten countries received half of all official international support to infrastructure. The largest recipients were India (13.2 per cent of the total), Egypt (7.2 per cent), Bangladesh (5 per cent), Indonesia (4.8 per cent), and China (4.8 per cent). However, these are also among the largest developing economies and official support represents only a small share of their total sources of domestic and external financing.

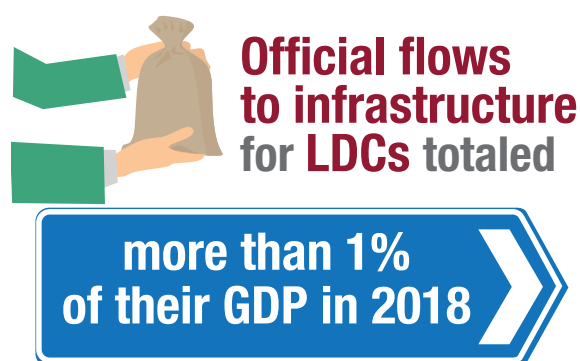
For other countries, official international support has a higher weight relative to the size of their economies. In some cases, because of special needs in terms of economic infrastructure or lack of access to other sources of development financing,

Figure 5 International official support to infrastructure by group of economies (Percentage of GDP)



Source: UNCTAD calculations based on OECD (2020a) and UNCTAD (2020).
Notes: Official international support to infrastructure includes sector codes in the 200 series of the DAC classification (see note 7).

official support is fundamental. Figure 5 shows the international support to infrastructure relative to GDP by groups of economies. LDCs, LLDCs and SIDS receive a higher share of funds from ODA compared to other developing or transition economies.



The need for infrastructure development, particularly transport, is of central importance for economic development in LLDCs due to their isolation from international markets. However, there is an important investment gap in this area at current investment levels (UN-OHRRLLS, 2018). This points to the importance of all sources of funding for infrastructure projects. LLDCs were recipients of US\$7.7 billion of development

assistance to economic infrastructure in 2018, equivalent to one per cent of GDP. This continues an increasing trend in terms of volumes and share of GDP since 2015.

Due to their structural characteristics, such as small population size, geographic remoteness, economic reliance on trade and tourism, as well as high vulnerability to natural disasters and climate change, SIDS have significant infrastructure requirements, both in terms of building new facilities and maintaining and adapting existing ones (OECD, 2018). As seen in figure 5, the importance of official international support to economic infrastructure in these economies has grown in recent years, increasing from about 0.2 per cent of GDP in 2006 to 0.8 per cent in 2018.

Despite the growing infrastructure challenges, long-term investment in infrastructure for sustainable development in developing countries remains insufficient. Stronger consideration should be given to the positive impact of infrastructure, as developing countries will require large-scale investment to build high quality, resilient and inclusive infrastructure (United Nations, 2018). Official international support will remain a key component in the financing of the infrastructure investments required to achieve the SDGs.

Agriculture no longer a priority for ODA, even when challenges keep mounting

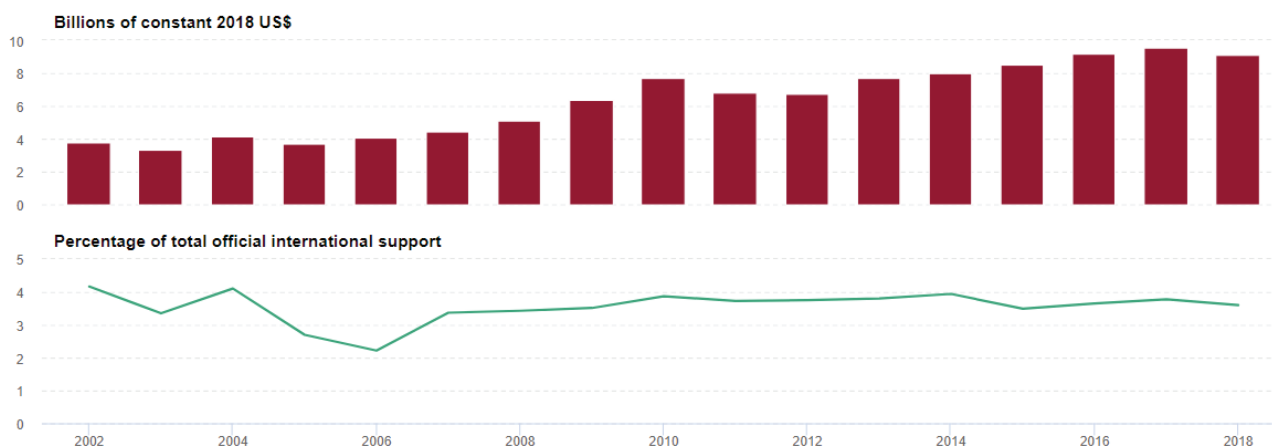
The agricultural sector employs a considerable share of the labour force, and plays an essential role in food security and rural development. Agricultural products are traded internationally and constitute an important source of revenue for many countries. However, even if agriculture remains a crucial economic sector in many developing economies, agricultural productivity remained stagnant during the 1960s to 1980s and has only increased gradually since then. This could be attributed to several factors, including unsupportive policies and insufficient resources to develop this sector (Chimhowu, 2013).

The agricultural sector receives only 3.6% of global official international support



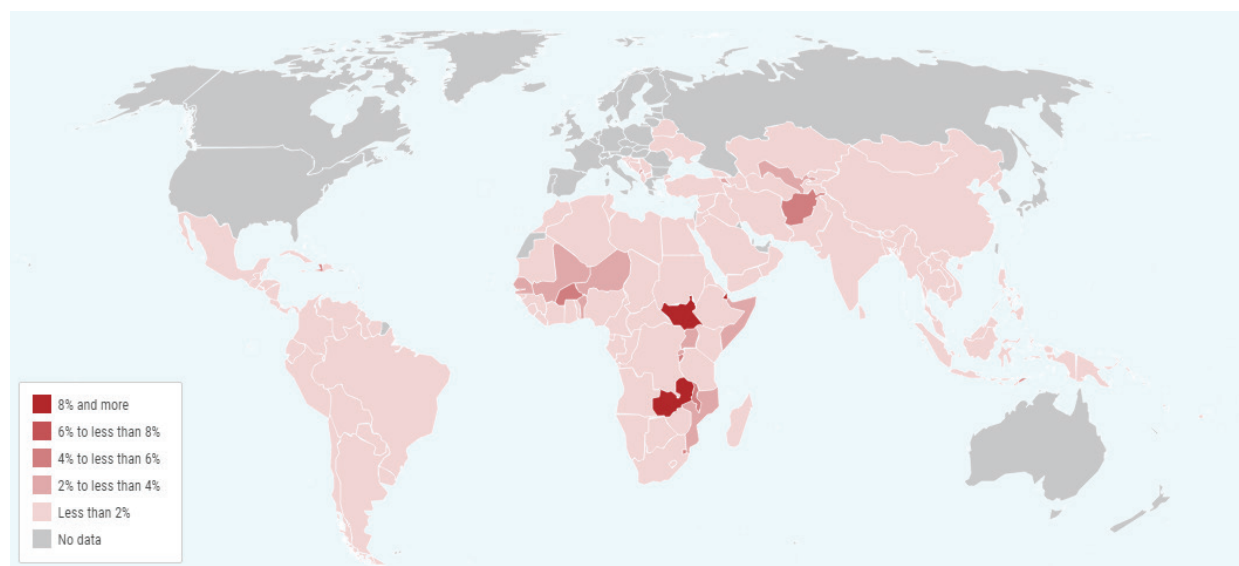
In addition to the urgent need for increases in productivity, agriculture must also embrace sustainable practices and adapt to climate change. On one hand, the sector contributes to greenhouse gas emissions, natural habitat loss

Figure 6 Total official international support to agriculture (SDG 2.a.2)



Source: UNCTAD calculations based on OECD (2020a).

Notes: Official international support to infrastructure includes sector codes in the 311 series of the DAC classification (see note 8).



Source: UNCTAD calculations based on OECD (2020a) and UNCTAD (2020).

Notes: Official international support to infrastructure includes sector codes in the 311 series of the DAC classification (see Note 8). Countries in gray: developed economies or countries not included in the CRS database.

and unsustainable use of water resources, among others (see Make or Break for Green Economy), and reducing its environmental impact would require important investments. On the other hand, agriculture is strongly affected by climate change and extreme climatological or meteorological events. Significant resources are needed for adaptation and mitigation. In many countries, official flows in the form of ODA and OOFs play a key role in financing agricultural development. In this sense, SDG indicator 2.a.2 measures “total official flows (official development assistance plus other official flows) to the agriculture sector”.⁸

During the 1970s and 1980s, agriculture was a major recipient of international assistance, accounting for 15 to 20 per cent of total ODA (Cabral and Howell, 2012). However, the relative importance of agriculture as a beneficiary of ODA has declined since then. Several factors are behind this shift, including changing donor priorities, pressure from environmental groups and insufficient evidence of its contribution to increasing productivity (Chimhowu, 2013).⁹

As shown in figure 6, while ODA to agriculture increased in absolute terms every year between 2012 and 2017, it has remained stable, at a low level, when expressed as a share of total

concessional resources. Indeed, since 2005 the four-per-cent mark has not been exceeded. Flows in 2018 were lower than in 2017, reaching US\$9.5 billion, equivalent to 3.6 per cent of total official international support.

Even if ODA to agriculture has remained stagnant relative to other sectors (see figure 2), it still represents an important source of funding for many developing economies. Map 1 shows the weight of these flows relative to the value added of the primary sector.¹⁰ It can be seen that several economies in Central and West Africa, Central Asia and the Caucasus still rely on ODA as an important source of financing for the development of their agricultural sector.

The agricultural sector is facing mounting environmental challenges, including changing climatological patterns, water shortages, treatment-resistant plagues and increased incidence of natural disasters. These factors, combined with an increasing food demand caused by population growth and changing consumption preferences, could translate into important threats for food security in many parts of the world. The COVID-19 pandemic could exacerbate these risks by restricting the mobility of people and products and disrupting trade and global value chains. This

could lead to lower yields, scarcity of specific food commodities and food price increases (FAO, 2020). Given the importance of agriculture for people's life and livelihoods, this productive sector could well regain its priority in official support programs for sustainable development.

Are official international flows to the agricultural sector effective? A recent study on the effectiveness of agricultural ODA in Sub-Saharan Africa found that development assistance is positively related to agricultural productivity, in general terms. However, the specific effects vary according to the destination of the funds and the characteristics of the recipient economies. For example, it has been argued that ODA creates a substitution effect towards agricultural production activities related to the industrial or export sectors, and away from food crop production. Furthermore, institutional factors such as government effectiveness, property rights and business freedom have been found to strengthen the positive impact of international support on agricultural productivity (Ssozi et al., 2019). For policymakers in both donor and recipient economies, it is important to consider the appropriate mix of funds and ensure supporting institutional reform in order to maximize the positive impact of ODA in agriculture.

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 For more information on investment needs specific to transport infrastructure, see chapter Mitigating risks to build transport infrastructure.
- 7 Note that the definition of infrastructure for the purpose of this indicator could vary from other classifications. According to the DAC classification, official flows to infrastructure can be divided into social and economic sectors. The former includes education, health, population policies, water supply and sanitation, and government and civil society; the latter comprises transportation and storage, communications, energy, banking and financial services, and business services (OECD, 2020b). As specified in its official metadata, funding from all official international donors directed to infrastructure in economic sectors in developing countries is considered for SDG indicator 9.a.1 (United Nations Statistics Division, 2020).
- 8 According to the official metadata, this indicator measures funding from all official

international donors to the agricultural sector in developing countries (United Nations Statistics Division, 2020). This corresponds to sector code 311 of the DAC classification, including sub-sectors such as agricultural development, agricultural policy, agricultural water and land resources, food crop production, livestock, industrial/exports crops, rural co-operatives, agricultural inputs, and agrarian reforms, among others (OECD, 2020b).

- 9 In order to reflect current practices in terms of ODA to the primary sector, a broader definition could also include other relevant sectors, such as rural livelihoods, rural development and food security, and take into account multi-sector ODA-financed projects (Cabral and Howell, 2012). However, even with this definition, ODA directed to agricultural projects still shows a decline in relative terms, although at a slower rate.
- 10 The primary sector is broader than agriculture (it also includes hunting, forestry and fishing). It is used in map 1 as a denominator since data on value added for agriculture is not available for all countries.

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III. Sustainable and resilient transport amidst rising uncertainty, disruptions and climate risks

SDG 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

- SDG indicator 9.1.2: Passenger and freight volumes, by mode of transport (Tier I)

Key messages

- **Total maritime freight volume reached a historic maximum in 2018: 11 billion tons**
- **Asia shipped 41% and received 61% of world maritime cargo**
- **Significant positive correlation between port efficiency and connectivity**
- **International freight costs in LDCs almost double than developed economies**
- **Transport infrastructure disproportionately affected by natural disaster**

In an ever globalized and interdependent world, transport is the lifeline linking global economies and societies. This sector is a critical enabler of trade, an engine of growth and a driver of social development. While the continuity of freight movements also requires the use of multimodal transport networks including rail, road and inland waterways, maritime transport remains the backbone of globalization, handling over 80 per cent of global trade by volume and more than 70 per cent of its value (UNCTAD, 2019a).

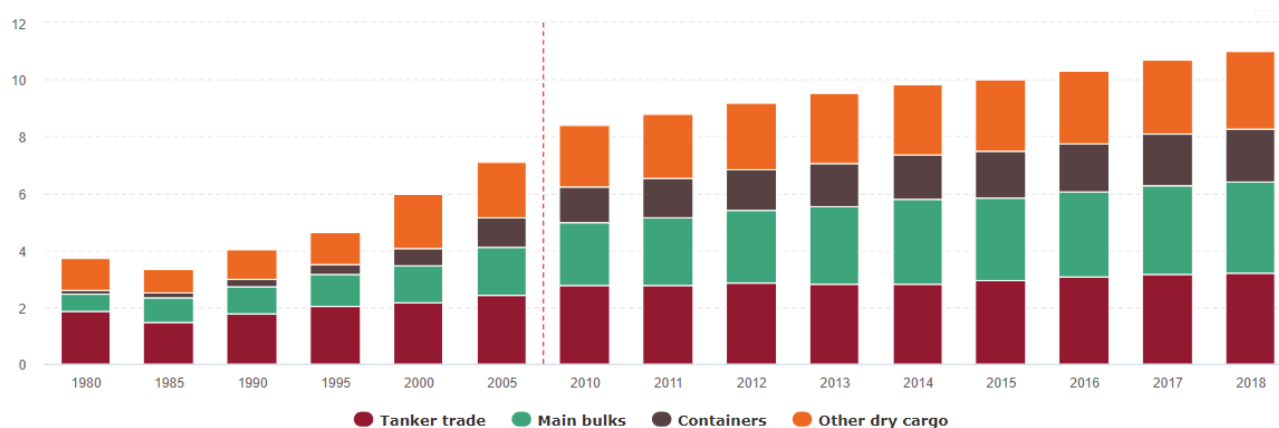
Multimodal transportation enabled by containerisation – a transport technology that is closely associated with globalization and fragmentation of global production – has underpinned regional integration and improved participation in globalized trading systems and value chains (Bernhofen et al., 2013). Apart from the co-dependence between transport, trade and supply chains, maritime transport, including ports and shipping services, constitutes an economic sector in its own right that generates economic and social gains (Rodrigue, 2020; Ministry of Transport, New Zealand Government, 2016).

The rapid growth of demand for transport services exerts pressure on the sector, increasing its exposure to global risks and external disruptive shocks that dislocate transport networks and supply chains.

These risks include inward-looking trade policies, geopolitical threats, unsustainable energy use, environmental degradation and climate change (UNCTAD, 2019a), including pandemics such as COVID-19. Given the strategic role of the sector as a catalyst for growth and development, a full consideration of these risks is required to devise policies that promote sustainable and inclusive long-term growth (UNCTAD, 2018d). While access to affordable, reliable and cost-effective transport systems remains a challenge for many developing countries, especially for LLDCs and SIDS, mainstreaming sustainability and resilience, in particular climate criteria, into transport designs, development plans and management, is an imperative (UNCTAD, 2014a).

Bearing in mind these considerations, SDG target 9.1 seeks to improve infrastructure that supports economic activity and human well-being while promoting sustainability. Specific to transport infrastructure, SDG indicator 9.1.2 measures progress towards sustainable and resilient transportation and measures trends in “passenger and freight transport.” Freight transportation is of direct relevance to UNCTAD’s mandate on transport and trade logistics. This chapter highlights trends in critical maritime transport infrastructure and services that underpin trade, supply chain linkages and economic integration.

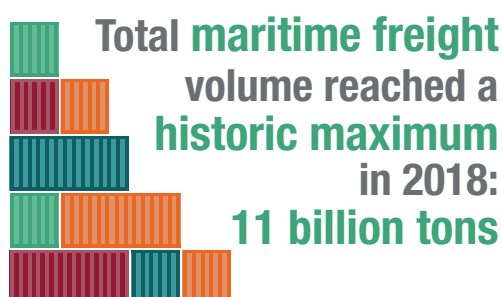
Figure 1 Volume of international maritime cargo
(Billions of tons loaded)



Source: UNCTAD (2019a).

Maritime transport amidst heightened uncertainty and a challenging outlook

Maritime transport remains the backbone of globalized trade and manufacturing supply chains as more than four fifths of world merchandise trade volumes are carried by sea. However, according to UNCTAD (2019a), growth in international maritime trade weakened slightly in 2018. Volumes increased at 2.7 per cent, below the historical average of 3.0 per cent from 1970–2017 and the growth of 4.1 per cent registered in 2017. Nonetheless, total volumes reached a milestone in 2018, when they surpassed 11 billion tons for the first time in UNCTAD’s records.

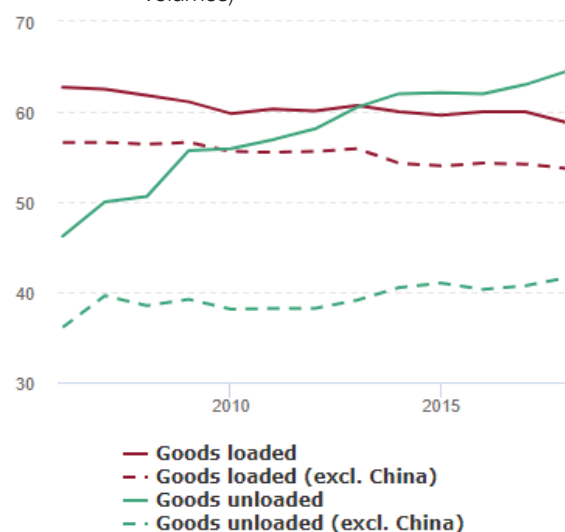


In 2018, main dry bulk commodities accounted for more than 40 per cent of total dry cargo shipments, while containerised trade and other dry cargo accounted for 24 per cent and 35 per cent, respectively. Tanker trade accounted for 29 per cent of total maritime trade volume, down from around 50 per cent nearly four decades earlier. As

seen in figure 1, this continues the ongoing trends observed in maritime trade structure since 1980.

Heightened uncertainty and growing downside risks have put a brake on containerised trade, with volumes expanding in 2018 at a slower rate than in the previous year. Volumes as measured in TEUs increased by 2.6 per cent, down from 6.0 per cent in 2017, bringing the total to 152 million TEUs. This is a dramatic change compared with the double-digit growth rates of the 2000s and less than half the 5.8 per cent average annual growth rate recorded over the past two decades.

Figure 2 Participation of developing countries in global maritime trade
(Percentage share of global maritime trade volumes)



Source: UNCTAD (2019a).

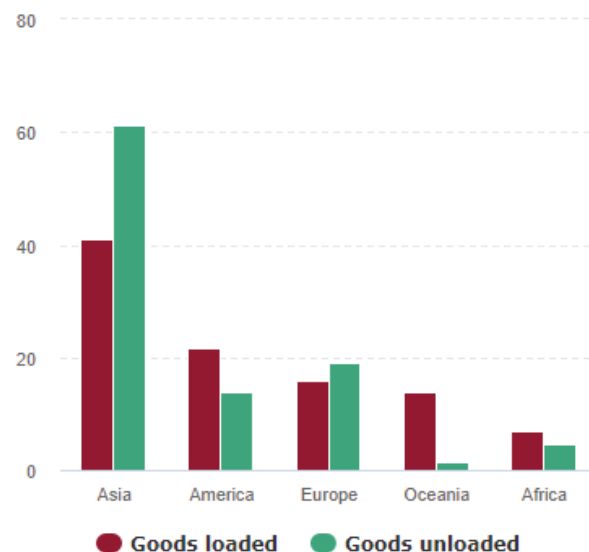
As shown in figure 2, developing economies account for nearly two thirds of global maritime trade flows, both in terms of goods loaded and goods unloaded. These economies loaded 58.8 per cent and unloaded 64.5 per cent of the total in 2018. By contrast, developed countries saw their share of both types of traffic decline over time, hovering at around one third in terms of goods loaded and unloaded. The share of economies in transition remains relatively small, with 6.5 per cent of world maritime trade volumes loaded and less than 1.0 per cent unloaded.

Since 2000, the contribution of developing countries to maritime trade has shifted, reflecting their growing role as major exporters of raw materials, as well as large exporters and importers of finished and semi-finished goods. Participation in containerised trade, however, has been concentrated in Asia, notably in China and neighbouring countries. Other developing regions did not contribute equally, reflecting their varying degrees of integration into global value chains and manufacturing networks. This is also shown in figure 2, where the group of developing countries excluding China paints a rather different picture.



The leading influence of Asia in maritime transport is also highlighted in figure 3. In 2018, this region shipped 41 per cent and received 61 per cent of world maritime cargo. Corresponding figures for the Americas were 22 and 14 per cent, respectively, while 17 per cent of global goods loaded and 19 per cent of global goods unloaded were attributed to European countries. The other regions were responsible for smaller shares of worldwide maritime cargo flows.

Figure 3 International maritime trade by continent, 2018
(Percentage share of global world maritime trade volume)



Source: UNCTAD (2019a).

Logistical bottlenecks and insufficient infrastructure investment undermine maritime transport. They raise costs, extend delays, reduce access, constrain connectivity and hinder effective participation in supply chains and transport networks. Beyond ports, road and rail networks are necessary for door-to-door transport of goods. Infrastructural gaps and bottlenecks affecting inland networks can render transportation costly, especially for LLDCs. Figure 4 features total freight cost estimates (including all modes of transport) for the period 2006 to 2016, indicating that transport costs in LDCs reached 21.2 per cent of the value of imports in the most recent year. These costs amounted to 19.2 and 21.9 per cent of the import value in LLDCs and SIDS, respectively. The equivalent for developed economies was only 10.8 per cent.

International freight costs in LDCs almost double than developed economies

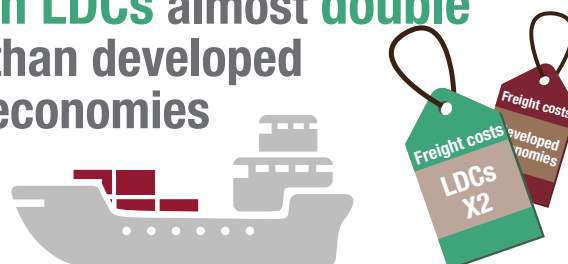
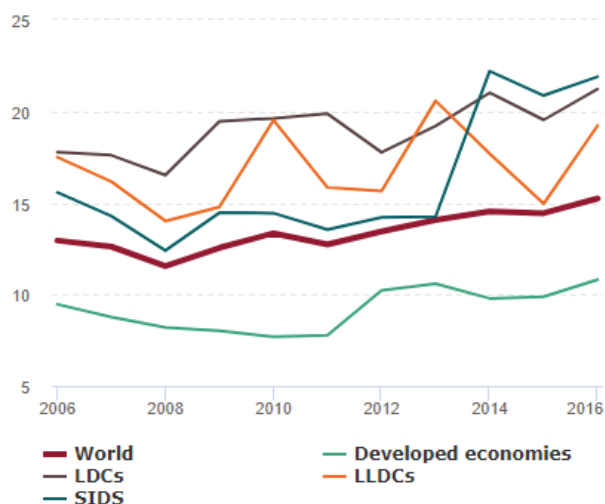


Figure 4 Transport and insurance costs of international trade
(Percentage share of value of imports)



Source: UNCTAD (2017).

As trade volumes expand, the importance of port efficiency also increases

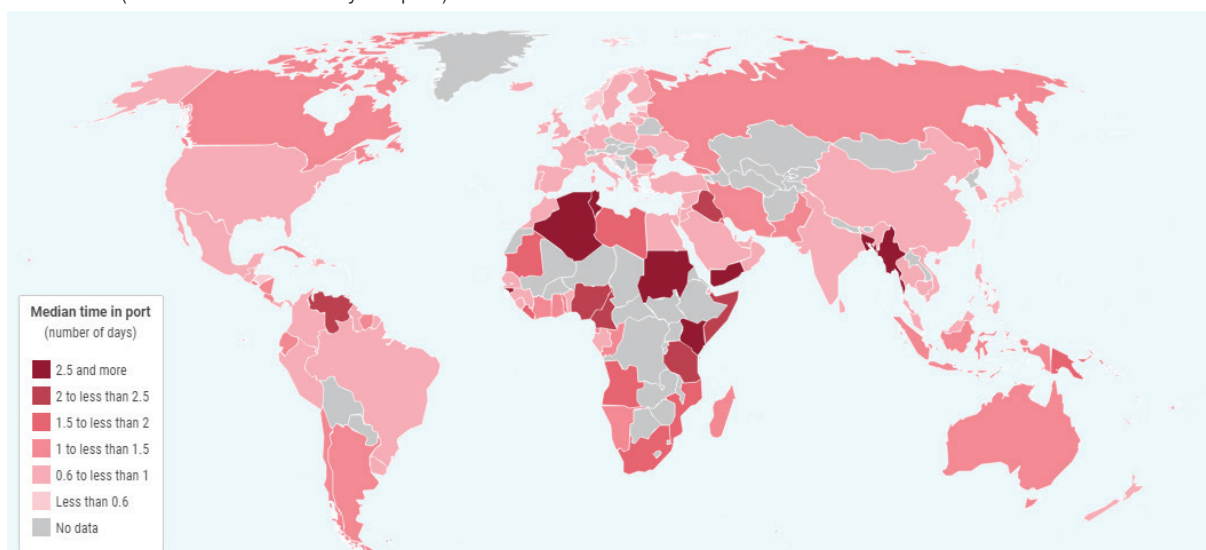
To support increased cargo flows and remain competitive, countries must continue to develop new infrastructure and optimise the use of existing networks, while embracing sustainability and resilience. Port performance is a key indicator of trade efficiency that determines connectivity

and trade costs. Taking vessel time spent in port as an example of port efficiency metric, every hour of ship-time saved in a port saves money on port infrastructure investments, capital expenditures on ships and inventory holding costs of merchandise. New data show that differences exist across ship segments and sizes, and that longer port turnaround times are prevalent in developing countries and LDCs (UNCTAD, 2020g).



Ports receiving the highest number of calls have shorter turnaround times. The causality goes both ways: if the turnaround time is shorter, a port with the same number of berths can accommodate more port calls. At the same time, countries that trade more and have more port calls will also generate more income to invest in efficient port operations. The dominant role of Asian countries in containerised trade is also observed when looking at port calls (see map 1).

Map 1 Time in port, 2018
(Median number of days in port)



Source: UNCTAD (2020g).

Notes: Ships of 1 000 gross tons and above. These figures are based on Automatic Identification System (AIS) data. The variable "median time in port" provide an estimation of overall time in port; however, it should not be considered as a precise measurement of efficiency in port since it does not distinguish between waiting time, berth time, and working and idle time.

Investment, for instance in mechanised or more efficient loading and unloading operations, is an important factor explaining differences across countries, albeit not the only one. For example, the geographic position of Egypt, Morocco, South Africa and Djibouti along major trade routes explains their leading position as the best-connected countries in Africa.

Investment requirements in the transport sector remain significant

Existing estimates point to global infrastructure investment needs potentially reaching US\$94 trillion in 2015 prices by 2040. A scenario in which current investment trends are maintained implies that only US\$79 trillion will be invested, leaving a global infrastructure investment gap of US\$15 trillion (Oxford Economics and Global Infrastructure Hub, 2017). This estimate is based on data from seven sectors in 50 countries. Available estimates specific to the transport sector also reveal high investment needs over the coming decades.¹

Other studies project global infrastructure investment needs between 2016 and 2030 to reach US\$6.3 trillion per year (OECD, 2017). Of these, transport infrastructure expenditure is projected to average US\$2.7 trillion annually, with road and rail transport requiring US\$2.1 trillion and US\$400 billion, respectively, and airports US\$200 billion. Cumulative investment needs for the transport sector are expected to reach US\$41 trillion, equivalent to 43.1 per cent of total infrastructure investment needs over the period from 2016 to 2030.

The public sector has traditionally played a key role in financing transport infrastructure. However, investment needs are large and public sector financing alone will not be enough to fill the growing financing gap. In many countries, financing transport infrastructure needs is challenged by competition with other high-priority areas for public funds, constrained opportunities for domestic resource mobilization and limited ability to borrow domestically or internationally.

Alleviating the persistent transport infrastructure gap and ensuring proper service delivery require further mobilization of domestic resources (public and private), and complementing them with additional sources and arrangements, including foreign direct investment, international debt finance, development aid, as well as private sector participation in the form of public-private partnerships, among others.

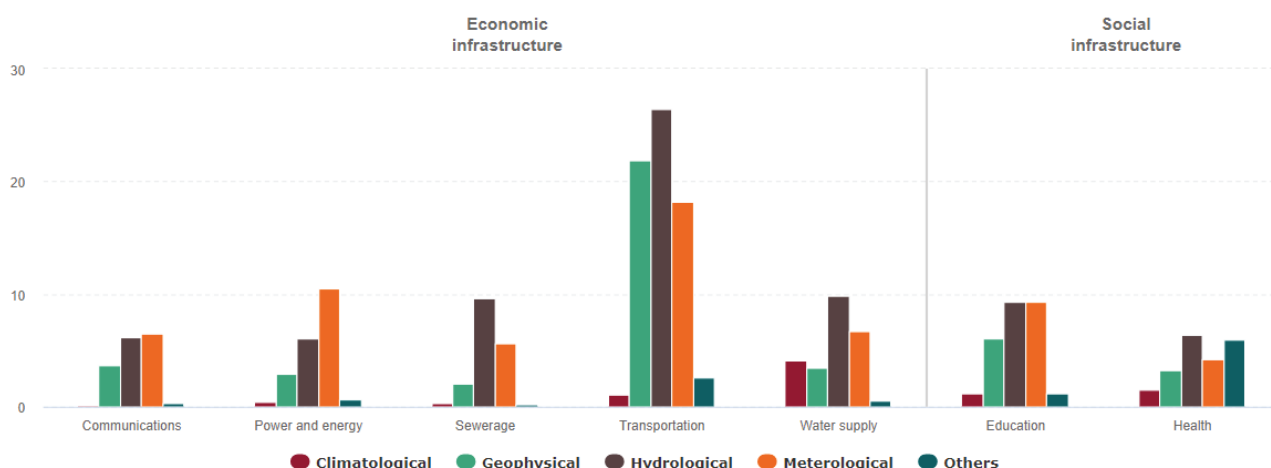
In the first half of 2019, investment commitments in the transport sector totalled US\$25.8 billion across 78 projects, accounting for more than half of global PPI investments, driven largely by China. This represents an increase of eight per cent compared with the first six months of 2018 and a 34 per cent increase from the first half of the five previous years, on average. In terms of transport sub-sectors, road investments dominated, accounting for more than four-fifths (76 per cent) of investments (US\$19.5 billion across 62 projects). Of the remaining 16 projects, seven were port projects worth US\$2.3 billion, which represent an increase of 16 per cent over the first half of 2018 and an increase of 41 per cent over the first half of the five previous years, on average (World Bank, 2019).

Adapting transport infrastructure in times of climate change

UNCTAD has worked on the implications of climate change for maritime transportation since 2008, with an increasing focus on climate change adaptation and resilience building for seaports and other key coastal transport infrastructure. These are strategic nodes in the network of closely interconnected global supply chains. In keeping with the global momentum of the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change and the 2019 Climate Action Summit convened by the Secretary-General of the United Nations, UNCTAD is intensifying its efforts to promote sustainable and climate-resilient freight transport infrastructure and services.²

Transport infrastructure is affected directly

Figure 5 Share of disasters that had an impact on infrastructure, by sector, 2000-2019
(Percentage)



Source: UNCTAD calculations based on data from UNDRR (2020).

Notes: The share shown in this chart is calculated as the number of disasters that damaged infrastructure, divided by the total number of disasters. It is calculated for each infrastructure sector and type of disasters. The category "other" includes multi-hazard events. The source database provides an inventory of disasters and their effects for 155 economies during the period 2000-2019; however, given data gaps and coverage issues, it should be considered as indicative only. For more information on the database, including the classification of disasters, see UNDRR (2020).

and indirectly by climate change, with broader consequences for international trade and the development prospects of the most vulnerable nations.³ Climate-related extreme events and disasters can result in significant economic costs (WMO, 2018). In light of recent climate projections and the urgency to act (IPCC, 2018, 2019), they are considered the top global economic risks, with implications for additional infrastructure investment needs and climate adaptation (World Economic Forum, 2020).

Figure 5 illustrates the potential probability that a disaster leads to damage on infrastructure, based on occurrences in the past. The figure suggests that transport is the sector that is most vulnerable to disasters. On average, transport facilities have a 18-26 per cent probability to be impacted by geophysical, hydrological and meteorological events. Some of these events are expected to increase in frequency and intensity as a result of climate change, with severe consequences for infrastructure. Indeed, a recent study estimated that global damages due to sea-level rise and related extreme events might amount to US\$10.8 trillion per year, about 1.8 per cent of global GDP, for a scenario of 1.5°C warming by 2100. For a scenario of 2°C or more, the costs could reach considerably higher levels (Jevrejeva et al., 2018).

As current global efforts to contain climate change indicate a large emissions surplus (UNEP, 2019) that exceeds the limits required for the 2°C target, and with global mean sea level reaching its highest value in 2019 (WMO, 2020), climate resilience and adaptation for critical transport infrastructure is a matter of strategic socio-economic importance.

Transport infrastructure disproportionately affected by natural disasters



Adaptation and resilience measures are essential to reducing the negative impacts of climate change on critical transport infrastructure; they are also key to achieving progress on several SDG targets. In view of the long service life of transport infrastructure and the potentially major consequences of inaction, effective adaptation and resilience requires an early rethinking of established approaches and practices. However, a recent UNCTAD port-industry survey

on climate change impacts and adaptation for ports shows important gaps in data on resilience and preparedness among seaports worldwide (UNCTAD, 2017). Relevant data are urgently needed for effective climate risk assessment and adaptation planning of coastal transport infrastructure, especially for ports in developing countries (UNCTAD, 2011, 2019b). As noted in UNCTAD (2020a), legal and regulatory approaches as well as policies and plans are key in facilitating effective risk and vulnerability assessments and providing a supportive framework for adaptation action. Guidance, standards, best practices, methodologies and other tools in support of adaptation are urgently required, especially for the most vulnerable nations.

Climate change adaptation is a particularly urgent imperative for SIDS (IPCC, 2019; Climate Ambition Support Alliance, 2020). These countries are often particularly exposed and vulnerable to the impacts of climate change while, at the same time, they are highly dependent on coastal transport infrastructure for external trade, food, energy and tourism. SIDS therefore suffer from a “double exposure” to external economic and environmental shocks. Climate-related extreme events, which are expected to increase in frequency and severity, may cause major disruptions to the connectivity of SIDS to international markets with broad ramifications for sectors such as tourism (UNCTAD, 2014b; IPCC, 2018).

UNCTAD has recently conducted vulnerability assessments for eight seaports and coastal airports in two SIDS in the Caribbean, Saint Lucia and Jamaica (UNCTAD, 2018b, 2018c), as part of a technical assistance project on climate change adaptation for coastal transport infrastructure in SIDS (UNCTAD, 2020c). The results of the assessment, which focused on operational disruptions and marine inundation risk under different climate scenarios, suggest severe climate change impacts on coastal transport infrastructure and operations from as early as the 2030s unless further climate change adaptation is undertaken (Monioudi et al., 2018; IPCC, 2018, 2019). Because of SIDS’ heavy reliance on maritime and air transport infrastructure,

climate change-driven impacts on transport assets (or transportation demand) have significant impacts on livelihoods, economic, social, and environmental assets, and adversely affect the overall sustainable development prospects of these vulnerable nations.

The potentially severe economic impacts of the global COVID-19 public health crisis might challenge the adaptation efforts of the transport sector in the short term (through a shift in budget allocations resulting in a decrease of infrastructure financing, for example). However, this pandemic underlines the critical importance of preparedness, risk assessment and resiliency building. Lessons learnt could provide renewed impetus to climate risk and vulnerability assessments of critical transport infrastructure and foster long-term planning essential to enhancing resiliency.

While central to development, transport can also have detrimental effects on the environment through air pollution, greenhouse gas emissions, soil contamination, waste, noise, threats to land and water ecosystems and biodiversity, and others. Each mode of transport may entail a different combination of negative impacts on the environment. While maritime transport is the most CO₂-efficient mode of freight transport, the large volumes handled by this sector and its projected expansion in the coming decades make climate change efforts of the sector a priority. For instance, according to different scenarios, CO₂ emissions from maritime transport are expected to increase by 50-250 per cent in the period to 2050 (International Maritime Organization, 2015; OECD, 2010).

Promoting sustainable transport involves balancing the economic, social and environmental dimensions of the sector. More specifically, it involves transport infrastructure, services and operations that are safe, socially acceptable, universally accessible, reliable, affordable, fuel-efficient, environmentally friendly, low-carbon and climate-resilient (OECD, 2011; UNCTAD, 2018d, 2020c, 2020d).⁴ Given the potential for a broad range of climate change-induced impacts and the multi-dimensional nature of the sector,

collaboration and participation of all relevant stakeholders, including public and private actors and academia, will be crucial to drive more systemic approaches to resiliency building.

Notes

- 1 For example, OECD (2012) forecasts global investment needs for airports, ports, rails and energy transportation of US\$585 billion per year from 2015 to 2030. PwC and Oxford Economics (2015) estimate that investment requirements in transport infrastructure will increase from US\$557 billion in 2014 to US\$900 billion in 2025 globally. Finally, Woetzel et al. (2016) project cumulative investment needs in the sector over the period from 2016 to 2030 to amount to US\$18.7 trillion.
- 2 For additional information, see UNCTAD (2020a, 2020b, 2020d, 2020e).
- 3 For some recent studies on these topics, see Asariotis and Benamara (2012); Becker et al. (2013); UNCTAD (2017, 2020a, 2020b) and UNECE (2013, 2019).
- 4 For more information on UNCTAD's current work on sustainable freight transport, see UNCTAD (2020f).

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IV. ICT offers great potential for development, but also risks

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)

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)

SDG target 17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for LDCs by 2017 and enhance the use of enabling technology, in particular information and communications technology

- SDG indicator 17.8.1: Proportion of individuals using the Internet (Tier I)

Key messages

- **The COVID-19 outbreak could exacerbate inequality of access to ICT goods and services**
- **Fast mobile network coverage is virtually universal in Eastern Asia**
- **In 2019, for the first time there were more than one mobile telephone subscription per person in developing countries**
- **The price of an annual fixed broadband subscription reached 67.5% of GNI per capita in LDCs; the price of a mobile subscription, 13.5%**
- **E-commerce sales in 2018 were equivalent to 30% of global GDP**

ICT has led to important economic changes over recent decades. It has also become an important economic sector in itself, comprised of many goods and services produced and traded all over the world. But, more significantly, ICT has also transformed the methods of production across all industries. ICT has become an increasingly important tool for development, providing access to information for science, technology and innovation, fostering and enhancing regional and international cooperation and knowledge-sharing. While this has led to substantial improvements in productivity, it has also created new barriers to entry. Only those individuals with the requisite skills and those firms with access to the right tools can reap benefits from this technological revolution. Moreover, this sector is characterised by constant and rapid changes. The ICT sector has the potential to bring large benefits in terms of productivity and economic development, but it can also risk exacerbating the conditions that lead to inequality and exclusion.

While the COVID-19 pandemic has had a sweeping impact on economic activity, it has also resulted in an exceptional surge for the ICT sector. Workers around the world have shifted to telework and online conferencing, while students follow their classes remotely, supported by a variety of digital technologies. A large share of retail trade that has normally been based on physical shops has moved

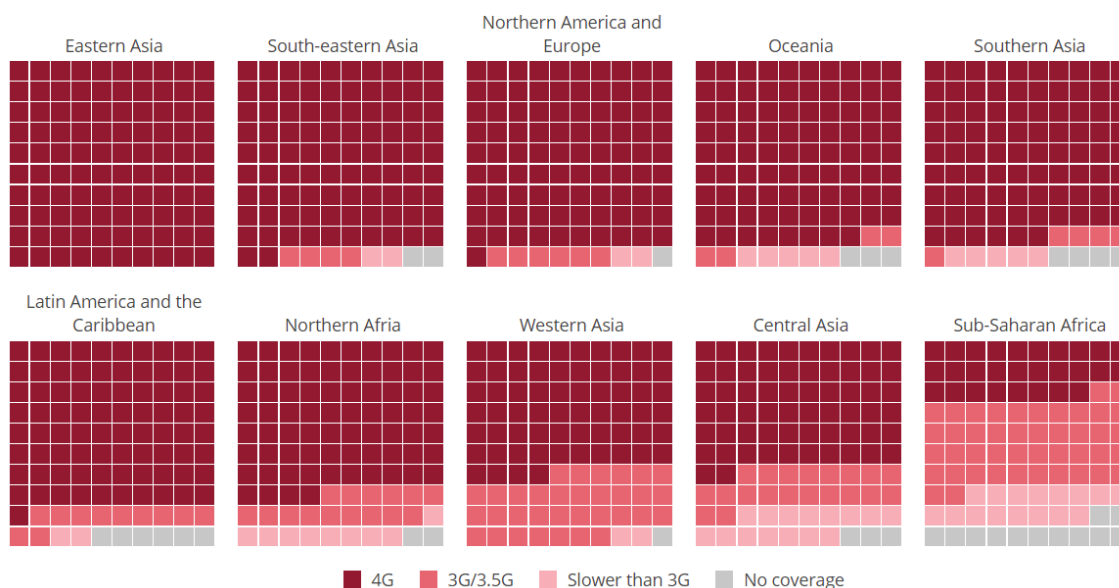
to e-commerce. Use of digital entertainment (streaming, e-media and web-based news services) and social media has accelerated. In addition to enabling continued business in many areas, ICT has also helped social and cultural activities to continue during the pandemic, thus contributing to maintaining a better quality of life while in isolation.

The COVID-19 outbreak could exacerbate inequality of access to ICT goods and services



While this will likely have lasting effects on the adoption of ICT in many areas, even beyond the crisis, there are also growing concerns about equal access to these digital goods and services. Before the COVID-19 outbreak, there were already persistent differences in access between men and women, urban and rural sectors, low- and high-skilled workers, large and small firms, public and private schools, and others. The measures taken by the governments to contain the pandemic have the potential to increase these existing inequalities (UNCTAD, 2020a). In addition, privacy and data protection concerns have multiplied. In order to

Figure 1 Distribution of population by mobile network coverage, by technology, 2018 (SDG 9.c.1)



Source: UNCTAD calculations based on ITU (2019a).

Notes: Geographic regions follow United Nations Statistics Division (2020). Missing values estimated by logistic regression models by mobile technology.

meet the SDG targets of universal access to ICT, efforts to bridge existing and emerging digital divides should be reinforced in order to allow more countries and all sectors of the population to take advantage of digital technologies.

Access to ICT surged globally

While SDG 9 encourages innovation and infrastructural improvements, including through ICT, it also recognises the risk that many people and businesses could be left behind. To address this, SDG target 9.c calls for increased access to ICT, striving to achieve universality and affordability. To this end, SDG indicator 9.c.1 proposes to measure the proportion of the population covered by a mobile network, broken down by technology.

Figure 1 illustrates how mobile networks now cover most of the population in all regions of the world. Except for Sub-Saharan Africa, the share of the population lacking mobile telephony coverage does not exceed six per cent in any region. For many people in developing countries, mobile phones are often the only way of accessing the Internet and they have allowed the poorest to become connected. Increasingly, they are being directly used for economic purposes, supporting

entrepreneurship, empowerment and financial inclusion. For example, the number of registered mobile money accounts worldwide surpassed one billion in 2019, about 45 per cent of them in Sub-Saharan Africa. Daily transaction by mobile money were worth almost US\$2 billion in 2019 (GSMA, 2020).

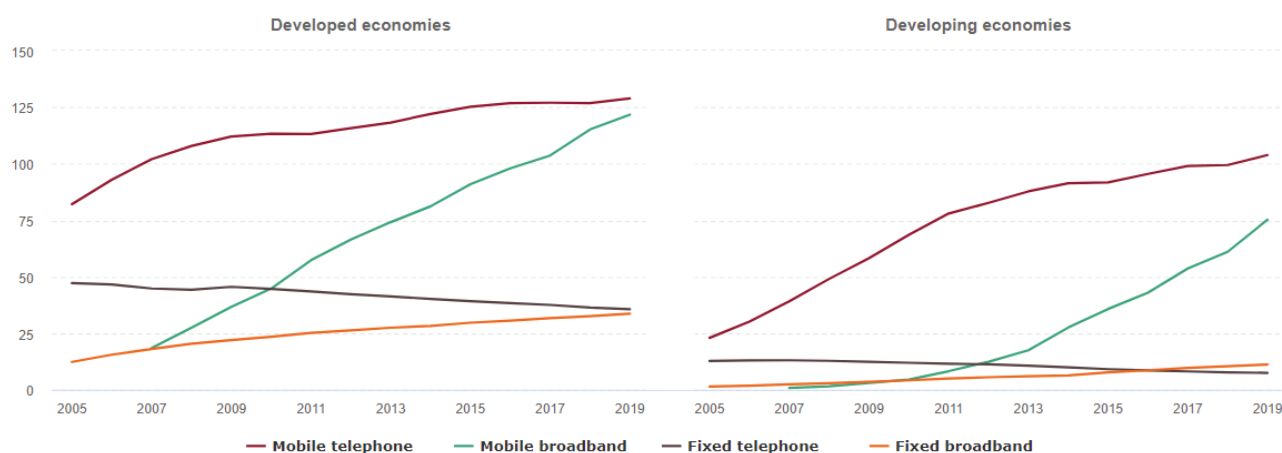
Fast mobile network coverage is virtually universal in Eastern Asia



Faster and more reliable Internet and mobile services are important for access to more sophisticated digital content that can add more value for business. Except for Sub-Saharan Africa, 4G or newer wireless systems are now prevalent in all regions.

This indicator, however, only reflects a minimum requirement for ICT access, since population coverage does not necessarily mean that those covered are actually able to use the services, for

Figure 2 ICT access indicators
(Subscriptions per 100 inhabitants)



Source: ITU (2019b).

Notes: Developing and developed regions follow United Nations Statistics Division (2020). Figures for 2019 are estimates.

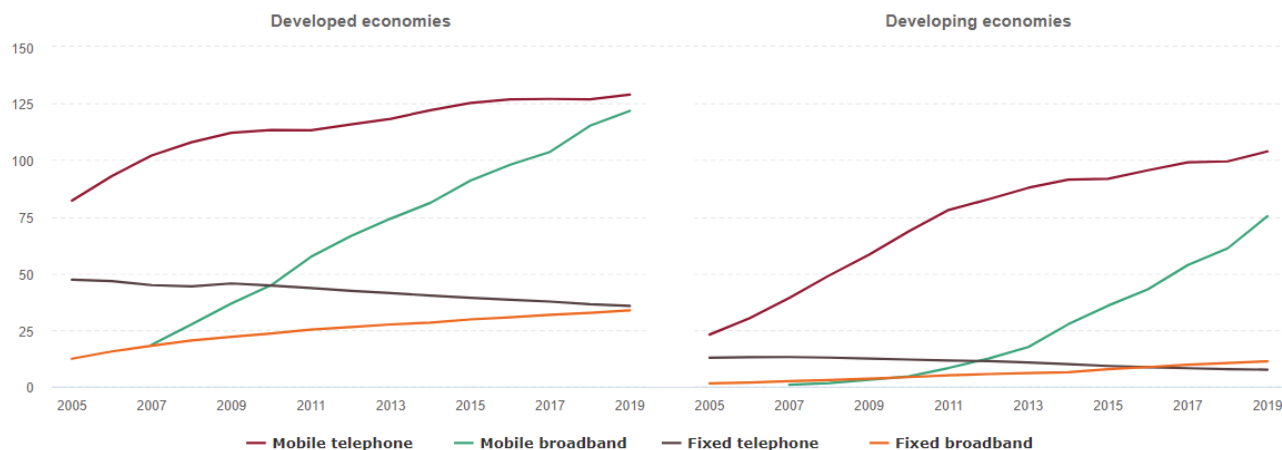
example because of technological or affordability constraints. A more complete picture can be obtained by the number of subscribers to ICT services relative to the population, and this is shown in the graph below.

**In 2019,
for the first time
there were
more than one mobile
telephone subscription
per person
in developing countries**

Mobile cellular networks have expanded rapidly in recent years and this has helped to overcome the infrastructure barriers to fixed telephony (United Nations, 2015). Figure 2 shows that, in contrast to the global decline in the number of fixed telephone subscriptions, mobile telephony is booming, especially in developing countries, where the number of subscriptions per 100 inhabitants increased from 23 in 2005 to 104 in 2019.

High-speed Internet access plays an important enabling role in the digital economy. The rapid development of broadband networks is widely considered essential if developing countries are to leverage the benefits available through ICT and

Figure 3 Fixed broadband subscriptions by speed, 2018 (SDG 17.6.1)
(Subscriptions per 100 inhabitants)

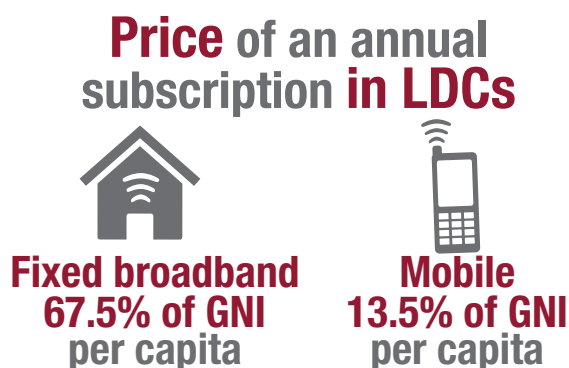


Source: UNCTAD calculations based on ITU (2019a).

Notes: Geographic regions follow United Nations Statistics Division (2020). Some missing values estimated by regression models by speed and region.

avoid the widening of the digital gaps (UNCTAD, 2015). Therefore, the number of individuals and businesses using broadband technology is a good indicator of the extent to which the private sector is leveraging the Internet. As shown in figure 2, while the number of broadband subscriptions per capita has increased globally, developing countries are lagging behind in the adoption of this technology. Mobile connections are the prevailing way to access broadband technology in both developing and developed economies.

Furthermore, these global averages hide large variations across regions. Figure 3 presents the number of fixed broadband subscriptions relative to the population disaggregated by speed, as specified in SDG indicator 17.6.1. While broadband, in general, is widespread in Northern America, Europe, Oceania and Eastern Asia, other regions have much lower subscription rates. For example, Southern Asian countries had, on average, only 2.2 subscriptions per 100 inhabitants in 2018, and Sub-Saharan African countries only 0.5.



There is also some variability in terms of speed, influencing the quality and functionality. While in some regions most broadband connections provide high-speed access, in others the problem of limited fixed broadband subscriptions is compounded by lower broadband speeds, which constrain the potential benefits of ICT use. This is the case, for instance, in Northern Africa or Central Asia.

It is useful to examine the cost of broadband in different country groups as a possible determinant of the extent of its uptake. Although the monthly subscription charge for fixed broadband has fallen considerably all over

the world, it remains high in many developing countries, including LDCs. Indeed, the average annual cost of a fixed broadband subscription (5GB basket or equivalent) in developed countries during 2018 was equivalent to only 1.3 per cent of per capita GNI, while it reached 67.5 per cent of GNI per capita in LDCs. The yearly cost of mobile broadband subscriptions (1.5GB basket or equivalent) reached 0.7 and 13.5 per cent of GNI per capita in developed countries and LDCs, respectively.¹ A high-speed internet connection, therefore, remains a luxury good for most people in LDCs.

More people are using Internet, but access is unequal

UNCTAD has drawn attention to the importance of the digital divide in broadband capacity and quality, noting that it creates new divisions in terms of the extent to which individuals, businesses, economies and societies are able to take advantage of new ICT innovations and applications (UNCTAD, 2013). As mentioned above, the COVID-19 crisis could exacerbate this digital divide. Ideally, there should be universal coverage of high-speed broadband, with regular upgrading of infrastructure and reduced regulatory barriers to service providers. In addition, the international regulatory environment for ICT infrastructure and related services should be open, competitive and transparent (UNCTAD, 2016).

As a way to monitor the use of ICT, SDG indicator 17.8.1 measures the proportion of individuals that use the Internet, rather than just have access to it. ITU estimates that 87 per cent of the population in developed economies were using the Internet in 2019, compared to 47 per cent in developing economies and 19 per cent in LDCs. Although Internet use in LDCs is growing rapidly (from 1.4 per cent of the population in 2005), the percentage is still low compared to other developing regions.² In addition, important disparities still exist between different population groups. For example, the percentage of women using Internet is lower than that of men. Additionally, a large gap is still observed between individuals living in urban and rural areas.³

ICT is now an essential element of business. Disparities also exist between countries in the proportion of businesses that use the Internet. Official data on ICT use in business is limited, particularly in LDCs. But available figures show that most firms in developed economies use the Internet, while this proportion varies considerably for developing countries. Within countries, there is a persistent gap in Internet use between small and large enterprises, and between enterprises in rural and urban locations.⁴

Internet use by employees has been positively correlated with productivity (World Bank, 2016). It is also a condition for e-commerce, which could contribute to poverty reduction, innovation and financial inclusion. It also facilitates the participation in global value chains and, in this way, promotes exports (ITU, 2015). Businesses that fail to develop digital tools for reaching out to customers may be at a higher risk, as it became evident during the COVID-19 pandemic.

E-commerce sales in 2018 were equivalent to



E-commerce sales (B2C and B2B) were estimated to be worth US\$26 trillion in 2018 (UNCTAD, 2020f), about 30 per cent of global GDP. This amount has increased continuously in recent years, and it is seven per cent higher than in 2017.⁵ An indication of the rapid expansion of e-commerce is the number of online shoppers in the world, which rose from less than 600 million in 2010 to about 1.45 billion in 2018. However, the distribution is highly unequal, with China accounting for 42 per cent of the total and LDCs responsible for only a small share of Internet shoppers (UNCTAD, 2020f).

The COVID-19 crisis has resulted in spikes in B2C and B2B online sales, as business and consumer replaced their traditional channels for retail and

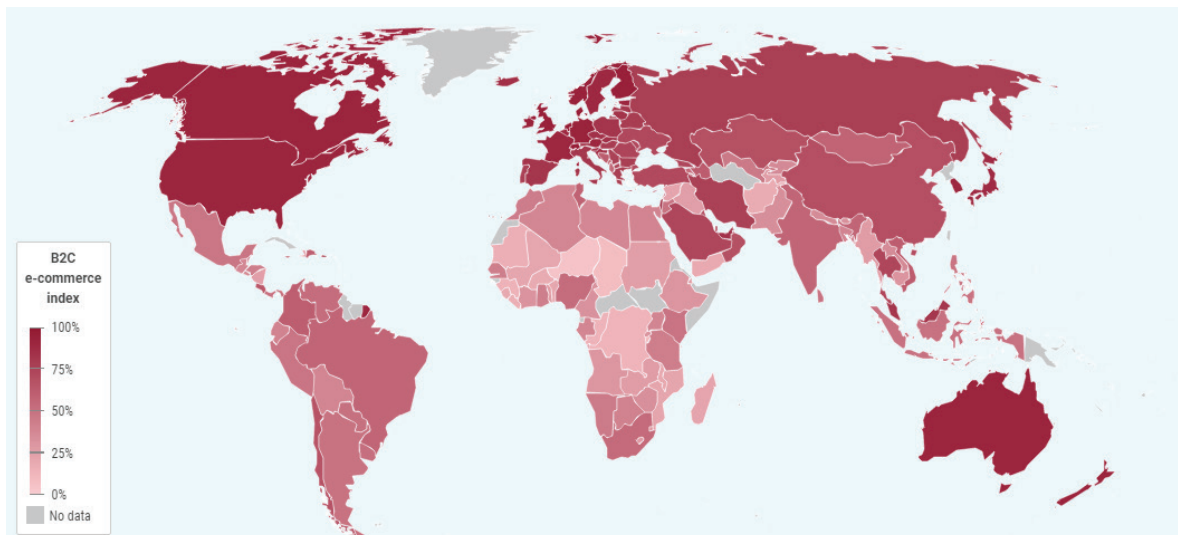
wholesale trade with e-commerce alternatives. In addition, many traditional businesses rapidly deployed an e-commerce presence to continue their business during the containment measures. For example, during the last week of May 2020, online retail orders in Europe were 40 per cent higher than in the same week of 2019, while in Northern America they were 75 per cent higher; in mid-April 2020, at the strictest level of the containment measures, they were 127 per cent and 135 per cent above those of 2019, respectively, for the two regions (CCInsight, 2020). However, e-commerce has also faced restrictions and delays imposed by limited capacity of traditional distribution networks, as well as by disrupted trade channels, supply chain bottlenecks and regulations affecting logistics services (WTO, 2020).

In order to help countries gain insight into their preparedness for e-commerce, UNCTAD has developed the B2C e-commerce index. This index evaluates the prerequisites for the development of e-commerce, such as payment methods, cyber security, postal reliability, and Internet use amongst the population.⁶ Map 1 displays the 2019 values of the B2C e-commerce index. Most developed economies, but also some developing countries such as the United Arab Emirates and Malaysia, have developed all the fundamentals of e-commerce and, therefore, receive a high score in this indicator. Most LDCs are toward the bottom of the ranking: the average index value for the LDCs with available information is 24.4. This suggests that LDCs are still not fully prepared for the adoption of e-commerce and similar development opportunities stemming from ICT.

UNCTAD takes an active role in promoting ICT as a tool for development

The rapid changes taking place as a result of e-commerce and other ICT developments require new approaches to accelerate readiness to adapt to and maximize opportunities from these changes. UNCTAD is implementing several initiatives to respond to this need. An example is the “eTrade for all” program (UNCTAD, 2020b), a global

Map 1 UNCTAD B2C e-commerce index, 2019



Source: UNCTAD (2019b).

partnership comprising around 30 organizations that work together to support an enabling environment for sustainable development through e-commerce. At the heart of this initiative is an online knowledge-sharing platform that allows countries to navigate the supply of technical and financial assistance from partnering institutions in key policy areas, such as ICT infrastructure and services, payments, trade logistics, regulatory frameworks, skills development and finance.

UNCTAD is undertaking rapid e-trade readiness assessments for LDCs, providing an analysis of the current e-commerce situation and identifying opportunities and barriers.⁷ UNCTAD also works with a number of developing countries to develop e-commerce strategies and policies, such as the one recently completed for Egypt (UNCTAD, 2017a).

In addition to the B2C e-commerce index, UNCTAD has launched several initiatives to improve the measurement of ICT-related contributions to the economy and trade. UNCTAD has responded to the need to boost work in this area by establishing the Intergovernmental Group of Experts on E-commerce and the Digital Economy, which on its third session (2019) created the Working Group on Measuring E-commerce and the Digital Economy.⁸ UNCTAD is also an

active member of the Partnership on Measuring ICT for Development.⁹

Notes

- 1 UNCTAD calculations based on data from ITU (2019a).
- 2 UNCTAD estimates based on data from ITU (2019b).
- 3 UNCTAD calculations based on data from ITU (2019a). Note, however, that country-level statistics on Internet use by population group are incomplete, so the evidence presented is only indicative.
- 4 For additional details, see figures on the information economy available in UNCTAD (2020c).
- 5 Note that, due to a change in methodology, these figures are not directly comparable with previous years' estimates. For more details, see UNCTAD (2020f).
- 6 This index ranges from zero to 100, with higher values indicating higher readiness for B2C e-commerce. For more details on the methodology of the UNCTAD B2C e-commerce index, see UNCTAD (2017b). The most recent figures, corresponding to 2019, are available in UNCTAD (2019b).
- 7 For a list of recent assessments, see UNCTAD (2020d).
- 8 For more information on the intergovernmental group of experts and the working group, see UNCTAD (2020e) and UNCTAD (2019a), respectively.
- 9 This is an initiative launched in 2004 to improve the availability and quality of ICT-related statistics. It is currently composed of 14 regional and international organisations. Its steering committee is made up of ITU, UNCTAD and UNESCO Institute for Statistics. For more information, see ITU (2020).

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V. Developing country external debt: From growing sustainability concerns to potential crisis in the time of COVID-19

SDG target 9.c: SDG 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.

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

Key messages

- **External debt of developing and transition economies reached 29% of their GDP in 2019**
- **Short-term debt rose to more than one fourth of total external debt**
- **Public debt in bond markets almost doubled its share of total debt between 2000 and 2019**
- **Almost one-fifth of government revenues in Sub-Saharan Africa serviced external debt in 2019**
- **Developing economies are expected to face a "wall of maturity" for their public external debt in the 2020-2021**

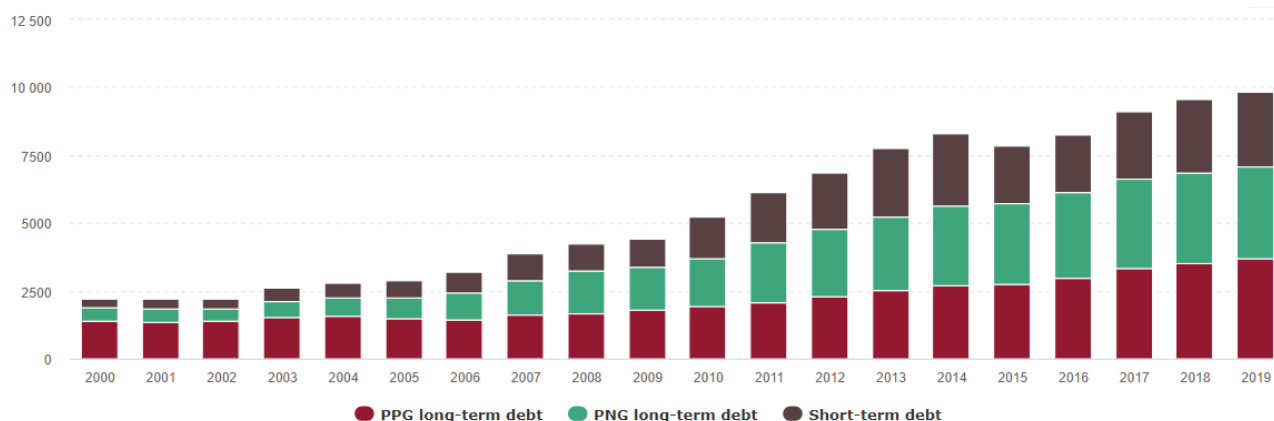
Debt is a key component of all financing strategies for governments and private firms, particularly from the point of view of long-term financing for sustainable development and structural transformation. The most important criterion for the long-term sustainability of debt obligations is that borrowing serves the purpose of increasing productive investment. If this is the case, increases in domestic income and export earnings are expected to cover the servicing of outstanding debt obligations, given the average interest rate and maturity of the debt stock. A second key criterion concerns the contractual conditions of (re-)financing such debt. The more closely lending conditionalities are aligned to the objective of mobilizing debt finance for structural transformation in developing countries, the higher the chances the debt can be serviced promptly.

External indebtedness poses important challenges for developing countries, particularly in a context of floating exchange rate systems, open capital accounts and fast integration into international financial markets. The historical position of developing countries as debtors in foreign currency has been a recurrent source of vulnerability to external shocks, for example during a commodity price slump. This is because the servicing of external debt obligations ultimately requires generating sufficient export earnings (or other forms of income). At the same time, exchange

rate volatility is likely to affect the value of debt owed externally and that of export earnings in opposite directions. Thus, a depreciation of the local currency against hard currencies may result in increased export earnings (provided that the fall in the dollar price of local exports is compensated by a commensurate increase in export volumes), but will automatically imply an increase in the value of foreign-currency denominated debt obligations in local currency.

Against a backdrop of insufficient international public finance flows and limited access to concessional resources,¹ developing economies have increasingly raised development finance on commercial terms in international financial markets. They have also opened their domestic financial markets to non-resident investors, and they have allowed their citizens and firms to borrow and invest abroad. While increased access to international financial markets can help capital-scarce countries to quickly raise much-needed funds, it also exposes them to higher risk profiles of debt contracts, i.e. shorter maturities and more volatile financing costs, as well as to sudden reversals of private capital inflows. In conjunction with other exogenous shocks, such as natural disasters, pandemics or episodes of political instability, external debt burdens deemed sustainable by international creditors can quickly become unsustainable.

Figure 1 External debt stocks, developing and transition economies
(Billions of US\$)

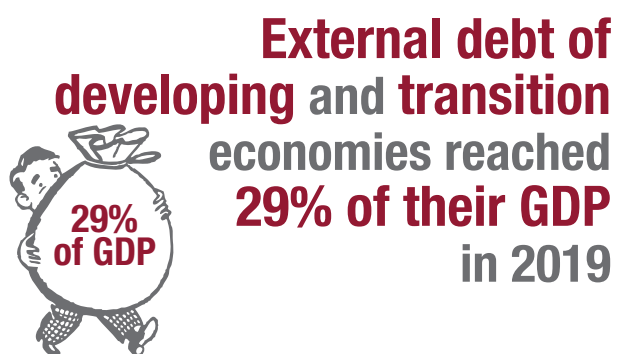


Source: UNCTAD calculations based on data from World Bank (2020a) and Economist Intelligence Unit (2020).

Note: Figures for 2019 are UNCTAD estimates.

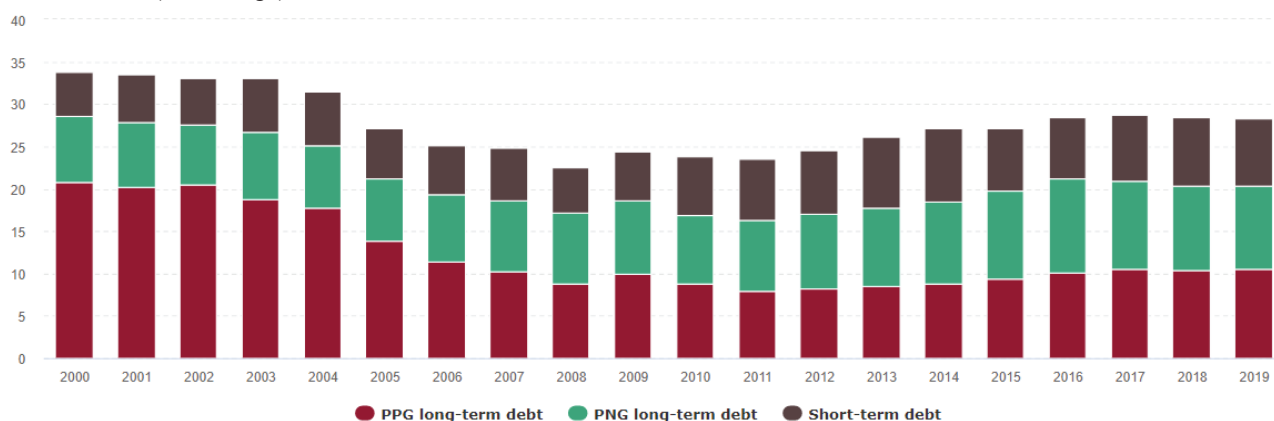
External debt grew to a record high in 2019, with worsening risk profiles

At the outbreak of the COVID-19 pandemic, external debt stocks of developing countries and economies in transition reached US\$9.9 trillion, their highest level on record, more than twice their value of US\$4.4 trillion registered in 2009, and more than four-fold their level of US\$2.2 trillion in 2000 (see figure 1).² Given the sluggish growth in both groups of economies since the global financial crisis of 2007-2008, this translated into a renewed increase in the average ratio of external debt to GDP from 23 per cent in 2008 (its lowest point in the last 20 years) to 29 per cent in 2019, as shown in figure 2.



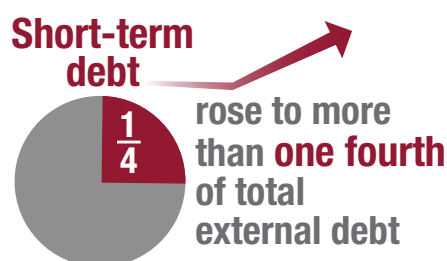
This trend is largely influenced by China, whose economy accounted for 20 per cent of total external debt stocks of developing and transition economies and 37 per cent of their combined GDP in 2019. During the period 2009-2019 China's external debt stock grew at a slightly higher rate

Figure 2 External debt stocks as a percentage of GDP, developing and transition economies
(Percentage)



Source: UNCTAD calculations based on data from World Bank (2020a) and Economist Intelligence Unit (2020).

Note: Figures for 2019 are UNCTAD estimates.



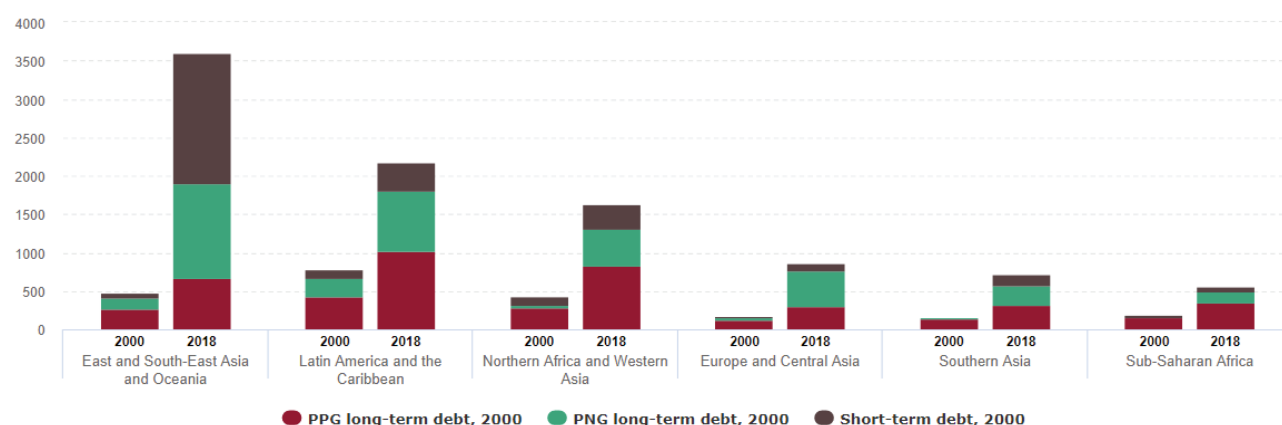
than the developing countries average, but its GDP grew much faster. As a result, the average ratio of external debt to GDP for developing and transition economies excluding China is almost ten percentage points higher, reaching 38 per cent of their combined GDP in 2019. At the same time, the public-private composition of long-term external debt changed, with the share of private (PNG) debt in overall external debt surpassing that of public (PPG) debt from 2011 to 2016 and remaining at similar levels since then. In addition, the share of short-term debt (characterised by higher risk profiles) in overall external debt increased continuously, from 15 per cent of overall external debt in 2000 to 24 per cent in 2009 and 28 per cent in 2019.

As figure 3 shows, over the past two decades, overall external debt stocks have not only risen markedly across all developing regions, but this increase has also been accompanied by a rising share of short-term debt and PNG long-term debt in total external debt. Given their deeper financial systems, the majority of international private lending into developing and transition countries went to high-income and upper-middle

income economies, particularly in Asia and Latin America. But the trend has also been upward in other developing regions, including those with a large share of low-income economies, such as Sub-Saharan Africa.

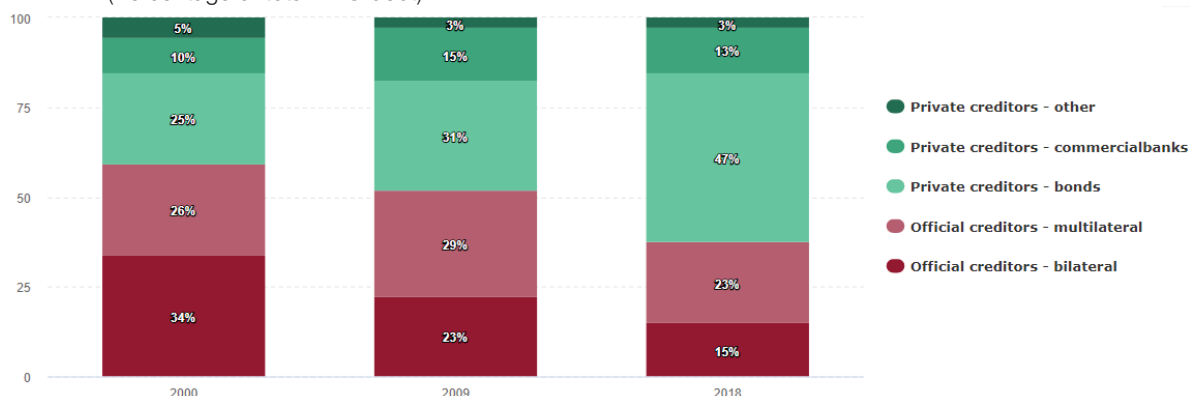
This increase of private sector participation in developing country PPG external debt accelerated after 2009 (see figure 4) and this trend has not always been warranted by positive developments in these economies' domestic financial and banking systems. Instead, the driving forces have mostly been global "push factors", such as the impact of accommodative monetary policies in many developed economies in the aftermath of the global financial crisis. Household debt also rose in emerging economies from 26 per cent of GDP in 2009 to 43 per cent by 2019. The bulk of the overall increase in lending to private non-financial sectors was lending to non-financial corporations in these economies, increasing from around 60 per cent of GDP just before the global financial crisis to over 100 per cent by 2017.³ This ratio, however, has fallen recently due to growing financial distress in some of these economies.⁴ High levels of private external indebtedness are of concern since they represent a large contingent liability on public sector finances, ultimately backed by international reserves held in the domestic economy. In the event of wide-spread private sector debt distress, governments will have little choice but to transfer the bulk of distressed private debt to public balance sheets.

Figure 3 External debt stocks, developing and transition economies
(Billions of US\$)



Source: UNCTAD calculations based on data from World Bank (2020a) and Economist Intelligence Unit (2020).

Figure 4 Long-term external PPG debt by creditor, developing and transition countries
(Percentage of total PPG debt)



Source: UNCTAD calculations based on data from World Bank (2020a).

Note: Averages by group of economies. Only countries with available data were included.

The fragility of developing countries' debt positions prior to the COVID-19 outbreak was further increased by accompanying changes to the ownership of long-term external PPG debt.

**Public debt
in bond markets
almost doubled
its share of total debt
between 2000 and 2019**



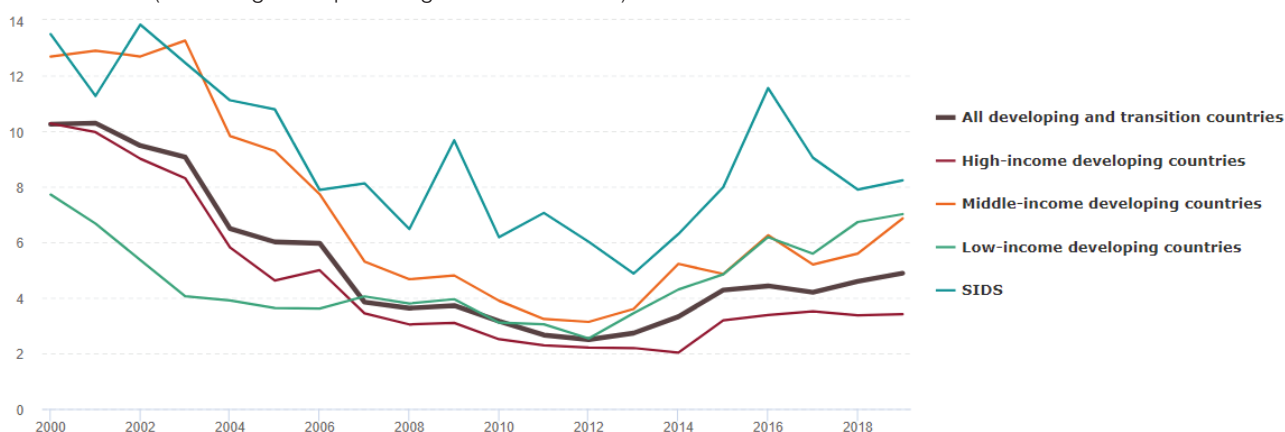
As shown in figure 4, the share of PPG external debt of developing and transition governments owed to private creditors reached 62 per cent of the total in 2019, compared to around 20 per cent in the 1970s and 41 per cent in 2000. Its most volatile component, public bond finance, is clearly on the increase relative to financing

through commercial bank loans and other private creditors. This reflects the growing reliance of developing country governments on refinancing their external debt obligations in international financial markets with strong speculative features rather than borrowing from official bilateral and multilateral creditors, which is generally more stable and in more favourable terms.

Debt service costs on public external debt continue to pose a serious challenge

Rising external debt burden along with increased risk profiles of such debt translate into rising servicing costs. Debt service ratios are considered important indicators of a country's debt sustainability. In this sense, SDG indicator

Figure 5 Debt service on long-term external PPG debt in developing and transition economies (SDG 17.4.1)
(Percentage of exports of goods and services)



Source: UNCTAD calculations based on data from World Bank (2020a) and Economist Intelligence Unit (2020).

Note: Figures for 2019 are UNCTAD estimates. Income groups follow World Bank's definition; SIDS group follows UNCTAD's definition.

17.4.1 measures “debt service as a proportion of exports of goods and services”. This indicator reflects a government’s ability to meet external creditor claims on the public sector through export revenues. A fall (increase) in this ratio can result from increased (reduced) export earnings, a reduction (increase) in debt servicing costs, or a combination of both. A persistent deterioration of this ratio signals an inability to generate enough foreign exchange income to meet external creditor obligations on a country’s PPG debt, and thus potential debt distress in the absence of multilateral support or effective sovereign debt restructuring.

As figure 5 shows, only high-income developing countries have maintained a stable ratio of external long-term PPG debt to export revenues of around two to four per cent in the last decade. This is largely due to their greater capacity to issue domestic public debt, with a view to avoid currency mismatches. However, while greater reliance on local-currency denominated public debt reduces the vulnerability to exchange rate volatility, it frequently creates maturity mismatches. Even governments in high-income developing countries are often unable to issue long-term government securities at a sustainable rate of interest, yet they need to be able to pay off or roll over maturing short-term obligations. In contrast, a marked increase of debt service ratios has been registered since 2012 across all other income categories: in middle-income countries this ratio rose from 3.1 per cent in 2012 to 6.9 per cent in 2019 and in low-income countries from 2.5 to 7.0 per cent. SIDS saw this ratio rise from a low point of 4.9 per cent in 2013 to 8.2 per cent in 2019. As these economies increasingly tapped into international capital markets, this reflects rising external public debt stocks since 2012 in a


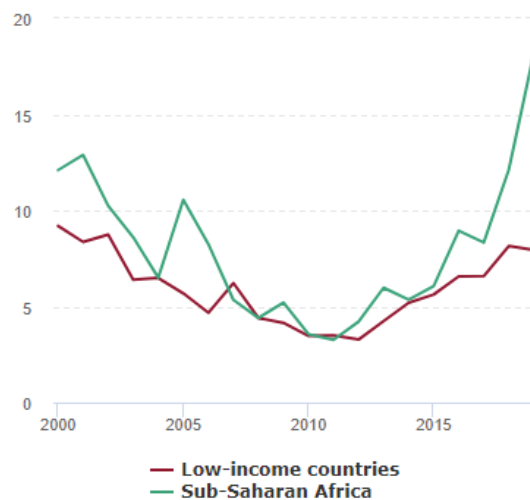
 **Almost one-fifth of government revenues in Sub-Saharan Africa serviced external debt in 2019**

Figure 6 Debt service on long-term external PPG debt, selected groups of developing countries
(Percentage of government revenue)



Source: UNCTAD calculations based on data from World Bank (2020a), Economist Intelligence Unit (2020) and IMF (2020a).

Notes: Figures for 2019 are UNCTAD estimates. Groups follow World Bank’s definition.

context of commodity price volatility, sluggish global economic growth and rising debt service.

Moving beyond SDG indicator 17.4.1, the share of government revenues dedicated to servicing PPG debt rose sharply over recent years, particularly in the poorest developing economies. As figure 6 illustrates, whereas in 2012 low-income developing countries spent 3.3 per cent of their government revenues to meet external public debt obligations, this figure rose to 8.1 per cent in 2018, falling only slightly to an estimated 7.9 per cent in 2019. The squeeze on government revenues from service payments on external PPG debt was particularly drastic in Sub-Saharan Africa, where this ratio jumped from a low point of 3.3 per cent in 2011 to an estimated 18.2 per cent in 2019. In other words, governments in this region now spend, on average, almost one fifth of their revenues on servicing external public debt.

This is of concern since low-income developing countries still rely predominantly on public financing to mobilise resources for structural transformation, yet also struggle the most with limited fiscal space given their shallow domestic financial and banking systems and limited options to refinance maturing debt obligations in the international financial markets.

The challenges posed by the COVID-19 shock

The COVID-19 pandemic has translated into a shock that has put a glaring spotlight on the rapidly deteriorating debt sustainability in many developing countries, since it threatens to turn what was already a dire situation prior to the pandemic into a series of sovereign defaults. As mentioned above, as a consequence of their rising indebtedness, developing countries face a wall of debt service repayments throughout the 2020s.

Figure 7 shows that redemption schedules for 2020 and 2021 already accumulated external public debt obligations alone amount to an estimated US\$2 to 2.3 trillion in high-income developing countries and between US\$700 billion to \$1.1 trillion in low-and middle-income countries.⁵

The challenge posed by large debt overhangs must, however, be placed in the wider context of economic challenges arising from the COVID-19 crisis. While developed countries are putting together massive stabilisation packages to flatten both the pandemic curve and the curve of economic and financial crisis, this is not an option open to many developing economies, at least not

at the required scale. On one hand, developing countries cannot easily lock down their largely informal economies effectively without more people being affected by hunger rather than by illness. On the other, they face substantive limitations on their fiscal space to mount rescue packages comparable to those currently under way in developed economies.

To pay for imports and to meet external debt obligations, the vast majority of developing countries are heavily reliant on access to hard currencies, earned primarily through commodity and service exports, such as food, oil and tourism, or received through remittances, as well as access to further concessional and market-based borrowing. Their central banks cannot act as lenders of last resort to their governments to the extent central banks in developed economies can without risking a large depreciation of their local currencies and its effects in terms of steep increases in the value of foreign-currency denominated debt. This has the potential to unleash destructive inflationary pressures. But with volumes of international trade experiencing a sharp contraction, core commodity prices in free fall, tourism at a virtual standstill, remittances drying up and private capital outflows from developing countries

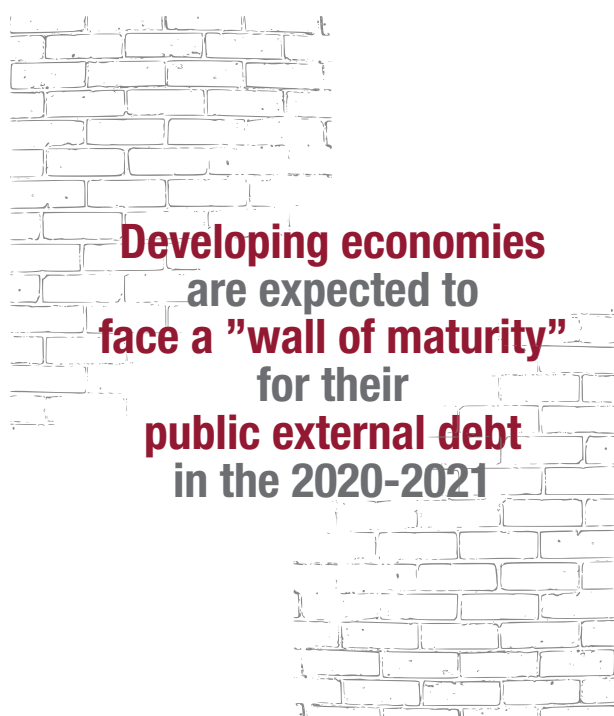


Figure 7 Redemption schedules for public external debt, developing countries, 2020 and 2021
(Trillions of current US\$)



Source: UNCTAD calculations based on World Bank (2020b, 2020c), Institute of International Finance (2020) and IMF (2020b).

Notes: Data refer to sovereign debt for high-income countries and public external debt for middle- and low-income countries. Country groups follow World Bank's definition.

reaching unprecedented levels in recent history, many developing economies are increasingly cut off from conventional sources of income when they need them most.⁶

It is against this backdrop that already existing debt vulnerabilities and distress in developing countries require decisive action to avoid liquidity constraints turning into wide-spread insolvency crises. Early multilateral initiatives to provide some breathing space to hard-hit developing countries include US\$215 million in debt cancellation by the IMF of repayments due by the 25 poorest developing economies between May and October 2020, as well as the G20 “Debt service suspension initiative for poorest countries” between May and December 2020.⁷ 73 primarily low-income developing countries are eligible under this initiative that could see the temporary suspension of up to around \$18 billion in repayments on official bilateral debt. While these initiatives are welcome, they are unlikely to be sufficient in either scale or scope. New borrowing, for example in fast growing COVID-19 bond markets as well as through increased access to concessional multilateral lending, can help bridge immediate liquidity needs but it is bound to add to, rather than resolve, unsustainable external debt burdens. Well-designed debt relief – through a combination of temporary standstills with sovereign debt reprofiling and restructuring – will therefore be essential to address not only immediate liquidity pressures, but also to restore long-term external debt sustainability in many developing countries, not least with a post-COVID-19 view of achieving the 2030 Agenda for Sustainable Development.⁸

Notes

- 1 For more information on this topic, see Robust and predictable financing sources and Official support for sustainable development.
- 2 These figures include long-term external PPG debt, long-term external PNG debt as well as short-term external debt, as available in World Bank (2020a). If the use of IMF credits is also included, the figures for 2019, 2009 and 2000 increase to US\$ 10.1 trillion, US\$ 4.5 trillion and US\$ 2.3 trillion, respectively.
- 3 UNCTAD calculations, based on conversion to US dollars at market exchange rates, from BIS (2020) data.
- 4 See also UNCTAD (2019 pp. 76-81).
- 5 The range estimates for redemption schedules for public external debt in 2020 and 2021 for developing countries results from the combination of observed redemptions schedules for 44 developing countries, including major developing economies, and estimated redemptions for all others, considering their income group. Developing countries, especially within the same income group, show some degree of synchronization in their external debt redemption schedules, which is mostly shaped by the financial conditions prevailing in international financial markets. This explains why, as a whole, they periodically face “walls of maturity”: the bonds and loans that they contract in international markets often come to maturity in simultaneously. The estimation therefore consists in applying the distribution of redemption schedules relatively to public debt stocks from the 44 observed countries. The low and high estimates refer to the lower and higher bounds of the distribution, respectively, defined as the 10th and 90th percentiles.
- 6 See UNCTAD (2020a) for more detail.
- 7 See G20 (2020, Annex II).
- 8 See UNCTAD (2020b) for more detail.

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VI. Recent conceptual and methodological developments on measuring illicit financial flows for policy action

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 III)

Key messages

- **Absence of complete and consistent statistics hampers policy action to curb IFFs**
- **SDG indicator 16.4.1 reclassified from Tier II to Tier I indicator in 2019**
- **Four types of activities may generate IFFs: 1) illicit tax and commercial activities, 2) corruption, 3) theft, financing of crime and terrorism, and 4) illegal markets**
- **Initial measures of IFFs will be based on existing data and be aligned with national accounts and balance of payments**
- **Pilots will help to find feasible country-specific solutions to applying the common framework for IFFs**

Every year, billions of dollars of IFFs stemming from organized crime, trade in illegal goods, corruption and illegal and illicit tax and commercial practices move across borders, often in the direction of financial havens. These flows divert resources that are needed for sustainable development. By eroding the tax base and discouraging public and private investment, they hamper structural transformation and sustainable economic growth. They also weaken state institutions by fuelling corruption and violence and undermine the rule of law and the functioning of the criminal justice systems.

The ability to achieve the SDGs remains fragile when undermined by IFFs. Indeed, the 2030 Agenda for Sustainable Development (United Nations, 2015b) underscores the need for an increased mobilization of financial resources dedicated to sustainable development, including through the improved capacity for revenue collection, and more resources dedicated to investment. IFFs undermine this effort. The 2030 Agenda identifies the reduction of IFFs as a priority area to build peaceful and just societies around the world, as reflected in target 16.4, which reads: “by 2030, significantly reduce illicit financial flows and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organised crime”. The Addis Ababa Action Agenda (United Nations, 2015a) on financing for development also calls for a redoubling of efforts to substantially reduce IFFs, with a view to eventually eliminating them.

In July 2017, the United Nations General Assembly adopted the indicator framework for the monitoring of progress towards SDGs (United Nations, 2017). Indicator 16.4.1, “total value of inward and outward illicit financial flows (in current United States dollars)”, was selected as

Absence of complete and consistent statistics hampers policy action to curb IFFs



one of the indicators to measure progress towards target 16.4. At the time, there was no universal agreement on the definition of IFFs, what should be included within their scope or how the component parts could be measured. Absence of consistent statistics on IFFs causes uncertainty about how large these flows are, how and where they originate and their impact on development, and it hampers policy action to combat these flows. UNCTAD and UNODC, the two co-custodians of indicator 16.4.1, started methodological work and broad consultations to develop statistical definitions and methods to measure IFFs.¹

Statistical challenges in measuring IFFs

A review of the literature reveals that there are different understandings of what IFFs constitute and how they can be measured. Understanding what is illicit or even illegal can differ by jurisdiction, or depend on many determinants and contextual elements. Consequently, it is not straightforward to decide on an internationally applicable criteria as to which flows are illicit.

IFFs are deliberately hidden and, as they take many forms and use varying channels, their measurement is challenging both conceptually and in practice. The challenges differ across countries, depending on their institutions, types of activities generating IFFs, statistical practices and national priorities. This calls for space for country-specific solutions and the flexible application of methods in line with a common framework.

Comparable statistics need to be based on definitions that can be applied in a similar fashion across countries. For instance, crime statistics are based on an ICCS (UNODC, 2015) consisting of actions and behaviours to be measured regardless of what is considered a crime by the national legislation. From a practical perspective, statistics cannot be based directly and exclusively on legal considerations since legal frameworks are not consistent across jurisdictions and are often reactive (e.g., with significant time lags before new activities are declared illegal) leading to differential treatment across countries and time.

Transactions of an illicit nature can take place in several guises and at various stages of economic activity.² The activities that generate IFFs need to be analysed carefully and placed in a framework that can identify the various components that give rise to illicit activity. IFFs need to be classified using a discrete, exhaustive and mutually exclusive statistical classification aligned with existing statistical frameworks and principles (OECD, 2020a).

Many illicit activities are intertwined. To avoid

duplication, separate accounting for income generation and income management is needed consistent with the SNA and other statistical frameworks.

Conceptual development and reclassification of SDG indicator 16.4.1 as a Tier II indicator

UNCTAD and UNODC are undertaking a series of coordinated actions and consultations to develop the statistical measurement of IFFs. The initial steps involved analytical studies and background research and a review of the measurement methods applied by various researchers and organisations across countries and internationally.

From 2017 to 2019, UNODC and UNCTAD held a series of expert consultations to take stock of current research, knowledge and experience regarding different types of IFFs (UNODC, 2017; UNCTAD, 2018). The expert consultations included contributions from national statistical offices, financial intelligence units, tax authorities, academia, non-governmental organisations, international organisations and other IFF experts. In addition, UNCTAD and UNODC collected expert advice and insights at various fora. The meetings highlighted an urgent need to agree on concepts and definitions and recommended further engagement with national statistical authorities.

SDG indicator 16.4.1 reclassified from Tier III to Tier II indicator in 2019



To this end, UNCTAD and UNODC established a joint statistical Task Force on the measurement of IFFs in January 2019 to define concepts, assess data availability, develop statistical methods, and review country-level activities in this area.³ The

Task Force’s work is based on analytical studies that provided a thorough overview of the aspects to be addressed in developing a method for SDG indicator 16.4.1. The statistical definitions and methods build on previous work on IFFs and related statistical activities.⁴

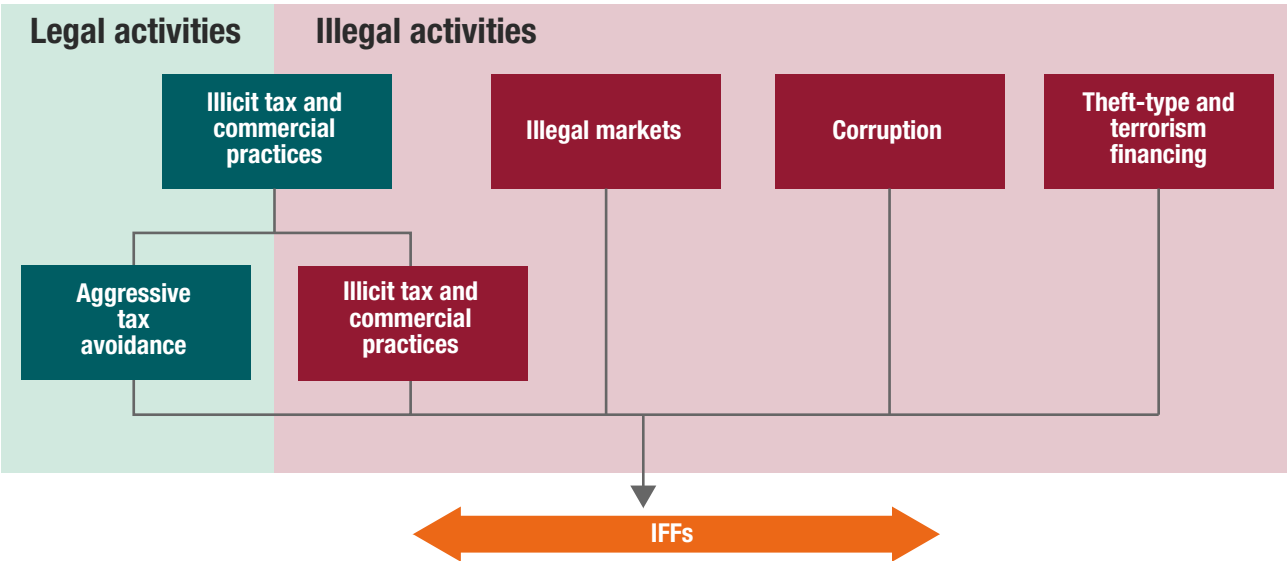
Following the review of current methods, the Task Force held several conference calls and a meeting in Geneva on 16-17 July 2019, leading to a common understanding and a way forward on the statistical scope and definitions for measuring SDG 16.4.1. Based on this work, the custodian agencies presented in October 2019 a reclassification request at the 10th session of the IAEG-SDG. The IAEG-SDG endorsed the direction taken, and reclassified indicator 16.4.1 from Tier III to Tier II, meaning that the indicator is conceptually clear and based on internationally established standards, while data are not yet available from countries.

Statistical definition and scope of IFFs for SDG indicator 16.4.1

For the purpose of the SDG indicator, IFFs are defined as financial flows that are illicit in origin, transfer or use that reflect an exchange of value and cross country borders. This definition implies that IFFs have the following features:

- Illicit in origin, transfer or use. A flow of value is considered illicit if it is illicitly generated (e.g. originates from criminal activities or tax evasion), illicitly transferred (e.g. violating currency controls) or illicitly used (e.g. for financing terrorism). The flow can be legally generated, transferred or used, but it must be illicit in at least one of these aspects. Some flows that are not strictly illegal may fall within the definition of IFFs, e.g. cross-border tax avoidance which erodes the tax base of a country where that income was generated.
- Exchange of value, rather than money or purely financial transfers. Exchanges of value include not only currency exchanges, but also exchanges of goods and services, and financial and non-financial assets.
- IFF measure a flow of value over a given time, as opposed to a stock measure, which would be the accumulation of value.
- Flows that cross a border. This includes assets where the ownership changes from a resident of a country to a non-resident, even if the assets remain in the same jurisdiction.⁵

Figure 1 Categories of activities that may generate IFFs



Source: UNCTAD and UNODC.

SDG indicator 16.4.1 calls for the measurement of the “total value” of IFFs. While useful as an indication of the overall size of the IFF problem and for advocacy, it has limited applicability as policy guidance. A more granular measurement and a finer typology would help to identify and separate, as necessary, the main sources and channels of IFFs and also provide guidance for national and international interventions targeting them. Such a typology would also enable disaggregation of those IFFs that are legal from those that are not.

IFFs originating from illegal economic activities can be laundered so that subsequent transactions appear as legal. It should be emphasised that flows of capital of illegal origin should be considered as IFFs when crossing a border, since the origin of the funds is in illicit activities. However, it can be very challenging to determine the illicit origin of certain financial flows as the distance from the illicit origin increases. IFFs can also originate from legal economic activities, but become illicit when financial flows are managed and transferred, for instance, to evade taxes or used to finance illegal activities.

With national laws and country practices differing, and with IFF measurement being a statistical exercise rather than an audit or judicial one, it is not possible to define the scope of measurement in terms of legality. The indicator is, therefore, constructed based on a typology of behaviours and activities generating IFFs. This is in line with the ICCS that lists and defines activities, many of which may generate IFFs. It describes the actions and provides examples of the activities concerned. This classification is a good point of departure for classifying IFFs. It is important to note, however, that not all IFFs would map onto this framework, as IFFs that are not part of illegal activities may not be covered. For complete coverage of IFFs, an additional classification complementing the ICCS would be required.

IFFs can be classified from many angles: sources, channels, impacts, actors involved, motives, etc. The typology should prioritize the main activities from which these flows, arise, therefore enabling

effective policy action. Figure 1 looks at the types of activities that generate IFFs, i.e. the underlying activities rather than IFFs themselves.



According to this typology, four main categories of IFFs are distinguished.

- **Illicit tax and commercial IFFs.** This category includes illicit practices by legal entities as well as arrangements and individuals with the objective of concealing revenues, reducing tax burden, evading controls and regulations and other purposes. This category can be divided into two components:
 - **Illegal tax and commercial IFFs.** These include illegal practices such as tariff, duty and revenue offences, tax evasion, corporate offences, market manipulation and other selected practices. Some activities that are non-observed, hidden or part of the so-called shadow economy, the underground economy or the informal economy may also generate IFFs. Related activities included in the ICCS comprise tax evasion, tariff, duty and revenue offences, competition offences, import/export offences, acts against trade regulations, restrictions or embargoes and investment or stock/shares offences.
 - **IFFs related to tax avoidance.** Illicit flows can also be generated from legal economic activities through what is sometimes called harmful or aggressive tax avoidance (see box 1 for more detail on the distinction between legal and illegal

illicit flows). Aggressive tax avoidance can take place through a variety of forms, such as manipulation of transfer pricing, strategic location of debt and intellectual property, tax treaty shopping, and the use of hybrid instruments and entities. For the purposes of the measurement of the indicator, these flows need to be carefully considered, as they generally arise from licit business transactions and only the illicit part of the cross-border flows belongs within the scope of IFFs.

- IFFs from illegal markets. These include

trade in illicit goods and services, when the money flows generated cross country borders. Such processes often involve a degree of criminal organisation aimed at creating profit. They include any type of illegal trafficking of goods, such as drugs and firearms, or services, such as smuggling of migrants. IFFs are generated by the flows related to international trade of illicit goods and services, as well as by cross-border flows from managing the illicit income from such activities.

Table 1 Examples of activities generating IFFs from crime, by ICCS categories

Category of IFFs	Examples
Tax and commercial practices	08041 Tariff, taxation, duty and revenue offences
	08042 Corporate offences including competition and import/export offences; acts against trade regulations
	08045 Market manipulation or insider trading, price fixing
Theft-type activities and terrorism financing (parts of sections 02, 04, 09)	020221 Kidnapping
	020222 Illegal restraint
	020223 Hijacking
	020229 Other deprivation of liberty
	0204 Trafficking in persons
	0205 Coercion
	0401 Robbery
	0501 Burglary
	0502 Theft
	09062 Financing of terrorism
Illegal markets	ICCS includes a long list of activities, including for example drug trafficking (060132), firearm trafficking (090121), illegal mining (10043), smuggling of migrants (08051), smuggling of goods (08044), wildlife trafficking (100312)
Corruption (section 0703)	07031 Bribery
	07032 Embezzlement
	07033 Abuse of functions
	07034 Trading in influence
	07035 Illicit enrichment
	07039 Other acts of corruption

Source: UNODC.

Note: This list is only intended to provide some examples and it is not exhaustive.

- IFFs from corruption. The United Nations Convention against Corruption (UNODC, 2004) defines acts considered as corruption, which are consistently defined in the ICCS. These include bribery, embezzlement, abuse of functions, trading in influence, illicit enrichment and other acts. When the economic returns from these acts directly or indirectly generate cross-border flows, they are considered IFFs.
- IFFs from theft-type activities and financing of crime and terrorism. Theft-type activities are non-productive activities that entail a forced, involuntary and illicit transfer of economic resources between two actors. Examples include theft, extortion, illicit enrichment, and kidnapping. In addition, terrorism financing and financing of crime are illicit, voluntary transfers of funds between two actors with the purpose of funding criminal or terrorist actions. When the related financial flows cross country borders, they constitute IFFs.

As mentioned, the ICCS is a good point of departure for listing and defining some of the activities that could generate IFFs, such as theft-type activities and terrorism, illicit trafficking and corruption, as well as many activities related to tax and commercial malpractices. Table 1 provides examples of such activities and how to link the main categories of IFFs to activities that generate them.⁶

It would also be useful to link the categories of IFFs and their source activities to their transmission channels. This requires further consideration since similar financial flows may apply to a variety of channels. Data availability and the selection of statistical methods are likely to depend on the type of activity generating IFFs and the channels used.

Factors defining the statistical methodologies for IFFs

There is a relevant stream of literature that proposes methods to measure IFFs from illegal economic activities, and illicit tax and trade-

related practices. The methods proposed can be grouped in two general approaches:

1. Top-down methods attempt to measure IFFs by interpreting or modelling inconsistencies in different types of aggregated data, such as currency demand, international trade, and capital account of BoP.
2. Bottom-up approaches attempt to measure IFFs starting from the analysis of a given illicit activity, defining the set of flows that can be identified as IFFs and then producing estimates for each of them. Overall estimates are obtained by aggregating from a lower to a higher level.

Consistently with the statistical framework presented here, where different types of IFFs are defined in relation to the activity generating them, a bottom-up and direct measurement approach is proposed.⁷

An important distinction is made between two different stages where IFFs can be generated, which reflect two different finalities:⁸

- IFFs linked to income generation, as 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. Inward or outward IFFs occur when the operation in question is performed across a border.
- IFFs linked to income management, as the set of cross-border transactions finalised 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. If spent abroad, the operation is an outward IFF. If stemming from illicit activity outside a jurisdiction but is spent in the domestic jurisdiction, an inward IFF is generated.

In sum, this approach considers the multi-dimensional nature of IFFs, comprising several different kinds of activities, including

flows originating from illicit activities, illicit transactions to transfer funds that have a licit origin, and flows stemming from licit activity being used in an illicit way. It identifies the main types of IFFs to be measured and lays out a framework based on existing statistical definitions, classifications and methodologies, in line with the SNA and BoP. A disaggregated and bottom up measurement approach is proposed in line with these frameworks and following international efforts to measure non-observed or illegal economic activities.

Data requirements for measuring IFFs

National statistical systems already have some of the data needed for the measurement of IFFs, but these data are scattered across a range of authorities and statistical domains. For instance, existing national accounts and BoP statistics include estimates of illegal economic activities and the non-observed economy, provide a good starting point for the measurement of IFFs.

Other relevant data may be held by the police and ministries of justice, councils of justice, financial intelligence units and other government agencies collecting information on seizures and criminal offences. In addition, tax authorities collect relevant data for assessing tax gaps and exchange country-by-country reporting data on multinational enterprises, although these data are often collected for purposes other than statistical analysis. Statistics on international trade in goods and services can provide useful information on commercial IFFs.



Initial measures of IFFs will be based on existing data and be aligned with national accounts and balance of payments

According to a recent IMF survey on the measurement of the informal economy, over 60 per cent of national statistical offices collate relevant data on underground, illegal and informal activities using surveys, administrative sources, mirror statistics, international studies and expert assessment (IMF, 2018). While informal activities are largely domestic, many of them also generate cross-border flows, and while the statistical sources may not cover all kinds of IFFs, they typically focus on those flows that are most relevant to a country. There are also systematic data collections on crime and related IFFs; UNODC, for instance, compiles statistics on drugs as reported directly by countries, including detailed data on demand, supply, prices, drug characteristics, seizure data, etc.

It is likely, however, that additional sources of information will need to be identified to measure IFFs consistently. Compiling statistics on IFFs requires access to many data sources held by different authorities. Central banks, tax authorities and national statistical offices often have the strongest mandate to collect and access such data. National statistical offices, as the focal point for coordinating the compilation of SDG indicators, should lead the work to bring the necessary stakeholders together to measure IFFs.

Next steps in developing SDG indicator 16.4.1

While some elements of IFFs are more readily measurable, others are more challenging to estimate, including bribery, abuse of functions, illicit enrichment and illicit tax practices. Data on these activities remain scattered. Further work is needed to develop methods to measure the various types of IFFs separately, starting from those for which data are available. Adjustments will be needed to avoid double counting. Furthermore, in practice it may be necessary to estimate separately some of the IFFs with the highest uncertainties.

The next steps in the methodological development of SDG indicator 16.4.1 will be to further develop and test a range of statistical

methodologies consistent with the definitions above and the SNA and BoP statistics. While many countries already collect data on a number of illegal activities and other statistics, it will still be important to strengthen countries' capacities for comprehensive data collection and compilation of IFFs statistics. UNCTAD and UNODC, with partner organizations, will support countries in improving their statistical capacity to understand and estimate IFFs. A series of pilot studies are being conducted with volunteer countries and they are providing critical information to refine the conceptual framework and to develop guidance on statistical methods to measure IFFs.⁹

Pilots will help to find feasible country-specific solutions to applying the common framework for IFFs



The statistical Task Force will continue its work to support countries in national data collection and compilation with a view to developing a Practical Compilation Guide for the Measurement of Illicit Financial Flows based on this conceptual framework. This will include a full classification of activities generating IFFs, linked to the types and channels of IFFs, with recommended methods to measure them. Further work will also aim at developing a more nuanced measurement of IFFs to support policy action. In the future, the measurement of IFFs as a satellite account taking into consideration national accounts concepts and definitions could be worth exploring.

Notes

- 1 This chapter is an abridged version of UNCTAD and UNODC (forthcoming).
- 2 The Balance of Payments Manual 6th edition (IMF, 2009) defines illegal transactions as those that are forbidden by law, and only when the institutional units involved enter the actions by mutual agreement. Otherwise, they are considered as other flows. Illegal transactions are treated the same way as legal actions in BoP statistics
- 3 The Task Force is composed of statistical experts from Brazil, Finland, Ireland, Italy, Peru, South Africa and the United Kingdom, representing national statistical offices, central banks, customs or tax authorities. The Task Force also includes experts from international organisations with recognised expertise in this field. Eurostat, IMF, OECD, UNECA, UNSD, UNCTAD and UNODC are represented.
- 4 This includes work carried out previously by Eurostat, Global Financial Integrity, IMF, OECD, UNECA, United Nations Statistics Division, World Bank, UNCTAD and UNODC, as well as findings from academic studies.
- 5 The proposed bottom-up measurement approach described below considers domestic illicit financial flows as part of the illegal economy too. These flows would not fall under the definition of IFFs for SDG indicator 16.4.1, but are of high relevance to understand organised cross-border illicit flows.
- 6 It is important to note that not all IFFs would map onto this framework. Notably, IFFs related to tax avoidance and other tax malpractices may not be covered in the ICCS.
- 7 This approach is consistent with Eurostat (2018).
- 8 This basic typology is coherent with the main concept of national accounts. Indeed, income generation refers to the set of operations that in national accounts relate to production

account, and generation and distribution of income account, while income management refers to the set of operations that in national accounts refer to capital and use of income account.

Pilots are carried out as part of UNCTAD and UNODC projects, in collaboration with countries and UN Regional Commissions in Africa and Latin America, where Africa will be focused mostly on illicit tax and commercial practices and Latin America on illegal markets (illicit drugs, smuggling of migrants, human trafficking and illegal mining). In 2020, pilots will be extended to Asia and the Pacific in collaboration with the UN Economic and Social Commission for Asia and the Pacific.

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The background of the entire slide is a photograph of a worker wearing a hard hat and a safety vest, working on a large array of solar panels. The image is overlaid with a semi-transparent orange filter. The worker is positioned in the upper left, looking down at the panels. The solar panels are arranged in rows, extending towards the horizon. The sky is visible in the background, and there are some structures in the distance.

THEME 3

Structural Transformation

“We are the last people who can prevent catastrophe on the planet. We have no excuse for failure.”.

– UN Deputy Secretary General, Amina J. Mohammed

Structural transformation

Sustainable long-term growth that provides economies opportunities for everyone can only be achieved through a shift to higher value-added productive activities. This requires investment, the adoption of technological advancements, and a skilled workforce. To avoid further ecological degradation and climate change, this also calls for a shift to more efficient and less environmentally damaging economic activities.

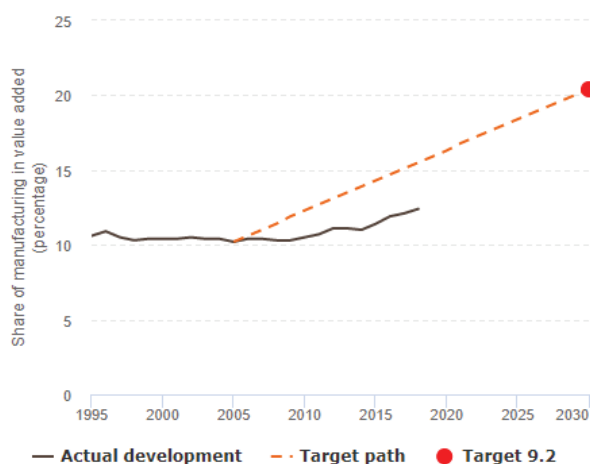
Transforming to more sustainable consumption and production patterns, will not only be good for the economy, but also a necessity for the environment. This theme of SDG Pulse looks at two aspects of structural transformation:

- We look for evidence of a shift towards Sustainable industrialization and higher technology and more skills-intensive economic activities, and
- We consider whether it is Make or break for green economy in the face of serious climate concerns.

According to UNFCCC, to achieve the objectives of the Paris Climate Agreement, the world needs to deploy climate technologies on a much greater scale, and innovation plays a key role. The climate challenge is immediate, and as statistics in the SDG Pulse demonstrate, we can reduce carbon intensity of the economy through technological and economic transformation, but the challenge is urgent.

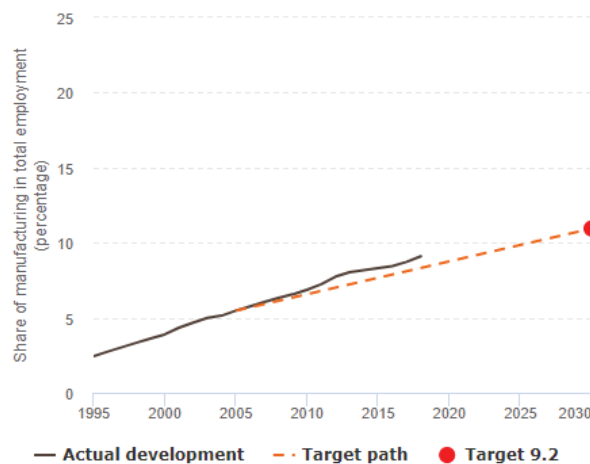
LDCs' pace too slow to double their manufacturing share in value added by 2030: +0.41 percentage points needed every year vs. +0.17 in 2018.

SDG indicator 9.2.1



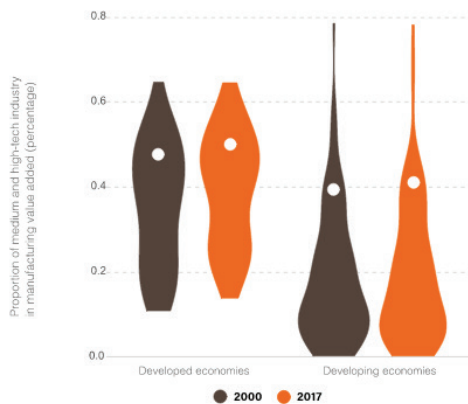
Share of manufacturing employment in total employment increased in LDCs by two thirds since 2005 – on track for 2030.

SDG indicator 9.2.2



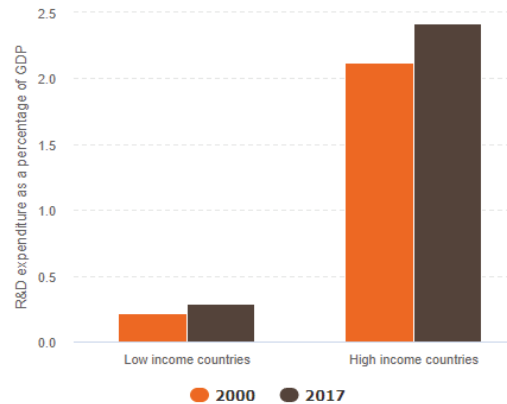
Medium and high-tech manufacturing share very slowly increasing in developing economies.

SDG indicator 9.b.1



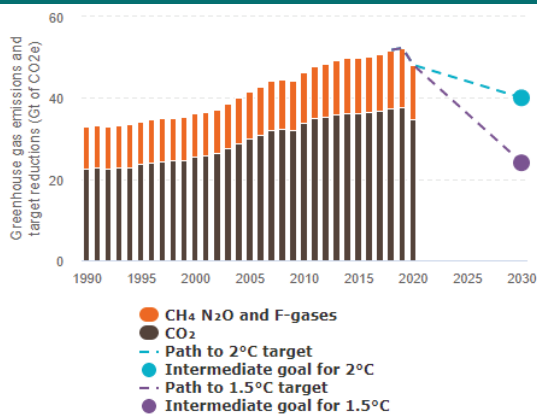
High income countries spend almost 10 times more than low income countries on R&D as a percentage of GDP.

SDG indicator 9.5.1

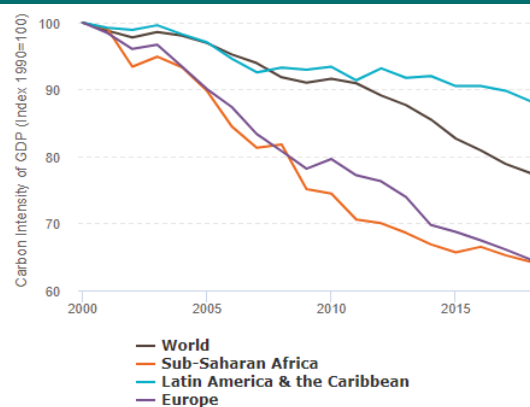


CO₂ emissions forecasted to decline by 8% in 2020, largely due to COVID-19, and the same pace needs to continue to reach the Paris 1.5°C target.

SDG indicator 9.4.1



World carbon intensity of GDP decreasing – most of all in Europe and Sub-Saharan Africa, but less so in Latin America and the Caribbean.



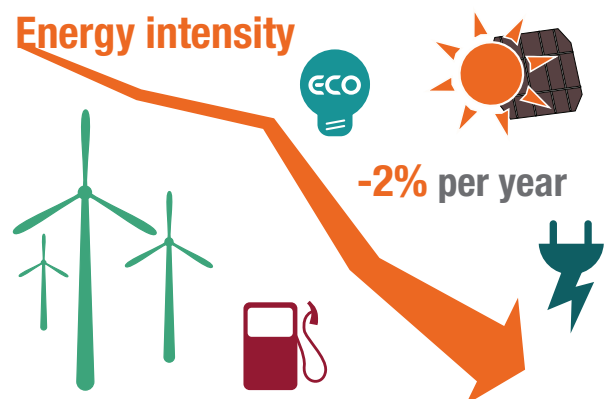
Graduated from Tier III to Tier II with an internationally agreed methodology – aligned company sustainability reporting increasing across the World.

UNCTAD & UNEP SDG indicator 12.6.1



Energy intensity reducing faster than before, almost 2% per year since 2008.

SDG indicator 7.3.1





I. Towards sustainable industrialization and higher technologies

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)

Key messages

- In developing Asia and Oceania, real manufacturing value added per head more than tripled from 1998 to 2018.
- Manufacturing output hit hard by the pandemic in early 2020
- LDCs' pace too slow for the SDG target of doubling the manufacturing share in value added by 2030
- Africa's medium and high-tech share in manufactured exports rose from 31 to 39 per cent in 10 years
- 10 economies account for over 75% of total R&D spending in the world
- Global gross expenditure on R&D stood at 1.7 % of GDP
- Brazil's R&D intensity over two times higher than in other Latin American countries
- About 40% of R&D employees are women – even higher shares in developing economies

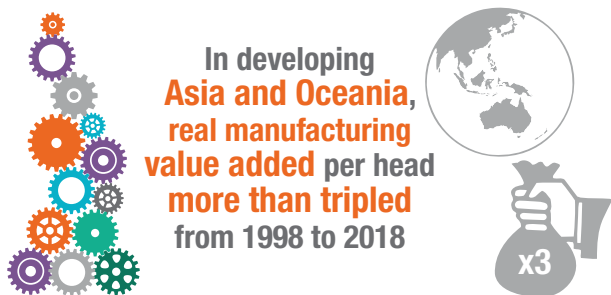
Structural transformation has been an important driving force of economic development over the last decades. According to the theory of structural transformation (Kuznets, 1957; Chenery, 1960; and Fourastié, 1963) development is driven by a shift from the extraction of raw materials and primary sector activities to increasingly complex technical transformation processes, commonly referred to as manufacturing. On the supply side, the sources of that transition include, the development of know-how, increase in high-skilled labour and technological advancement, and enabling the application of new production methods. On the demand side, the rising standard of living induces a shift from the consumption of food and other primary commodities towards consumer goods, that are usually manufactured. This transformation leads to higher value added and greater economic welfare. In line with this thinking, SDG target 9.2 promotes inclusive and sustainable industrialization and aims to significantly raise industry's share of employment and GDP by 2030.

During the later phases of economic development,

a sectoral shift from manufacturing to services has typically been observed. Once a certain standard of living is reached, the demand for services increases relative to the demand for physically produced goods. According to Haraguchi and Rezonja (2010) this level is reached when GDP per capita amounts to around US\$13,000 at 2005 prices. At that stage, manufacturing usually accounts for around one fifth of value added. Based on these estimates, UNIDO (2017) considers countries to be industrialized when their manufacturing value added, adjusted to purchasing power parities, exceeds US\$2,500 per capita.

Rapid industrialization in developing economies of Asia and Oceania

In 2018, manufacturing value added per capita amounted to US\$5,922 at constant 2015 prices in developed economies (see figure 1). It was around four times higher than in developing Asia and Oceania (US\$1,388), five times higher than in developing Latin America and the Caribbean (US\$1,136) and six and a half times higher than in transition economies (US\$906). It exceeded the value in Africa (US\$207) by almost 30 times.

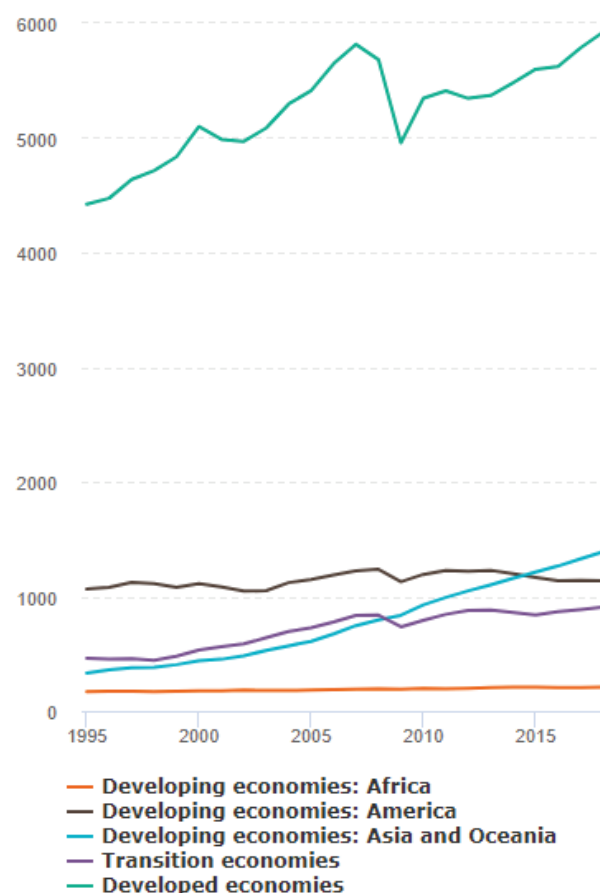


Over the last 20 years, manufacturing value added per capita in developing Asia and Oceania has steadily increased – by three and a half times since 1998 – with the result that the region overtook the transition economies in 2009 and Latin America and the Caribbean in 2015. In Africa, Latin America and the Caribbean and in the transition economies, the indicator has remained constant since 2014. Developed economies have recorded modest steady growth over the last 20 years, disrupted only by the economic downswings from 2000 to 2002 and from 2007 to 2010.

Dropping industrial output after the outbreak of COVID-19

The outbreak of COVID-19 led to considerable disruptions in manufacturing all over the world. According to ILO (2020a) manufacturing was among the economic sectors worst hit by the pandemic, alongside retail trade, accommodation, food services and other sectors. The impact by industry depends on the effects of the containment measures introduced on supply and demand. Some sectors were hit mainly from the demand side, for example due to restrictions concerning modes of consumption and the distribution of goods, and others more from the supply side, for example due to disrupted supply chains. It seems that certain sectors have also benefited from an increased demand for their products as a direct or indirect consequence of the pandemic. Some businesses have managed to make a digital leap to recover some lost revenue, enable new ways of working, such as telework and digital trade, and apply new methods to quickly adjust production according to rapidly changing demand and supply conditions.

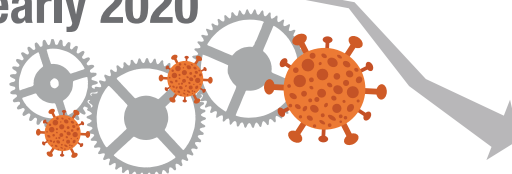
Figure 1 Trends in manufacturing value added per capita (SDG 9.2.1) (US\$ in constant 2015 prices)



Source: UNCTAD (2020).

In spring 2020, manufacturing was hit by the COVID-19 pandemic at different times across the world (see figure 2). China came first, experiencing a sharp drop of manufacturing output in January, down 26 per cent on the previous month (seasonally adjusted), as Wuhan and other regions were locked down (CCSA, 2020). Already in February-April, Chinese manufacturing started to recover with 8 to 11 per cent monthly growth and had partially bounced back by March 2020 and reached the pre-crisis level by April 2020.

Manufacturing output hit hard by the pandemic in early 2020



In the Eurozone and the United States of America manufacturing output started falling in March 2020. This fall was most pronounced in the Eurozone, where many countries introduced full or partial lockdowns by the middle of the month. Production in manufacturing dropped by 12 per cent in March 2020 after a longer period of stability. Italy, the first country in the Eurozone hit by the pandemic, saw manufacturing output decrease by 31 per cent in March. The PMI of the manufacturing sector for the Eurozone indicates an acceleration of decline, dropping from 44.5 in March to 33.4 in April. The further the PMI is below 50, the faster the decline anticipated by managers. In the United States of America, where the virus started spreading later than in Europe, manufacturing output dropped in March 2020 by 5.5 per cent and in April at an accelerated rate of 13.7 per cent.

In Brazil, manufacturing started contracting before the pandemic, with the decline speeding up in March (-10 per cent) and April (-14 per cent). By contrast, manufacturing in South Africa and the Russian Federation appeared only slightly affected by COVID-19 until March. In the Russian Federation, the IIP for manufacturing retained zero growth until March, but declined by 12 per cent in April. In South Africa, where IIP data for manufacturing were not available after February, the PMI indicates a slightly accelerated decline

from February (48) to March (45) and further to April (35).

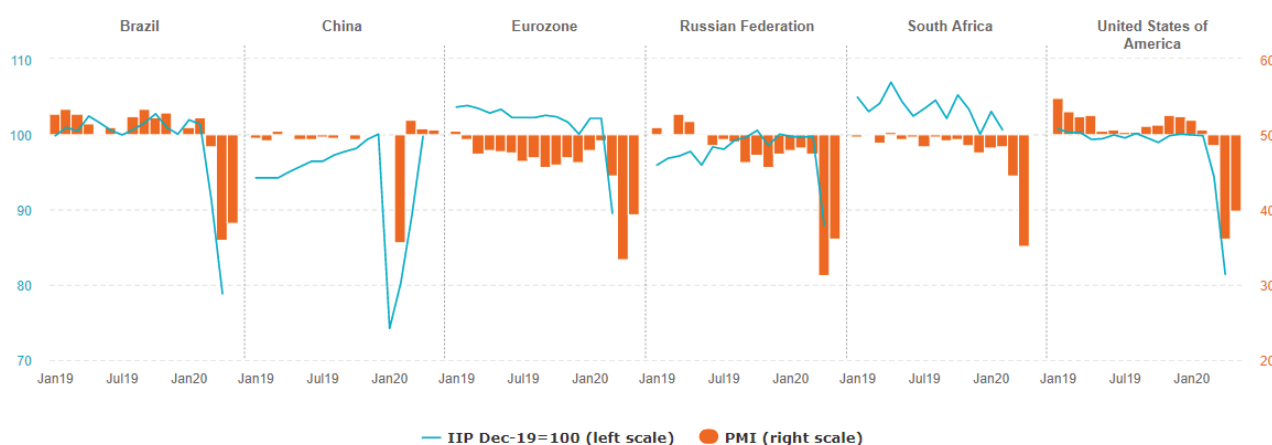
According to the PMI for May 2020, business managers anticipate a continued contraction in manufacturing, albeit at slower pace than before, in all these countries, except for China where manufacturing is expected to continue to grow slightly (PMI 50.6).

Intermittent catching up of LDCs

In 2018, LDCs' manufacturing sector produced on average US\$128 per head, at 2015 prices, almost 50 times less than the average produced in the developed world. However, LDCs' manufacturing value added per capita has steadily increased over the last 20 years, at a higher rate than in developing countries in general. The level in 2018 was already three times higher than the level of 1998.

The manufacturing share in value added, the focus of SDG target 9.2 for LDCs, increased from 10.3 per cent in 1998 to 12.4 per cent in 2018. Most of that progress was made in the last eight years; until 2010, the share had remained constant at just below 11 per cent (see figure 3). Extrapolating this trend into the future, the growth achieved after 2005 on average appears to be too slow to achieve the SDG target of doubling

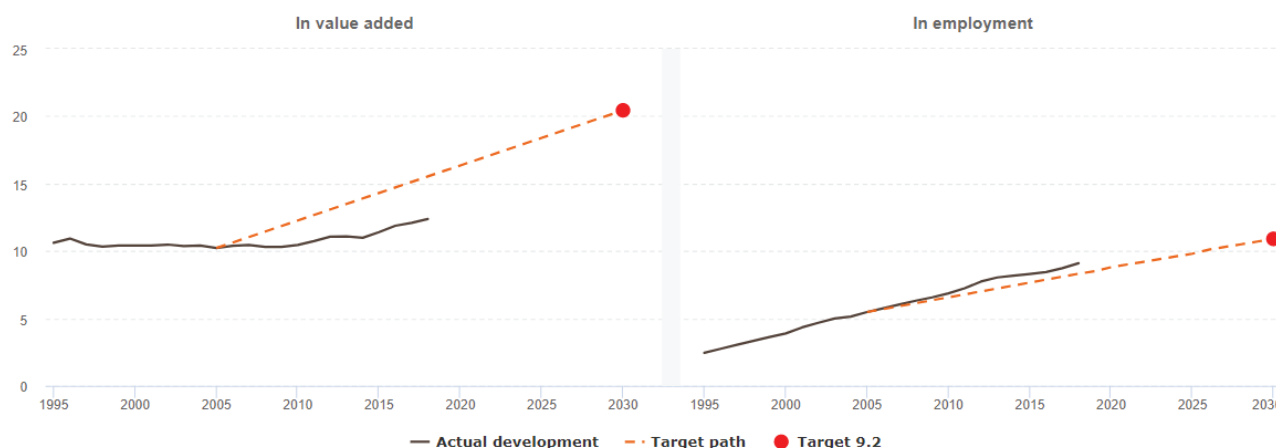
Figure 2 Industrial production (IIP) and purchasing manager's expectations (PMI) in manufacturing



Source: UNCTAD calculations based on OECD (2020), Eurostat (2020), UNIDO (2020) and Refinitiv (2020).

Note: Series are seasonally adjusted. PMIs refer to manufacturing for all others, but not for South Africa. IIPs are re-referenced to December 2019.

Figure 3 Development of the manufacturing share of value added (SDG 9.2.1) and of employment (SDG 9.2.2) in LDCs compared to the target (Percentage)



Source: UNCTAD (2020).

Note: Target and target path set with reference to the base year 2005.¹

the manufacturing share in value added by 2030.¹ From 2005 onwards, an average annual increase of 0.41 percentage points would have been required to reach the target. The actual annual average increase until 2018 was 0.17 percentage points. Between 2014 and 2016, accruals comparable to the target path were indeed recorded, of between 0.41 and 0.48 percentage points each year, but in recent years the pace has slowed to less than 0.3 percentage points annually.



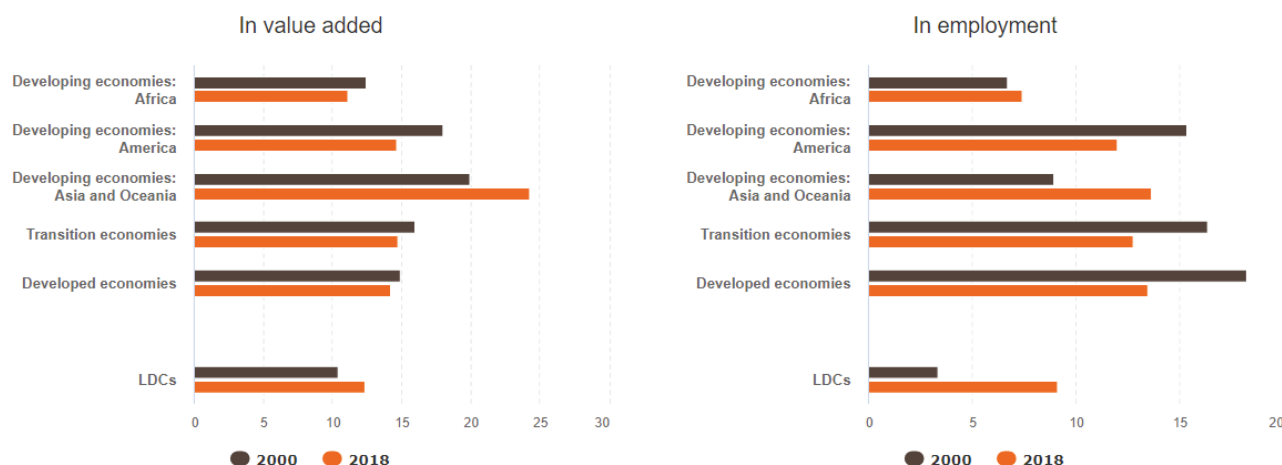
The findings above – in particular, the modest growth of manufacturing in value added compared to employment – suggest that new industrial innovations and policies are needed in LDCs to accelerate structural transformation.

Diverging regional trends in structural transformation

How has structural transformation changed the sectoral distribution of employment and value added? Between 2000 and 2018, the share of manufacturing in employment increased only in developing Asia and Oceania (from 8.9 to 13.6 per cent) and in Africa (from 6.7 to 7.4 per cent) (see figure 4). In developing Asia and Oceania, in contrast to Africa, this increase was combined with an increase of the manufacturing share in value added (from 19.9 to 24.2 per cent). This highlights a growing disparity in productivity growth between the regions, in line with the above diverging trends in manufacturing value added per capita (see figure 1). In LDCs, increases in manufacturing value added per capita, discussed above, were strongly employment driven. The share of manufacturing in employment increased from 3.3 to 9.1 per cent between 2000 and 2018.

These figures suggest that during the last two decades, only Asian and Oceanian developing economies have gone through a process of structural transformation as described in the literature. The LDCs as a group have also followed that path. Latin America and the Caribbean as well as transition and developed

Figure 4 Share of manufacturing in value added (SDG 9.2.1) and employment (SDG 9.2.2) (Percentage)



Source: UNCTAD calculations based on UNCTAD (2020), UNIDO (2020) and ILO (2020a).

economies recorded shrinking proportions of manufacturing in both employment and value added. This development is not what is aspired to by the SDG target, which aims at significantly raising industry's share of employment and value added. Many of these countries may nevertheless have changed their economic structure towards higher value-added activities, by raising the share of services, in particular telecommunication and ICT services or by a structural transformation within manufacturing from lower-tech to higher-tech production. Below, the analysis is extended to investigate to what extent such digitalization and transformation to higher technologies is happening.

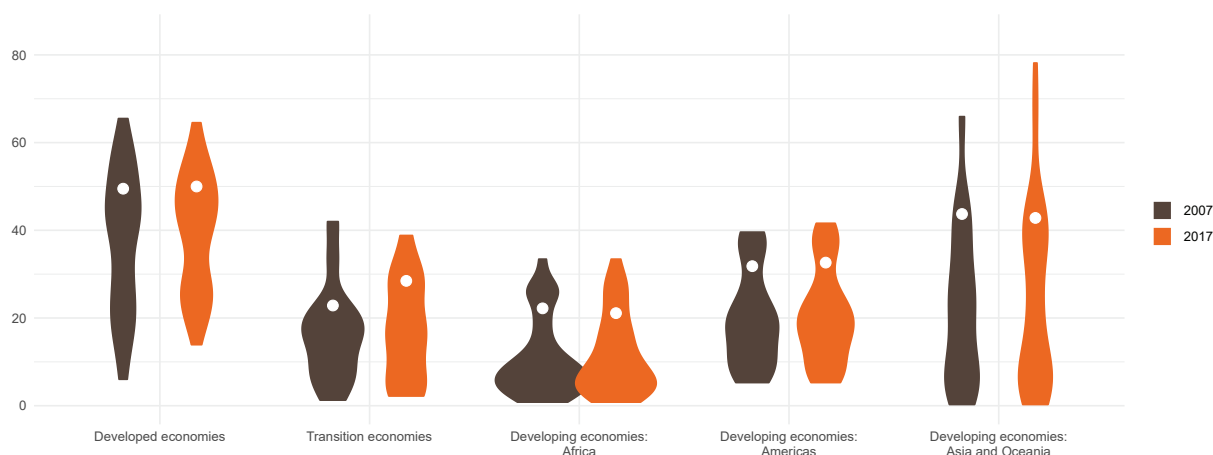
Technology gap persists in manufacturing

The 2030 Agenda promotes technological development through research and innovation, especially in developing economies. Progress towards the achievement of that target is measured by the proportion of medium and high-tech industry value added in total manufacturing value added (SDG indicator 9.b.1). This indicator shows a shift from lower to higher technology value added, raising the average value added per worker. R&D and innovation play a crucial role in this transformation by providing the grounds

for the use of new and more efficient technologies. In the developed world, medium and high-tech industry accounts for higher shares of manufacturing value added than in developing and transition economies (see figure 5). When looking at weighted regional averages, half of developed economies' manufacturing output is obtained in medium and high-tech industries. Among developing countries, the weighted rate varies considerably across regions. In developing Asia and Oceania, it is 43 per cent, almost as high as in developed economies, while the rate reaches 33 per cent in developing America and only 21 per cent in Africa. For transition economies the rate is slightly above that of Africa with 28 per cent.

Over the last 10 years, the gap between developing and developed economies has narrowed only slightly. While developed economies managed to maintain the share of medium and high-tech manufacturing at around 50 per cent, the rate fell slightly in developing Africa (from 22 to 21 per cent) and rose little in developing America (from 32 to 33 per cent). The proportion of medium and high-tech manufacturing has increased by more than 5 per centage points in transition economies from 2007 (22.9 per cent) to 2017 (28.5 per cent) but remains below the level in 2000. Only in the developing economies of Asia and Oceania has the share of medium and high-tech manufacturing remained constant, at around 44 or 43 per cent.

Figure 5 Proportion of medium and high-tech industry in manufacturing value added (SDG 9.b.1), by development status and region (Percentage)



Source: UNCTAD calculations based on UNIDO (2020).

Note: A violin plot shows the distribution of individual countries' medium and high-tech industry shares in manufacturing value added within each country group and year. The coloured areas depict the distribution of countries' rates smoothed by kernel density estimation, a non-parametric way to estimate the probability density function of a variable. The wider the violin shape, the higher the possibility to find an observation, in this case a country, in that location. The dots within the shapes represent the weighted average of countries' medium and high-tech industry shares in manufacturing value added.

Developed countries have cemented their lead, while developing economies have not managed to increase the share of higher technologies in manufacturing in the last 10 to 15 years, and some are shifting towards lower-technology sectors.

Figure 5 highlights the considerable variation across individual economies, especially in Asia. This region encompasses, on one hand, the two economies with the world's most innovative manufacturing sectors, namely, Singapore (78 per cent) and Taiwan, Province of China (70 per cent); on the other hand, it includes several countries, primarily LDCs and SIDS, in which the share of medium and high-tech industries in value added has persistently remained below three per cent, such as Cambodia (0.3 per cent), Tajikistan (2.1 per cent) and the State of Palestine (2.5 per cent).

Considerable spread in the medium and high-tech industry share of manufacturing value added is also found among developed economies. Some of them reach less than one third of the rates recorded by the developed countries at the highest ranks, such as, Switzerland (65 per cent) and Germany (62 per cent).

Many LDCs and SIDS are characterized by low

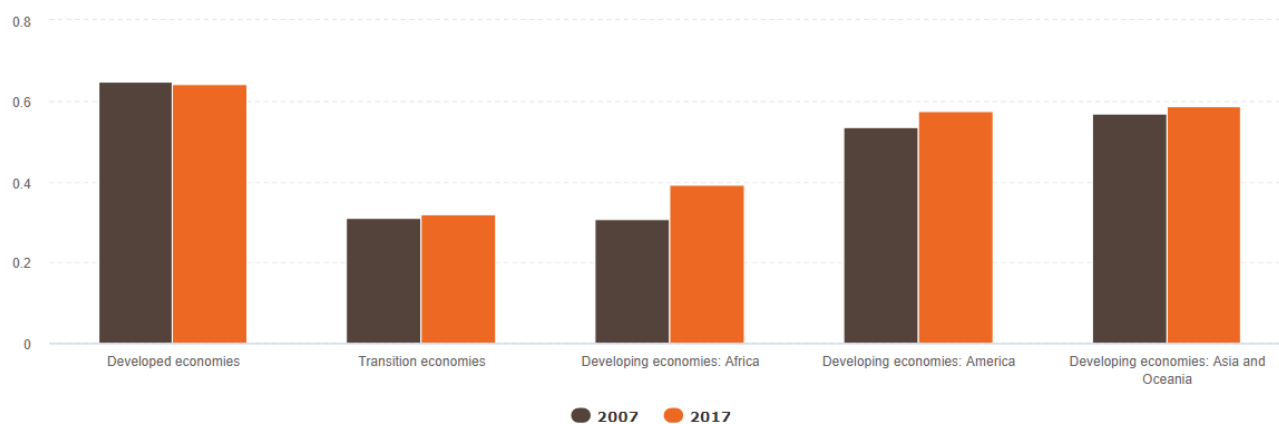
shares of medium and high-tech manufacturing. However, this is changing. Noteworthy developments among SIDS include Trinidad and Tobago, where the medium and high-tech share in manufacturing value added increased from 29 per cent in 2001 to 40 per cent in 2017, as well as Barbados, where the rate has remained high, at 38 per cent, over the last 15 years (see UNIDO, 2020).

Developing economies' medium and high-tech exports increasing

Looking at international trade, the share of medium and high-tech products in manufacturing exports has been increasing in developing countries recently, while it has remained almost constant in the developed world (see figure 6).

Africa's medium and high-tech share in manufactured exports rose from 31 to 39 per cent in 10 years

Figure 6 Share of medium and high-tech manufactured exports in total manufacturing exports (Percentage)



Source: UNCTAD calculations based on UNIDO (2020).

In developing America and developing Asia and Oceania, the share of medium and high-tech exports reached almost 60 per cent in 2017, whereas in developed economies it stood at 64 per cent. Africa has increased its medium and high-tech export share from 31 to 39 per cent from 2007 to 2017. As a result, the region has been catching up in the structural transformation of manufactured exports, and the overall gap between the developing and developed world has narrowed. Transition economies lag, despite some progress. They were overtaken by Africa in 2013.

R&D spending increasing but concentrated in a few economies

Governments are encouraged to increase spending on R&D in the context of the 2030 Agenda. In 2017, the latest year with globally comparable innovation statistics, the world invested US\$2.2 trillion in R&D, PPP-adjusted. Over the five-year period from 2012 to 2017, overall R&D spending increased by 5.8 per cent each year on average. Not surprisingly, investment was highly concentrated in a few economies. In 2017, over 75 per cent of R&D investment was made by only 10 countries.

In PPP-adjusted value terms, the leaders in R&D spending were the United States of America (US\$543 billion), China (US\$499 billion), Japan (US\$171 billion) and Germany (US\$131 billion). Remarkably, the United States and

China accounted for almost half of global R&D investment (see figure 7 and table 1). Among developing economies, high annual growth rates in R&D spending were recorded for Thailand (29 per cent), Turkey (11.5 per cent), China (11.1 per cent) and Egypt (11 per cent) since 2012. India, Iran and Malaysia also reported significant increases in innovation expenditure.²

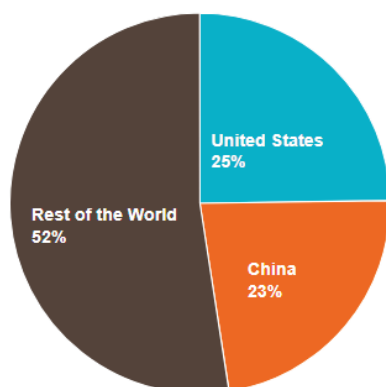
10 economies
account for over
75% of total
R&D spending in the world



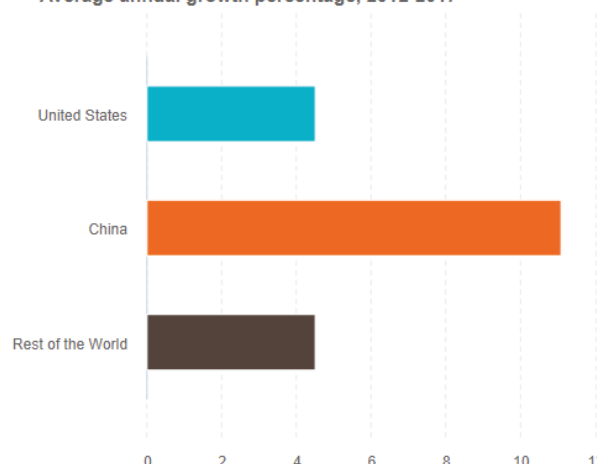
Despite the substantial growth of world R&D investment in absolute terms, R&D intensity – SDG indicator 9.5.1 – recorded a rather weak progress from 2012 to 2017. In 2017, global gross expenditure on R&D stood at 1.7 per cent of GDP (see figure 8). The Republic of Korea (4.6 per cent) and Israel (4.5 per cent) were the most prominent R&D investors relative to GDP, followed by Switzerland (3.4 per cent) and Sweden (3.3 per cent). The United States of America invested 2.8 per cent of its GDP in innovation, and China 2.1 per cent. Only a few developing economies have managed to develop into ‘R&D powerhouses’, such as, China and the Republic of Korea. For

Figure 7 Dominance in global R&D spending, 2017 and growth from 2012-2017
(Spending in PPP US\$ billions and average annual growth percentage)

Spending in PPP US\$ billions, 2017



Average annual growth percentage, 2012-2017



Source: UNCTAD calculations based on UNESCO Institute for Statistics (2020).

some of these countries, that process took around two decades. Today, it appears as if a ‘glass ceiling’ separates the R&D leaders from the rest of the world. Participation in global value chains and R&D networks is essential for moving-up the innovation ladder (Cornell University et al., 2019).

Global gross expenditure on R&D stood at 1.7% of GDP



Looking at regional averages, Northern America invests most in R&D in proportion to GDP. However, it was Eastern and South-Eastern Asia where R&D spending relative to GDP grew fastest from 2012 to 2017. Europe recorded only a slight increase. At 1.9 per cent of GDP in 2017, R&D intensity remained well below the three-per-cent goal set by the EU (European Commission, 2010). Only Austria, Denmark, Germany and Sweden surpassed this target. The AU has also established an R&D intensity target for its member states, set at one per cent (UNECA, 2018). According to available statistics, among AU member countries, only South Africa was close to that

target, recording an R&D intensity of 0.9 per cent. Rwanda and Senegal recorded notable rises in innovation expenditures, but the one-per-cent target is not yet within reach. In Sub-Saharan Africa, R&D intensity stood at 0.4 per cent, while Northern Africa and Western Asia recorded 0.8 per cent.

The developing economies of America spent on average 0.7 per cent of their GDP on innovation in 2017. At 1.3 per cent, Brazil’s R&D intensity was more than two times higher than that of any other country from the region. In Oceania, R&D spending stood at 1.8 per cent of GDP, dropping from two per cent observed five years earlier. SIDS3 allocated on average one per cent and LDCs some 0.2 per cent of GDP to R&D.

Brazil’s R&D intensity over two times higher than in other Latin American countries

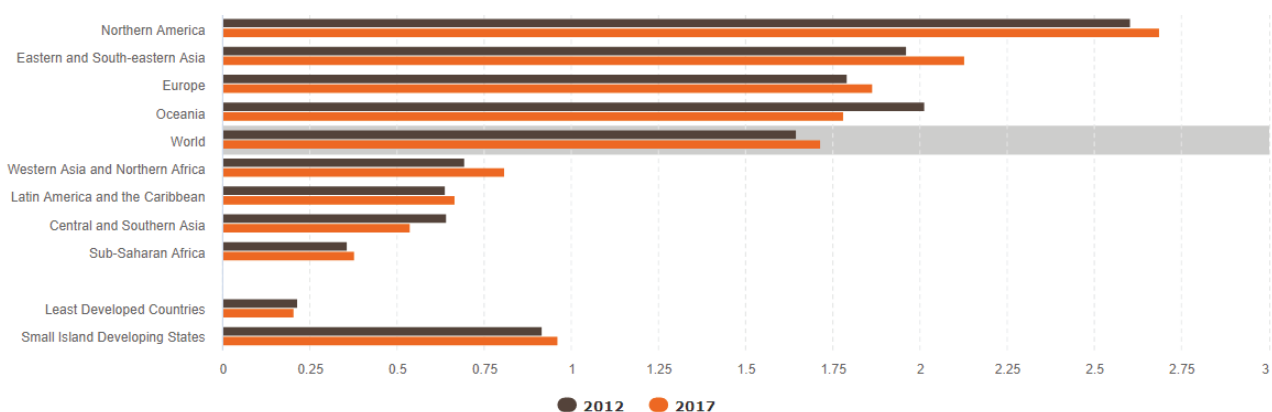


Table 1 Leading investors in R&D, ranked by PPP US\$, 2017 (SDG 9.5.1)

Investors	PPP US\$ billions	Annual average growth percentage 2012–2017	Percentage of GDP	Percentage of world total
United States	543	4.5	2.8	24.8
China	499	11.1	2.1	22.8
Japan	171	1.6	3.2	7.8
Germany	131	5.4	3.0	6.0
Republic of Korea	91	6.6	4.6	4.1
<i>Top 10 developing countries, excl. China and the Republic of Korea</i>				
India^b	63	...	0.6	2.9
Brazil	41	2.8	1.3	1.9
Turkey	22	11.5	1.0	1.0
Iran (Islamic Republic of)	14	...	0.8	0.6
Thailand	12	29.2	1.0	0.6
Malaysia^a	12	...	1.4	0.6
Mexico^a	11	4.1	0.5	0.5
Singapore^a	11	8.7	2.2	0.5
Indonesia	8	...	0.2	0.4
Egypt	8	11.0	0.7	0.4

Source: UNCTAD calculations based on UNESCO Institute for Statistics (2020).

Note: ^a refers to 2016; ^b refers to 2018.

Figure 8 R&D expenditure as a proportion of GDP (SDG 9.5.1)
(Percentage of GDP)

Source: UNCTAD calculations based on UNESCO Institute for Statistics (2020).

Note: Based on UNESCO country classification

About 40% of R&D employees are women – even more in developing economies



SDG indicator 9.5.2 looks at the number of persons directly employed in R&D, as FTE, per million inhabitants. According to this measure, the highest performers come from Europe, led by Denmark and followed by Switzerland, Iceland and Sweden. Among the other regions, Israel and the Republic of Korea rank at the top. In 2017, Denmark and Israel reported over 10,000 per million employed on R&D, while Switzerland, Iceland, Sweden and the Republic of Korea recorded figures surpassing 9,000. These statistics include not only researchers, but also R&D technical and supporting staff. The strongest rise in R&D employment was observed in developing economies, such as China, India, Brazil and Turkey. According to figures available for 50 countries, on average 40 per cent of the R&D workforce were women. Interestingly, developing economies registered higher percentages of female R&D staff than developed economies (UNESCO Institute for Statistics, 2020).

R&D services in international trade

Innovation is increasingly traded internationally. Global R&D services exports expanded by an estimated 6.3 per cent annually, between 2012 and 2017, outpacing the average growth of total trade in services (2.8 per cent). In 2017, countries exported about US\$170 billion worth of R&D services. Again, innovation exports and imports were concentrated on a small group of economies. The top-ten R&D exporters accounted for 75 per cent of the total. The United States of America was the main R&D services supplier on the international markets, followed by Germany and France (see table 2). Seven out of ten leading R&D services exporters also belonged to the top-ten R&D services importers. They were also part of the world leading recipients of charges for the use of intellectual property. Among developing economies, prominent exporters of R&D services include China, India, the Republic of Korea, Singapore, Brazil and Bahrain.

Governments to keep environmental and social R&D investment afloat

R&D is financed by public and private funds. According to the OECD (2018), public spending

Table 2 Leading ten R&D services exporters, 2017

Country	Exports US\$ billions	Annual average growth of exports, 2012-2017, percentage	Imports US\$ billions	Ranking in GERD, PPP US\$
United States of America	43	8.8	35	1
Japan	7	12.1	17	3
Germany	26	7.0	23	4
France	13	5.1	13	6
United Kingdom	10	5.7	4	8
Canada	5	1.6	1	12
Sweden	5	15.8	6	17
Israel	7	8.1	1	18
Belgium	5	4.8	5	20
Ireland	6	39.9	30	37

Source: UNCTAD calculations based on UNESCO Institute for Statistics (2020).

Note: China belongs to leading R&D services exporters, according to estimates available for previous years. 2017 figures were not available.

on R&D has declined since 2012 in OECD member states, not only as a percentage of GDP, but also in proportion to total government expenditure. Instead, R&D is increasingly financed by corporations with a focus on product and process development. Most corporate R&D takes place in health and ICT sectors.

A study by the Cornell University et al. (2019) shows that R&D investment has lost momentum with each economic slowdown over the last two decades. At 2.9 per cent, growth in global output in 2019 was moderate rather than robust. In the face of the COVID-19 pandemic, obtaining financing for innovation and R&D investment from the corporate and public sector could prove challenging. Probably, R&D expenditure on health and ICT can escape the strong downturn, considering the importance of these sectors under the conditions of the pandemic. Amid expectations of scarcer funding, wide-ranging socially and environmentally beneficial projects would need special support by governments and international organizations.

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.
- 2 Official statistics for India, the Islamic Republic of Iran and Malaysia do not enable the calculation of comparable growth rates.
- 3 SIDS based on the UNESCO country classification: <http://www.unesco.org/new/en/natural-sciences/priority-areas/sids/resources/sids-list/>

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II. Make or break for green economy

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 (Tier I)

Target 7.3: By 2030, double the global rate of improvement in energy efficiency

- Indicator 7.3.1: Energy intensity measured in terms of primary energy and GDP

Target SDG 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

- Indicator SDG 12.6.1: Number of companies publishing sustainability reports (Tier III)

Key messages

- Greenhouse gas emissions at a record high in 2019 – up by 0.6%
- COVID-19 cut CO₂ emissions by 5% in Q1 2020
- Carbon intensity of GDP down one third since 1990 .
- CO₂ emissions in Europe 30% below 1990 levels
- Energy intensity reducing faster than before, almost 2% per year since 2008
- Private business sector mentioned in only one SDG target: 12.6
- SDG indicator 12.6.1 now has an internationally agreed methodology
- Company reports in the Americas, Asia and Europe better aligned with SDG 12.6.1

In light of new scientific research (IPCC, 2019), choices in climate policy taken now will be critical for our future and for the future of the ocean and cryosphere. According to the IPCC (2014, p. 6), climate change has already “caused impacts on natural and human systems on all continents and across the oceans”. We are experiencing more frequent natural disasters and extreme weather events, rising sea levels and diminishing Arctic sea ice, among other changes (IPCC, 2018). In August 2019, the United Nations Secretary General, António Guterres, named 2020 a make-or-break year for climate policy, not anticipating that the COVID-19 pandemic would bring societies and economies to an abrupt halt, cutting emissions by an amount impossible to imagine under normal conditions.

Greenhouse gas emissions levelled off but still at a record high in 2019

A growing concentration of the ‘critical’ greenhouse gases, mainly CO₂, CH₄, N₂O and F-gases, in the atmosphere has been identified as the main cause of increased temperatures on the planet (WMO, 2019). In 2018, greenhouse gas emissions reached a record high of 51.8 Gt of CO₂e. Emissions increased by 2.0 per cent from the previous year after a period of little or no growth

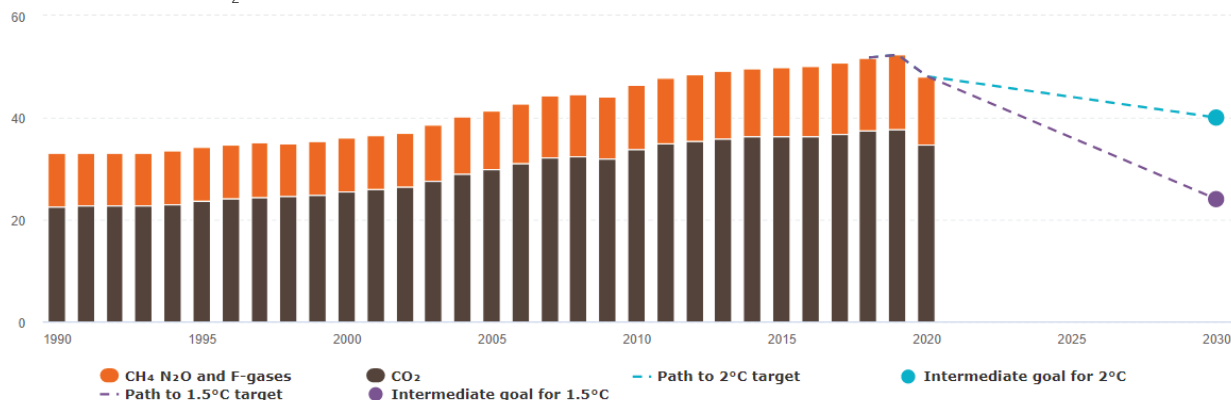
from 2015 to 2016, and a 1.3 per cent increase in 2017. Including emissions from land-use change, which are difficult to measure, total emissions amounted to 55.3 Gt in 2018. This level is about 55 per cent higher than in 1990 and 40 per cent higher than in 2000 (see figure 1).

Estimates by the Global Carbon Project, a global consortium of experts, indicate an increase of 0.6 per cent in total carbon dioxide emissions from 2018 to 2019 (Carbon Brief, 2019). In the first quarter of 2020, global CO₂ emissions were over 5 per cent lower compared with the same period in 2019 according to estimates by IEA (2020). Depending on the scenario used, in 2020, global CO₂ emissions are forecast to decline by 8 per cent, equaling 2.6 Gt. This is largest reduction ever recorded and will bring us back to levels last seen 10 years ago. The previous record fall, caused by the global financial crisis, was a reduction of 0.4 Gt in 2009.



Greenhouse gas emissions at a record high in 2019 – up by 0.6%

Figure 1 Greenhouse gas emissions and target reductions (SDG 9.4.1)
(Gt of CO₂e)



Source: UNCTAD calculations based on Netherlands PBL (2019) and UNEP (2019).

Note: Intermediate goals are shown as released by UNEP (2019). Emissions from land-use change are not included. The CO₂ emission estimate for 2019 by Carbon Brief (2019), and the estimate for 2020 by IEA (2020).

What do these developments imply for global warming? In 2019, the annual global temperature was already 1.1°C warmer than pre-industrial conditions (WMO, 2020). The 2015 Paris Climate agreement aims, by 2100, “to limit the temperature increase from pre-industrial levels to 2°C and pursue efforts to remain below 1.5°C” (UNFCCC, 2016). Even with a 1.5°C warming, climate scientists warn that the effects will be far greater than originally expected, including extinction of coral reefs, and many plants, insects and animals (IPCC, 2018).

**COVID-19 cut
CO₂ emissions
by 5%
in Q1 2020**



According to simulations, reaching the Paris target of keeping global warming below 2°C will require emissions of critical greenhouse gases to peak in 2020, and decline sharply thereafter. To remain below 2°C warming by 2100, global emissions should not exceed 40 Gt of CO₂e in 2030, and to achieve the below 1.5°C warming target, total emissions should remain below 24 Gt of CO₂e by 2030. Remaining below the 2°C target requires a reduction from 2018 levels of nearly 25 per cent and nearly 55 per cent to remain below 1.5°C UNEP (2018). Thus, although record-breaking,

the forecast reduction of CO₂ emissions caused by the COVID-19 outbreak will not be enough to achieve even the weakest of the targets set out by the Paris Climate agreement. Global emissions should be cut by almost 8 per cent every year for the next decade to keep us within reach of the 1.5°C target of the Paris Climate agreement.

Most carbon dioxide emitted in Asia – per unit of GDP and in total

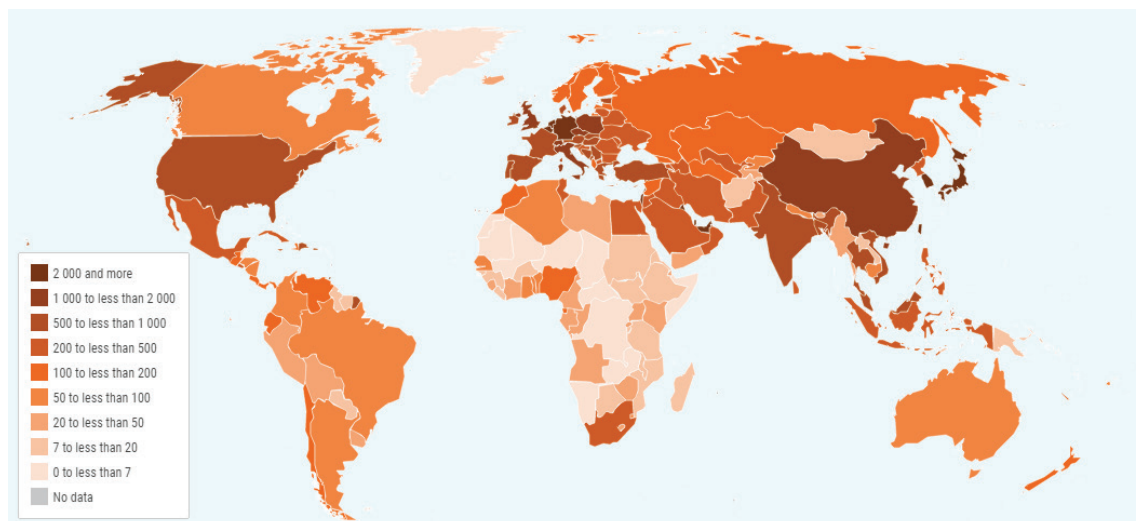
The most prevalent greenhouse gas is CO₂, as figure 1 reveals. It is a gas released through human activities, such as deforestation and burning of fossil fuels, and through natural processes, such as respiration and volcanic eruptions. Around 90 per cent of CO₂ emissions are generated by burning of fossil fuels in the form of coal, oil and natural gas. However, CO₂ concentrations in the atmosphere are also influenced by deforestation and other types of land-cover or land-use change, due to their impact on the land’s potential to absorb or generate CO₂.

In 2018, CO₂ accounted for almost three quarters of total greenhouse gas emissions. Thus, by focusing on CO₂, SDG indicator 9.4.1 helps monitor the largest part, although not the full amount of global greenhouse gas emissions.

The regional concentration of CO₂ emissions varies considerably across the globe. In 2018, half

Map 1

Geographic concentration of carbon dioxide emissions, 2018
(kg/km² per year)



Source: UNCTAD calculations based on UNCTAD (2019) and Crippa et al. (2019).

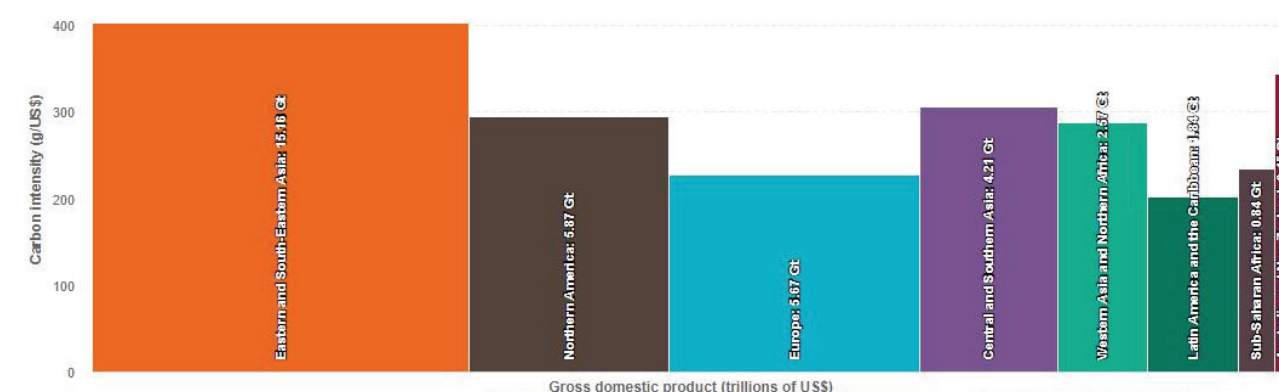
Note: CO₂ emissions from fossil fuel use (combustion, flaring), industrial processes (cement, steel, chemicals and urea) and product use are included. Emissions from fuels burned on ships and aircrafts in international transport are not included.

of the countries in Africa recorded emissions of less than 20 kg/km². In Latin American countries and in Australia, emissions were mainly between 20-100 kg/km². Much higher CO₂ emissions, typically more than 200 kg/km² and sometimes even higher than 2 000 kg/km², were common for countries located in a band that ranges from the United States of America and Central America over to Europe, excluding Iceland and most of Scandinavia, and including the Near East, to Southern, Eastern and South-Eastern Asia. Within that band, particularly high emission levels were recorded in Central Europe and

Eastern Asia. Farther to the North, in Canada, Northern Europe and in Northern and Central Asia, emission levels were lower, usually ranging between 50 and 200 kg/km² on average per country.

As figure 2 shows, three regions of the world emitted most of the CO₂ from fuel combustion, industrial processes and product use: Eastern and South-Eastern Asia (15.2 Gt in 2018), Northern America (5.9 Gt) and Europe (5.7 Gt). Together, they accounted for about 70 per cent of global CO₂ emissions in 2018. While Europe has a larger economy, measured in terms of GDP, than

Figure 2 CO₂ emissions, emissions intensity and GDP, by region, 2018 (SDG 9.4.1)



Source: UNCTAD calculations based on Crippa et al. (2019).

Notes: The area of bars measures CO₂ emissions. Regions are arranged by order of emissions amount. CO₂ emissions from fossil fuel use (combustion, flaring), industrial processes (cement, steel, chemicals and urea) and product use are included. Emissions from fuels burned on ships and aircrafts in international transport are not included. US\$ values are in constant 2011 prices, adjusted to purchasing power parities based to the United States of America. Central and Southern Asia includes developing economies in Oceania.

Northern America, almost one third less emissions were associated with each unit of production in Europe compared to Northern America. Eastern and South-Eastern Asia was characterized by both higher GDP and higher carbon intensity than the other world regions shown in figure 2. They alone emitted 40 per cent of world's emissions.

The least CO₂ emissions per unit of production were caused by the economies of Latin America and the Caribbean. The economies of Sub-Saharan Africa produced only slightly more CO₂ emissions per unit of production than European economies. Sub-Saharan Africa with Latin America and the Caribbean together only contributed 7 per cent of global CO₂ emissions, while Europe contributed 15 per cent. Fuels burned on ships and aircrafts involved in international transport, which cannot be distributed to economies, would add about 3 per cent to global CO₂ emissions (Crippa et al., 2019).

Population growth and rising prosperity drive carbon dioxide emissions

Since 1990, global CO₂ emissions have increased by two thirds: from 22.6 Gt in 1990 to 37.9 Gt in 2018. This translates to almost 1.9 per cent average annual growth. Between 2014 and 2016 CO₂ emissions remained almost constant. Previously, falling emissions were driven by stagnant economies, but this time the global economy grew at around three per cent annual rate during that period. The falling emissions were mainly due to the reduction of emissions in China as a reaction to slowing construction and weaker demand for steel. But improvements in energy efficiency, for instance in the United States of America, as well as the growth of solar and wind energy in many countries also played a role. But from 2017 CO₂ emissions' growth resumed, and by 2018 the annual growth rate had returned to 1.9 per cent (Crippa et al., 2019).

Much of the increase in CO₂ emissions observed over the last decades relates to world population growth and increased consumption per capita, since consumption relies on the production of

goods and services. In fact, CO₂ emissions can be expressed as the product of population size, GDP per capita (GDP/population), and the carbon intensity of production (CO₂/GDP):

An increase in GDP, the product of the first two

$$CO_2 = Population \left[\frac{GDP}{Population} \right] \left[\frac{CO_2}{GDP} \right]$$

factors in the equation above, leads to rising CO₂ emissions, unless carbon intensity, the third factor, decreases at a higher rate than the growth of GDP. Some studies suggest that carbon intensity decreases as a country's level of development rises, to the extent that GDP growth can be offset. This would result in a bell-shaped relationship between GDP and emissions – the so-called “environmental Kuznets curve”. So far, research has provided mixed empirical evidence for the validity of this curve (see Stern, 2004; Victor, 2010; Hoffmeister, 2013; Pacini and Silveira, 2014).

At the global level, real GDP has more than doubled over the last quarter century – from US\$47 trillion in 1990 to US\$121 trillion.¹ This is the result of a 44 per cent increase in the world population (1971: 5.3 billion, 2018: 7.6 billion) and an over two thirds' increase in real GDP per capita (1990: US\$8 966, 2018: US\$15 957) (see figure 3).

Decreasing carbon intensity cannot offset GDP growth in the less developed regions

Global carbon intensity reduced by over one third from 1990 (478 g/US\$) to 2018 (313 g/US\$). Therefore, CO₂ emissions have grown at a slower pace than GDP. This decoupling of CO₂ emissions from GDP has been most significant in Europe, where carbon intensity dropped by more than 50 per cent since 1990, and almost as much in Northern America (-46 per cent).

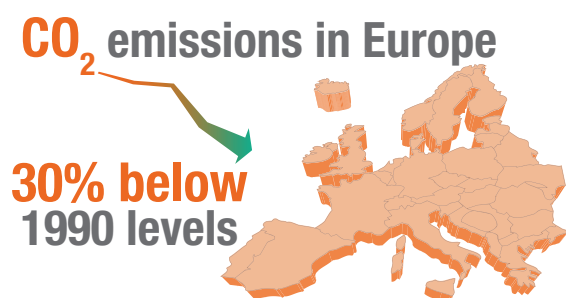
**Carbon intensity of GDP
down one third
since 1990**



Over the past 28 years, carbon intensity has decreased less in regions consisting mainly of developing economies. Eastern and South-Eastern Asia released over three times more CO₂ in 2018 than in 1990 with a drop in their carbon intensity of only 28 per cent. Recently, their carbon intensity has been declining notably. However, the reduction in carbon intensity did not compensate for the extraordinary increase in GDP per capita, and was just enough to offset the population growth.

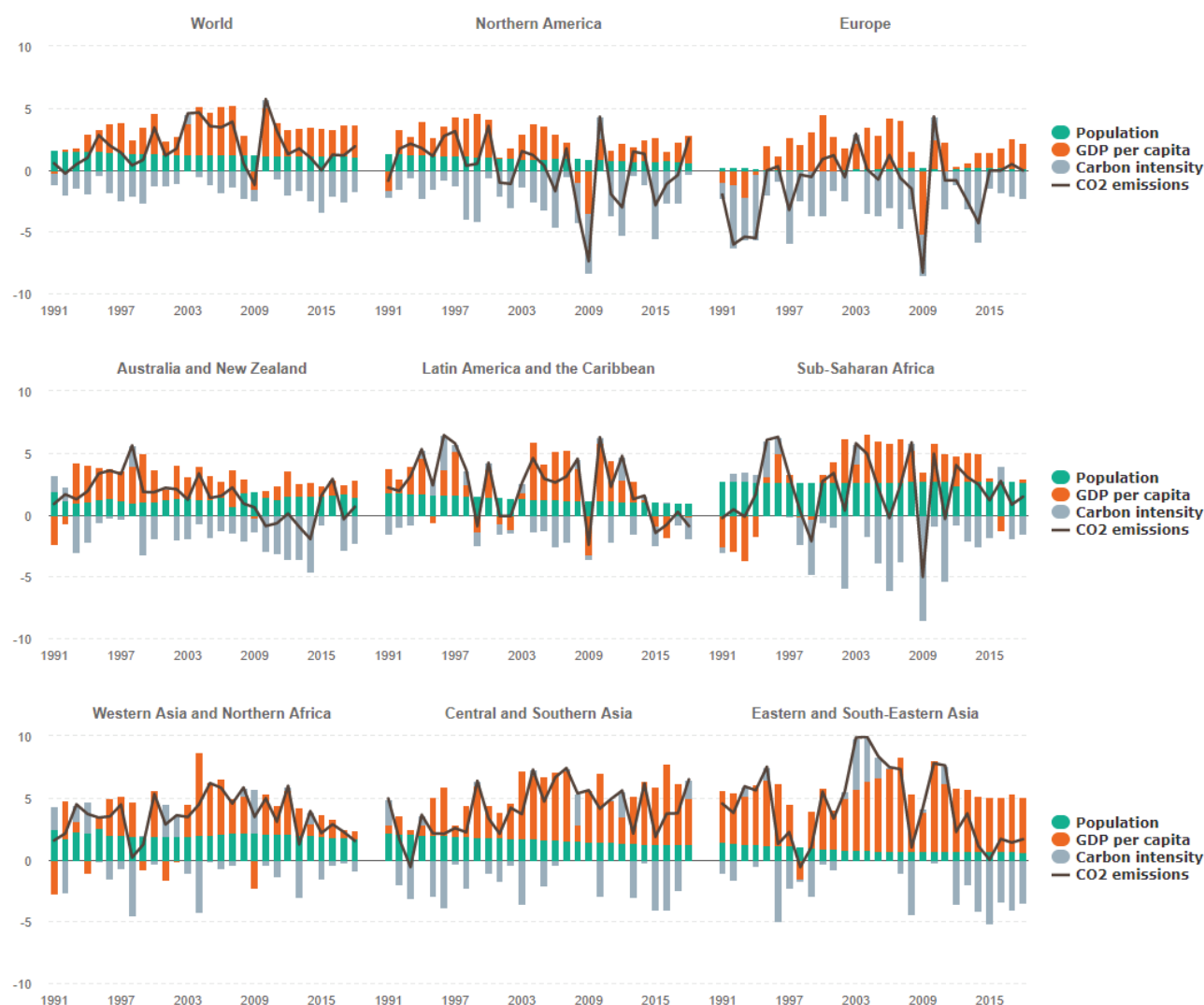
In Sub-Saharan Africa carbon intensity of the economy dropped by about 37 per cent from 1990 to 2018, compared to 10 per cent in Latin America

and the Caribbean. In Australia and New Zealand, carbon intensity decreased by 35 per cent.



Europe is the only region where the overall amount of CO₂ emissions is lower than in 1990, by almost 30 per cent. Northern America is close to 1990 levels, but the remaining regions are well above.

Figure 3 Population, GDP per capita and carbon intensity contributions to CO₂ emissions growth, by region
Growth contribution (per cent)



Source: UNCTAD calculations based on Crippa et al. (2019).

Note: CO₂ emissions from fossil fuel use (combustion, flaring), industrial processes (cement, steel, chemicals and urea) and product use are included. Rates based on US\$ values are in constant 2011 prices, adjusted to purchasing power parities based to the United States of America. Central and Southern Asia includes developing economies in Oceania.

As countries are connected by global value chains and trade relations, the observed growth in carbon intensity of GDP in developing regions may be driven by demand for carbon-intensive final products in other regions. In fact, studies based on inter-country input-output tables prepared by the OECD (2018) find that demand-based CO₂ emissions of developed economies are generally higher than their production-based emissions, while most developing economies are net-exporters of CO₂ emissions embodied in final products (Wiebe and Yamano, 2016). As environmental policy is more stringent in some regions than in others, companies can save production costs by relocating carbon intensive production processes globally, a process described as “carbon leakage” (Lanzi et al., 2013).

Energy demand dropped in early 2020 - an important factor in cutting emissions

Fuels are mostly burned to produce energy. For that reason, CO₂ emissions and energy supply are closely interlinked. According to the IEA (2019), this subcomponent of total CO₂ emissions, i.e. energy-related CO₂ emissions, accounts for two

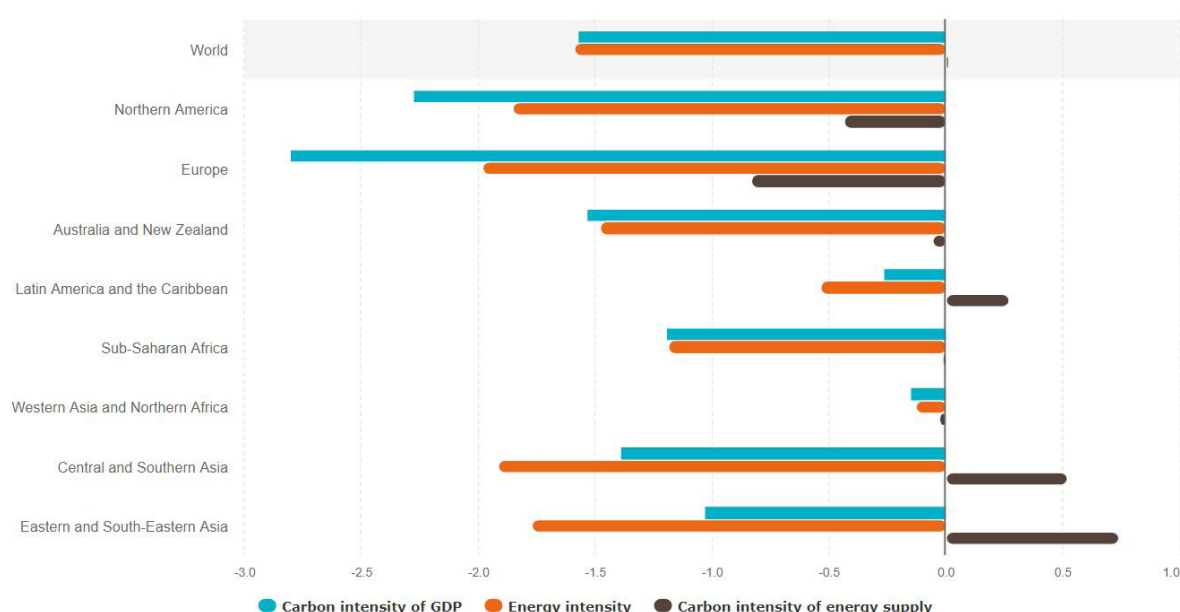
thirds of CO₂ emissions globally. In 2019, energy-related CO₂ emissions flattened at around 33 Gt. During January-March 2020, global energy demand declined by 3.8 per cent (IEA, 2020). This is mainly an impact of the COVID-19 pandemic, but partially also due to warmer winter weather conditions.

Energy is an indispensable input for most processes generating value added in an economy. This means that energy intensity (Energy/GDP) is an important determinant of the carbon intensity of GDP (CO₂/GDP). The other determinant is the carbon intensity of energy supply (CO₂/energy), as the decomposition below reveals:

$$\left[\frac{CO_2}{GDP} \right] = \left[\frac{Energy}{GDP} \right] \left[\frac{CO_2}{Energy} \right]$$

Figure 4 demonstrates the important role of efficient energy use in reducing the carbon intensity of GDP. From 1990 to 2017, energy intensity reduced on average by 1.6 per cent each year. From 2008 to 2017, the reduction was even higher, 1.8 per cent each year. During that time, energy intensity was cut most, by 20 per cent, in Central and Southern Asia and

Figure 4 Changes in energy intensity (SDG 7.3.1) and carbon intensity, by region, 2008-2017
Growth rate (per cent)




Source: UNCTAD calculations based on IEA (2019).

Note: Emissions not caused by fuel combustion are not included. US\$ values are in constant 2010 prices, adjusted to purchasing power parities based to the United States of America. Central and Southern Asia includes developing economies in Oceania.

Eastern and South-Eastern Asia. There, the diminishing energy intensity has been the reason for the decrease of 17 to 19 per cent in the carbon intensity of GDP since 2000. At the same time, carbon intensity of energy supply increased most in these two regions. By contrast, from 2008 to 2017, in Northern America and Europe, the effect of rising energy efficiency has been complemented by significant reductions of 7 to 9 per cent in CO₂ emissions per unit of supplied energy.

**Energy intensity
reducing faster
than before,
almost 2% per year
since 2008**



Soon after the start of 2020, demand for energy fell sharply due to the measures taken against the COVID-19 pandemic around the world. China, hit by COVID-19 first, saw their weekly energy demand fall by 15 per cent, whereas in the Republic of Korea and Japan the estimated impact of COVID-19 measures on energy demand remains below 10 per cent. In Europe, the periods of partial lock down cut weekly energy demand by 17 per cent on average, while countries with a higher share of services and greater stringency of lockdowns saw their energy demand reduce by as much as 25 to 30 per cent. India's full national lockdown reduced their weekly energy demand by almost 30 per cent. Overall, the IEA estimate that for each additional month of restrictions in place as of early April 2020, global annual energy demand would reduce by 1.5 per cent IEA (2020).

The falling demand has been reflected in sinking oil and gas prices. In March 2020, the UNCTAD free market commodity price index for fuels recorded a historic drop of 33.2 per cent month-on-month (UNCTAD, 2020).

The impact of COVID-19 has been especially pronounced on transport. Since the outbreak of the pandemic, people have not been travelling much, and the global number of flights has

collapsed since mid-March. The number of weekly commercial flights available was about 75 per cent lower in the first half of May compared with the start of January 2020 (see Tourism section of Developing economies in international trade).

While air transportation generates about 2 per cent of global emissions, road transportation contributes almost 12 per cent (WRI, 2020). According to the IEA (2020), global average road transport fell to 50 per cent of 2019 levels by the end of March 2020. As a result, global emissions from surface transport fell by 36 per cent by 7 April 2020 which made the largest contribution to the total emissions change (Corinne et al, 2020). Interestingly, by the end of March 2020, port traffic in North America was still at 99 per cent of normal levels, albeit with elevated volatility (Geotab, 2020).

The impact of COVID-19 brought large changes to the global energy mix in spring 2020. While the share of coal declined to below 23 per cent, renewables jumped to almost 13 per cent. Regional differences in weekly energy demand are large and depend on the stringency of COVID-19 measures in each country (IEA, 2020).

These developments have led to notable short-term improvements in air quality, with NO₂ levels, a gas emitted from burning fossil fuels for transportation and electricity generation, dropping recently. First, in some areas of China, NO₂ concentrations dropped by 40 per cent from 2019 levels in January-February 2020. In March 2020, a 30 per cent drop was recorded in the North Eastern part of the United States of America, and the NO₂ levels halved in Europe by April 2020 (Carbon Brief, 2020; NASA, 2020; European Data Portal, 2020; CCSA, 2020).

A mixture of positive and negative trends – what will prevail?

Climate change continues to be a development issue, demonstrated particularly by the trends in Asia, where CO₂ emissions have dramatically increased in tandem with the rapid growth of GDP per capita over the last decades. Only

decreasing energy intensity has limited the growth of CO₂ emissions in that region. This is a sobering message, considering the urgent need to limit the concentration of greenhouse gases in the atmosphere. At the same time, some statistics give hope: in most developed regions, CO₂ emissions have been diminishing for more than ten years, despite continuous GDP growth. This provides signs that a decoupling of emissions from the economic development is feasible.

The outbreak of COVID-19 has brought about an unexpected sudden deviation from many long-term trends, leading to an unprecedented fall of greenhouse gas emissions in early 2020 and a faster shift to renewable energy sources. However, these changes may be temporary. Even if COVID-19 has induced fast reductions of CO₂ emissions in 2020, it will not be enough in the fight against climate change. More effective and lasting efforts are needed to reduce CO₂ emissions and other greenhouse gases to limit global warming below 2°C or especially below the 1.5°C target by 2100. As populations and GDP per capita continue to grow, a drastic reduction in carbon intensity will be required. Rising energy efficiency serves as an important step in that direction, as well as renewable and cleaner energy.

Involving the private sector in the sustainable development agenda

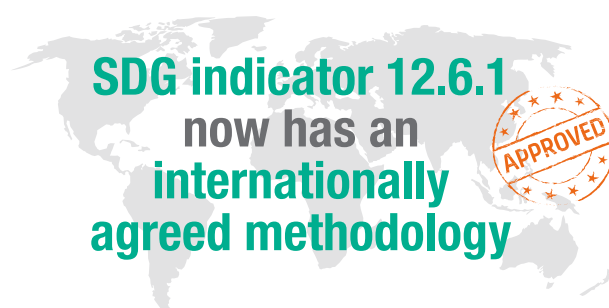
The business sector is identified in the Addis Ababa Action Agenda as a significant player in the financing of sustainable development (United Nations, 2015). Their actions contribute directly or indirectly to the attainment of all SDGs, including the state of the environment and greenhouse gas emissions. Nonetheless, the business sector is mostly absent from the SDG targets and is explicitly mentioned in only one of them: target 12.6, which calls for a greater integration of sustainability information in the regular reporting cycle of firms.

To advance the measurement of target 12.6, international organizations, standard setting agencies and businesses launched an initiative to develop a commonly agreed upon and harmonized



set of indicators for reporting on sustainable development in the business sector. More comprehensive reporting is important for making companies' contribution to the 2030 Agenda visible and for encouraging them to review how their operations affect their stakeholders and the environment. Sustainability reporting promotes transparency in the business sector and increases business accountability to society.

SDG indicator 12.6.1 aims to measure the number of companies that publish sustainability reports. Developing consistent reporting on the indicator requires aligning multiple reporting frameworks, including the International Integrated Reporting Council (IIRC, 2013) framework, the Global Reporting Initiative (GRI, 2019) standards, the standards proposed by the Sustainability Accounting Standards Board (SASB, 2018), and the UNCTAD (2018) Guidance on Core Indicators.²



To this end, UNCTAD and UNEP, as joint custodians of SDG indicator 12.6.1, identified four themes for sustainability reporting: economic, environmental, social and institutional and governance. As a “minimum reporting requirement”, only reports that cover certain elements in a meaningful way will be counted as sustainability reports for the SDG indicator. To further strengthen sustainable practices and accountability, the agencies also identified an

“advanced reporting requirement” with more comprehensive reporting rules.

In August 2019, the IAEG-SDGs approved the concepts and methods developed by UNCTAD and UNEP, and data collection for the indicator began. The framework does not add new reporting requirements, instead it suggests a way to reconcile the existing frameworks. UNCTAD and UNEP have also prepared correspondence tables so that firms choosing to report according to different standards can be assessed against the SDG indicator 12.6.1.

Businesses striving to close large gaps in sustainability reporting

UNCTAD regularly convenes a Group of Experts on ISAR to discuss international accounting and reporting standards in order to improve the availability, reliability and comparability of financial and non-financial enterprise reporting, and especially to integrate sustainability information into business reporting.

Official statistics for SDG 12.6.1 are not yet available as companies are setting up the new sustainability reporting. However, an initial review is possible by looking at company sustainability reports published by the United Nations Global Compact and assessing their alignment with the minimum requirements for SDG indicator 12.6.1 and the related UNCTAD Guidance (UNCTAD,

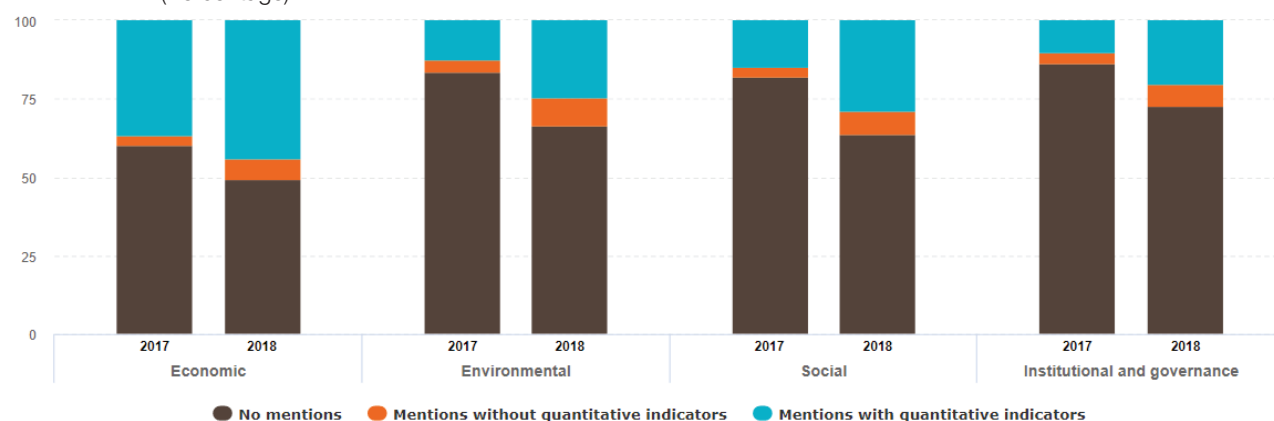
2018). The UN Global Compact database compiles CoP reports submitted voluntarily by companies.

In March 2020, the database contained sustainability reports for 2018 prepared by over 10,000 companies in over 160 countries. The increase in reporting is substantive as compared to March 2019, when the database included under 3,000 sustainability reports for 2017 by companies in 111 countries. Although this is a collection of voluntary reports and not representative of the world population of firms, the exercise still provides a first glimpse of current sustainability reporting practices and reveals some regional patterns.

Studying every single report would be time consuming. Instead, machine learning and natural language processing techniques have been used to analyse text syntax structures in the CoPs and identify keywords based on the 33 core elements listed in the UNCTAD Guidance, organised according to the four themes.³ Every report then received a score for each of the indicators: 0 if there was no mention of the indicator; 1 if the indicator was mentioned but with no quantitative information; or 2 if the report covered the indicator including quantitative information.⁴

Figure 5 shows the estimates from this exercise for 33 UNCTAD Core Indicators by theme, and the notable change in the coverage of indicators in 2018 reports when compared to the previous

Figure 5 Compliance of sustainability reporting in line with UNCTAD Core Indicators, by theme (Percentage)



Source: Global AI Corporation with data from United Nations Global Compact (2019) and UNCTAD (2018).

round. Basic economic indicators (revenue, value added and net value added) were routinely made available as well as “traditional” resource-related environmental measures (water use and energy efficiency). Apart from that, there were large gaps in all four themes of sustainability reporting. Most disclosure elements, except in the economic domain, were hardly reported at all.

Figure 6 aggregates this information by region. The results should be interpreted with caution, however, due to the large gaps in some regions. Still, they can be taken as an indication of the regional differences in voluntary reporting. It appears that in certain regions, such as, the Americas, Asia and Europe, firms demonstrate a higher compliance with the UNCTAD Guidance than in others. Larger gaps in reporting of some regions are evident, especially in Africa and the Oceania.

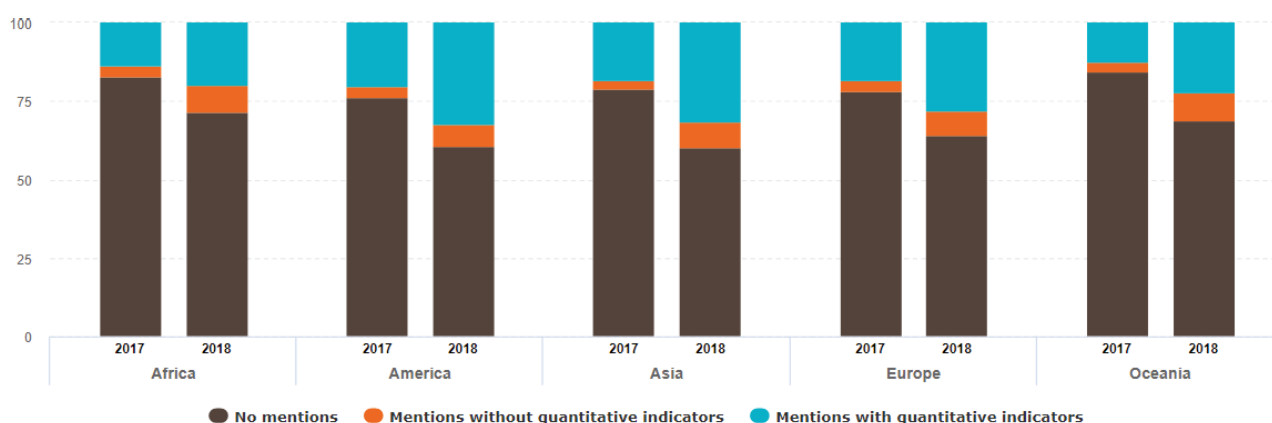
The regions of America, Asia and Oceania demonstrated the most significant progress in reporting on 12.6.1 with the growth in the number of reports of more than 60 per cent in just one year. The overall quality of sustainability reports has improved across the world since the 2017 round of reports, especially in the environmental, social as well institutional and governance dimensions, where the ratio of reporting aligned with the minimum requirements almost doubled in these regions.

Company reports in the Americas, Asia and Europe better aligned with SDG 12.6.1



All in all, the 2030 Agenda has increased sustainability reporting among businesses and led to closer engagement of international organizations and businesses to develop a commonly agreed upon and harmonized set of indicators. The coming years will show if sustainability reporting will be used by an increasing number of firms to demonstrate commitment to sustainable development.

Figure 6 Compliance of sustainability reporting in line with UNCTAD Core Indicators, by region
(Percentage)



Source: Global AI Corporation with data from United Nations Global Compact (2019) and UNCTAD (2018).

Notes

- 1 In constant 2011 prices adjusted to purchasing power parity based to the United States of America.
- 2 The Guidance on Core Indicators, developed by UNCTAD upon request by the 34th session of the Intergovernmental Working Group of Experts on ISAR, lists the main elements for entity reporting to monitor company-level contributions towards SDGs (UNCTAD, 2018).
- 3 Additional complexity is caused by the fact that the CoPs are reported in over 20 different languages and in different formats. Therefore, the algorithms use multiple data cleaning, noise reduction and filtering methods to better identify relevant content for each indicator.
- 4 The calculations were performed by Global AI Corporation, based mainly on CoPs available in United Nations Global Compact. However, some reports were obtained directly from companies' websites, and other sources were used in some cases for additional data on revenue, value added and net value added.

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UNCTAD IN ACTION

UNCTAD technical cooperation in support of SDGs

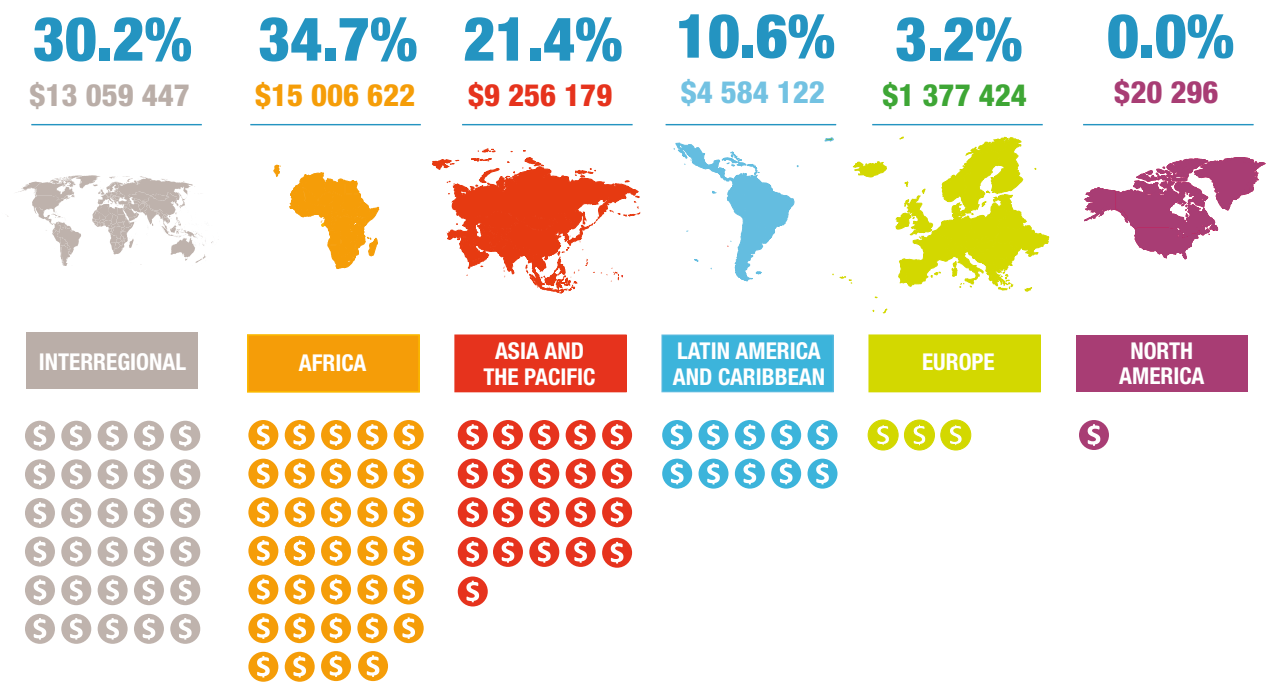


UNCTAD technical cooperation in support of SDGs

UNCTAD gears its technical cooperation towards contributing to the achievement of the 2030 Agenda. UNCTAD’s technical cooperation projects are delivered at an interregional, regional and country level (see figure 1).

The UNCTAD Toolbox (UNCTAD, 2015) has been developed to better align technical cooperation with the SDGs. See table 1 for a mapping of UNCTAD technical cooperation to SDGs by theme and product.

Figure 1 Distribution of project expenditures by region, 2019



Source: UNCTAD (2020).

Table 1 UNCTAD technical cooperation, by theme and product

<i>Cluster</i>	<i>Theme</i>	<i>Product</i>	<i>SDGs</i>
	A	Transforming economies, fostering sustainable development	
VII	A1	Investment policy reviews	1, 8, 10, 17
I	A2	Services policy reviews	8, 9, 17
I	A3	Trade Policy Framework Reviews	17
XV	A4	Science, Technology and Innovation Policy Reviews	9
XIII	A5	E-commerce and the Digital Economy	8, 9, 17
VIII	A6	Investment Guides	9, 17
II	A7	Non-tariff Measures	3, 8, 17
I	A9	Trade Negotiations and the International Trading System	10, 17
III	A10	Sustainable Trade and the Environment	12, 13, 14, 15
VIII	A11	Investment Promotion and Facilitation	9, 17
All	A99	Other	
	B	Tackling vulnerabilities, building resilience	
XVI	B1	Support to Graduation from Least Developed Country Status	8
XI	B2	DMFAS - Debt Management and Financial Analysis System	17
XVII	B4	UNCTAD Contribution to the Enhanced Integrated Framework	9, 17
XVII	B5	Market Access, Rules of Origin and Geographical Indications for the Least Developed Countries	8, 10, 17
V	B6	Breaking the Chains of Commodity Dependence	8, 9
XII	B9	Sustainable and Resilient Transport and Logistic Services	8, 9, 13, 14
X	B93	Assistance to the Palestinian People	17
All	B99	Other	
	C	Fostering economic efficiency, improving governance	
IV	C1	Voluntary Peer Reviews of Competition and Consumer Protection Laws and Policies	8, 10
IV	C10	Competition and Consumer Protection Policies and Frameworks	8, 9, 10, 12, 17
VIII	C2	Business Facilitation	8, 16
XII	C3	Trade Facilitation	10, 16
XII	C4	ASYCUDA – Automated System for Customs Data	9, 15, 17
X	C5	Statistics	17
IX	C7	Enabling Accounting and Reporting on the Private Sector's Contribution to the SDG Implementation	12, 17
VI	C8	Investment and Public Health	3, 9
VII	C9	International Investment Agreements	17
IX	C96	Corporate Social Responsibility - the Sustainable Stock Exchanges Initiative	12
All	C99	Other	
	D	Empowering people, investing in their future	
II	D1	Trade, Gender and Development	5, 8
IX	D3	Entrepreneurship for Sustainable Development	4, 8
XIV	D6	Train For Trade	8, 9, 14, 17
X	D94	The Virtual Institute	17
XIV	D95	Course on Key issues on the International Economic Agenda - paragraph 166	17
All	D99	Other	
All	E	Other	

Source: UNCTAD (forthcoming).

The UNCTAD toolbox currently features 28 technical cooperation projects, categorized into four overarching themes. In 2019, 227 projects, spread across 57 countries, and accounting for US\$43.3 million were undertaken (see table 2).

UNCTAD technical cooperation expenditure has been mapped to the SDGs, allowing readers to understand how each theme contributes to each SDG. Activities are also cross-classified by region to see where technical cooperation expenditure by SDG has occurred (see tables 2 and 3).

This year's edition of the SDG Pulse features three new case studies. One provides a detailed overview of one of UNCTAD's technical capacity projects – Trade Facilitation. Two other case studies have also been added, but these do not focus on technical capacity but on other activities that form important elements of UNCTAD's contribution to the SDGs: the UNCTAD research paper series and an overview of meetings hosted by UNCTAD in Geneva. Three other projects are also presented since SDG Pulse 2019, TrainForTrade, DMFAS and EMPRETEC training programme for entrepreneurs.¹ Together these products accounted for approximately 14 per cent of total technical capacity expenditure in 2018. The case studies presented provide results-based management type statistics, illustrating both the activities of these programmes and their impacts in support of sustainable development.

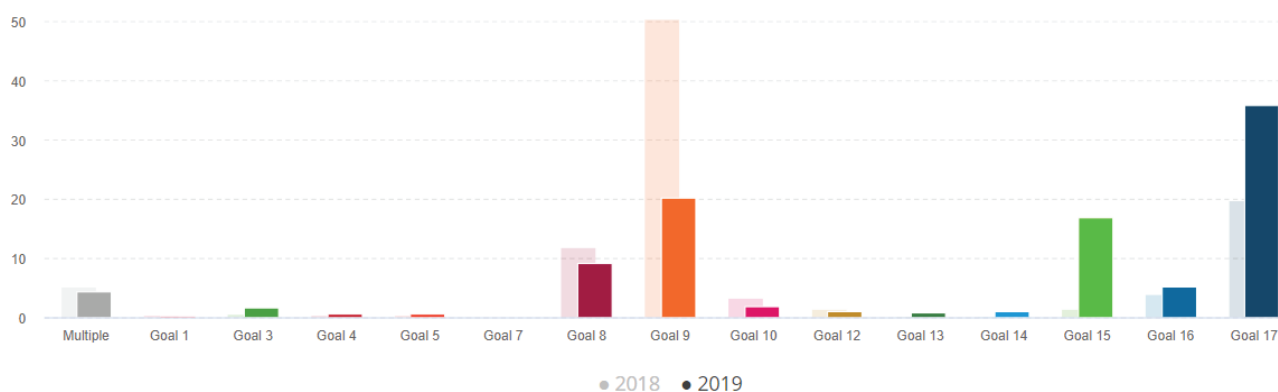
Notes

- 1 TrainForTrade and DMFAS map to product D6 and B2 of table 1. Empretec is part of product D3 and Trade Facilitation part of product C3.

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Figure 2 Percentage distribution of project expenditures by SDG
(In percentage of total expenditure)



Source: UNCTAD (2020).

Table 2 Technical cooperation expenditure by theme, product and SDG, 2019

Theme	Product	Multiple	1	3	4	5	7	8	9	10	12	13	14	15	16	17	Total
US\$ thousands																	
A	Transforming economies, fostering sustainable development	11	-	421	34	-	-	1 499	1 006	100	351	317	265	317	239	1 914	6 475
B	Tackling vulnerabilities, building resilience	391	113	3	3	-	-	569	291	11	3	-	60	-	124	5 535	7 163
C	Fostering economic efficiency, improving governance	46	-	263	21	-	-	1 249	7 308	719	122	6 993	-	6 993	1 898	7 875	26 493
D	Empowering people, investing in their future	41	-	3	202	248	-	622	174	-	3	-	171	-	3	273	1 740
E	Others	1 434	-	-	-	-	-	-	-	-	478	-	-	-	-	-	1 434
		1 924	113	690	260	248	57	3 940	8 778	830	595	7 310	496	7 310	2 264	15 597	43 304
Percentage																	
A	Transforming economies, fostering sustainable development	0.0	-	1.0	0.1	-	-	3.5	2.3	0.2	0.8	0.7	0.6	0.7	0.6	4.4	15.0
B	Tackling vulnerabilities, building resilience	0.9	0.3	0.0	0.0	-	-	1.3	0.7	0.0	0.0	0.1	0.1	-	0.3	12.8	16.5
C	Fostering economic efficiency, improving governance	0.1	-	0.6	0.0	-	-	2.9	16.9	1.7	0.3	-	-	16.1	4.4	18.2	61.2
D	Empowering people, investing in their future	0.1	-	0.0	0.5	0.6	-	1.4	0.4	-	0.0	-	0.4	-	0.0	0.6	4.0
E	Others	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3
		4.4	0.3	1.6	0.6	0.6	-	9.1	20.3	1.9	1.1	0.9	1.1	16.9	5.2	36.0	100.0

Source: UNCTAD (forthcoming).

Notes: "Multiple" means that some technical cooperation cannot be mapped to a single SDG.

Table 3 Technical cooperation expenditure by region and SDG, 2019

Region	Multiple	1	3	4	5	7	8	9	10	12	13	14	15	16	17	Total
US\$ thousands																
Africa	402	67	409	159	140	-	1 490	3 369	229	80	53	53	2 766	738	5 053	15 007
Asia & Pacific	-	34	141	6	60	-	669	2 359	106	57	52	30	2 181	297	3 264	9 256
Latin America & Caribbean	-	-	9	-	-	-	33	1 421	9	57	28	35	1 306	38	1 649	4 584
Europe	-	-	-	-	-	-	29	440	-	-	-	-	440	29	440	1 377
North America	-	-	-	-	-	-	-	7	-	-	-	-	7	-	7	20
Interregional	1 522	13	130	95	49	-	1 718	1 182	486	285	244	379	611	1 162	5 184	13 059
Total	1 924	113	690	260	248	-	3 940	8 778	830	478	377	496	7 310	2 264	15 597	43 304
Percentage																
Africa	0.9	0.2	0.9	0.4	0.3	-	3.4	7.8	0.5	0.2	0.1	0.1	6.4	1.7	11.7	34.7
Asia & Pacific	-	0.1	0.3	0.0	0.1	-	1.5	5.4	0.2	0.1	0.1	0.1	5.0	0.7	7.5	21.4
Latin America & Caribbean	-	-	0.0	-	-	-	0.1	3.3	0.0	0.1	0.1	0.1	3.0	0.1	3.8	10.6
Europe	-	-	-	-	-	-	0.1	1.0	-	-	-	-	1.0	0.1	1.0	3.2
North America	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	0.0	0.0
Interregional	3.5	0.0	0.3	0.2	0.1	-	4.0	2.7	1.1	0.7	0.6	0.9	1.4	2.7	12.0	30.2
Total	4.4	0.3	1.6	0.6	0.6	-	9.1	20.3	1.9	1.1	0.9	1.1	16.9	5.2	36.0	100.0

Source: UNCTAD (forthcoming).**Notes:** "Multiple" means that some technical cooperation cannot be mapped to a single SDG.

Table 4 Technical cooperation expenditure by theme, product and region, 2019

Theme	Product	SDGs	Africa	Asia & Pacific	Latin America & Caribbean	Europe	North America	Inter Regional	Total
US\$ thousands									
A	Transforming economies, fostering sustainable development	1, 3, 8, 9, 10, 12, 13, 14, 15, 17	1 595	1 093	316	-	-	3 470	6 475
B	Tackling vulnerabilities, building resilience	8, 9, 10, 13, 14, 17	2 061	1 039	325	-	-	3 738	7 163
C	Fostering economic efficiency, improving governance	3, 8, 9, 10, 12, 15, 16, 17	10 781	6 882	3 916	1 377	20	3 516	26 493
D	Empowering people, investing in their future	4, 5, 8, 9, 14, 17	569	242	27	-	-	902	1 740
E	Other		-	-	-	-	-	1 434	1 434
Total			15 007	9 256	4 584	1 377	20	13 059	43 304
Percentage									
A	Transforming economies, fostering sustainable development	1, 3, 8, 9, 10, 12, 13, 14, 15, 17	3.7	2.5	0.7	-	-	8.0	15.0
B	Tackling vulnerabilities, building resilience	8, 9, 10, 13, 14, 17	4.8	2.4	0.8	-	-	8.6	16.5
C	Fostering economic efficiency, improving governance	3, 8, 9, 10, 12, 15, 16, 17	24.9	15.9	9.0	3.2	0.0	8.1	61.2
D	Empowering people, investing in their future	4, 5, 8, 9, 14, 17	1.3	0.6	0.1	-	-	2.1	4.0
E	Other		-	-	-	-	-	3.3	3.3
Total			34.7	21.4	10.6	3.2	0.0	30.2	100.0

Source: UNCTAD (forthcoming).



UNCTAD EMPOWERMENT PROGRAMME

for National Trade Facilitation Committees



I. Trade facilitation – making trade easier and faster

SGD 10: Reduce inequality within and among countries.

- 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

SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

- Target 16.6: Develop effective, accountable and transparent institutions at all levels

SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

- 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
- 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

Key messages

- Since 2016, 34 countries have completed the Empowerment Programme.
- 94% of countries apply the knowledge acquired
- 76% of participating countries send notification for 2017 WTO Trade Facilitation Agreement.

Administrative hurdles and cumbersome border procedures can account for 75 per cent of all delays to shipments. The main objective of trade facilitation is to reduce the complexities and costs associated with lengthy border procedures and controls, while maintaining efficient compliance controls. Trade facilitation contributes to the achievement of the 2030 Agenda, in particular to the integration of developing countries to global trade, tackling trade barriers and improving the efficiency of trade by reducing delays and transaction costs.

To facilitate the implementation of the technical and institutional obligations arising from the 2017 WTO TFA, the UNCTAD Trade Facilitation Programme UNCTAD (2020a) improves trade processes and competitiveness of developing countries, including economies in transition, LDCs, LLDCs and SIDS. The programme aims to support trade facilitation reforms and countries' capacity to comply with related international and regional rules and standards, including WTO commitments.

“I have learned so much in this programme. Now, I think of trade facilitation in a different way. I understand better all the things that the Sudan can do and how important it is to mainstream trade facilitation in its development policy.”

— Mohammed Adam, rapporteur of Sudan NTFC

Supporting national trade facilitation committees

By providing intensive professional training - via the Empowerment Programme for National Trade Facilitation Committees – UNCTAD helps committees fulfil their mandate and implement, in a coordinated manner, trade facilitation reforms, including the provisions of the Agreement on Trade Facilitation, and monitor implementation. UNCTAD also supplies technical assistance, including: tailored training in trade, transit and transport facilitation¹; advisory services on ratification of the Agreement; and assistance in the creation and sustainable operation of national trade facilitation committees.

The UNCTAD Trade Facilitation Programme assists developing countries with the implementation of trade facilitation measures, such as needs assessments and development of national trade facilitation and project plans. UNCTAD capacity building and advisory services help countries to monitor and evaluate trade facilitation initiatives, establish legal frameworks for trade-related single windows, simplify trade procedures and train national transit coordinators. UNCTAD also supports regional trade facilitation initiatives.

The effectiveness of the programme stems from strong cooperation not only with external partners such as the World Customs Organization and the International Trade Centre, but also with other experts within UNCTAD, working at the crossroads of trade facilitation with customs automation and e-commerce or non-tariff measures.

Trade facilitation – has assisted 56 countries since 2016

Since 2016, UNCTAD has developed capacity in 56 countries around the world to improve their trade facilitation. Of these, 34 countries were in Africa, 10 in Latin America and the Caribbean and 12 in Asia and Oceania. In total, 21 countries were SIDS and 17 LLDCs (see Map 1). 60 per cent of capacity development was done in English, 35

per cent in French, and 5 per cent in Portuguese.

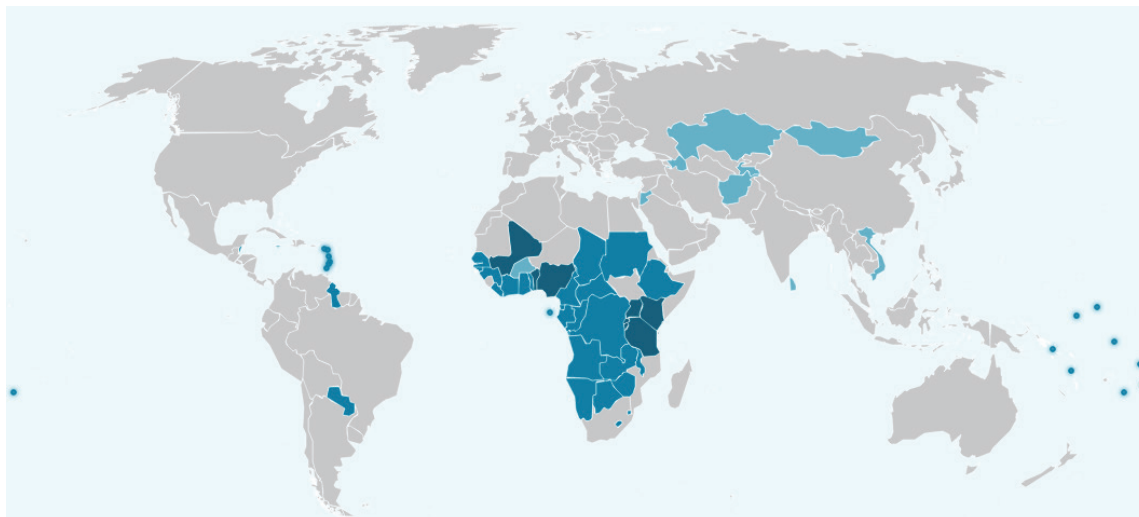
Of those 56 countries, 45 are WTO Members. 89 per cent of them have ratified the WTO trade facilitation agreement and 96 per cent have notified to the WTO Committee on Trade Facilitation their category A, B and C provisions.

The UNCTAD Trade Facilitation Programme builds on the cooperation with other related UNCTAD technical assistance programmes, such as the UNCTAD ASYCUDA , which is used by the Customs administrations of over 90 countries, and UNCTAD Trade Portals. These programmes are key instruments for the implementation of various provisions of the WTO TFA.

UNCTAD Empowerment Programme

The UNCTAD Empowerment Programme (UNCTAD, 2020b), as part of the wider Trade Facilitation programme, provides an intensive professional programme for NTFCs. The main objective is to help them implement trade facilitation reforms in a coordinated manner, including the provisions of the WTO FTA. This programme is undertaken in cooperation with a number of partners, including the ITC, Deutsche Gesellschaft für Internationale Zusammenarbeit, UNECE, UNIDO, World Bank Group, World Customs Organization and the WTO.

Map 1 Countries receiving UNCTAD trade facilitation support in the empowerment programme (4 categories)



Source: UNCTAD (2020).

Table 1 UNCTAD technical cooperation, by theme and product

Year	Number of				Per cent			
	Countries	Participants	Events	Languages	Female participation	NTFC Members participation	Participants sitting exams	Participants passed exams
2016	3	291	9	1	45	43	96	94
2017	14	1 162	30	3	29	69	71	84
2018	12	402	18	3	45	54	74	96
2019	12	636	35	1	52	61	78	91
2016-2019	34	2 491	92	3	42	57	80	91

Source: UNCTAD, based on answers received to an UNCTAD survey circulated from July to September 2019.

Almost 2,500 participants trained since 2016

Since 2016, the Empowerment Programme has trained almost 2,500 people in 34 countries. Of these, 24 countries completed the full empowerment programme and 10 received other support to their NTFCs. 26 countries are African, and eight were from Latin America and the Caribbean (see Map 1). On average female participation was 42 per cent, but this ranged from as high as 73 per cent in some countries to no female participation in one country. 19 per cent of participants were from the private sector and 81 per cent from the public. Members of the NTFCs accounted for 57 per cent of course participants on average. 80 per cent of participants sat the exams, with 91 per cent of those successfully passing. In 2020, a further eight countries in Africa began receiving support.

34 Since 2016,
34 countries
have completed the
Empowerment Programme

Empowerment programme supports NTFCs

UNCTAD evaluates the training by collecting feedback from participants. According to this feedback, 94 per cent of respondents reported using the knowledge acquired during training. 87 per cent reported improved knowledge of trade facilitation, and 78 per cent felt they were in a better position to support their NTFCs.



94% of countries
apply the
knowledge
acquired

“The knowledge shared by the resource experts has encouraged greatly the inter-agency collaboration in Nigeria to enhance trade and reduce time as well as cost of imports and exports”

— Austin Oko Opiege, Member of Nigeria NTFC

Table 2 Feedback on training

Year	Improved knowledge of trade facilitation	Improved specific knowledge	Taking exams helped	Practical Exercises helped	Participants better able to support NTFC
2016	85	82	66	84	75
2017	79	76	43	72	70
2018	88	85	51	69	78
2019	97	95	63	95	90
2016-2019	87	84	56	80	78

Source: UNCTAD, based on answers received to an UNCTAD survey circulated from July to September 2019..

All countries make changes after training

All 34 countries reported making changes during and after taking the UNCTAD Empowerment Programme. 10 countries introduced supporting legislation, 20 drafted terms of reference, 20 prepared trade facilitation roadmaps and 26 issued notifications in preparation for the WTO TFA.

The feedback shows that the Empowerment Programme has helped countries prepare for the WTO trade facilitation negotiations and for the Agreement itself. Today, according to data gathered in the UNCTAD Repository for NTFCs (UNCTAD, 2020c), 103 countries have established NTFCs. 29 of these committees have only been established since 2016.

76% of participating countries send notification for 2017 WTO Trade Facilitation Agreement

In 2019, UNCTAD launched a series of online courses which recapitulate some of the key lessons of the Empowerment Programme. Since their launch in September 2019, up to March 2020, the online courses had registered 3,500 users, who have benefited from over 1,000 training hours. During 2020, UNCTAD plans to make these courses available additionally in French and Portuguese.

“The courses show that trade facilitation is much more than just the Trade Facilitation Agreement, in that they also help to put the Agreement into a broader perspective by addressing the intricate interplay of the various provisions with commerce and the wider sustainable development agenda.”

— Ricky Jnbaptiste, Attaché, Mission of the Organisation of Eastern Caribbean States in Geneva

Outcomes

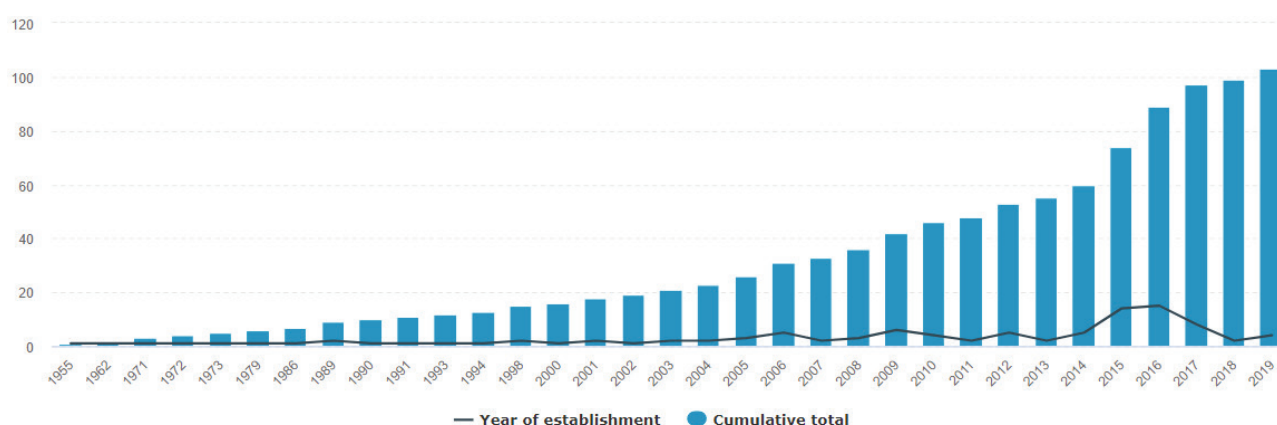
UNCTAD’s approach to supporting NTFCs in developing economies, including LDCs, seems to be working. This is reflected in the results of a survey undertaken during the summer of 2019, where countries benefitting from the Empowerment Programme reported being more optimistic about the sustainability of their Committees. On a scale of 0 to 100, LDCs that have been supported by UNCTAD rated the sustainability of their Committees at 63, compared to 50 for those committees that were not assisted by UNCTAD.

Table 3 Number of countries implementing changes (4 categories)

	Countries implementing changes	Types of changes implemented							
		Legislation	ToRs	Project proposal	Roadmap	Knowledge transfert strategies	Repository Case	NTFC workplans	Notification to WTO TFA
2016	3	1	2	1	1	1	2	2	0
2017	14	2	5	4	3	9	2	10	5
2018	12	3	6	2	3	3	5	5	0
2019	12	4	7	7	6	0	7	9	4
2016-2019	34	10	20	14	13	13	16	26	9

Source: UNCTAD, based on answers received to an UNCTAD survey circulated from July to September 2019.

Figure 1 Year of establishment and cumulative number of NTFC



Source: UNCTAD (2020c).

Notes

- 1 For more information, please see UNCTAD transport and trade facilitation newsletter (UNCTAD, 2020d).

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II. Adding to the sum of knowledge with research on trade and sustainable development

Key messages

- Almost 86,000 research papers downloaded since July 2017
- Most UNCTAD research papers focus on SDG 17

In July 2017, UNCTAD launched a new research paper series (UNCTAD, 2020). Since that time, 41 research papers have been published, which have been downloaded almost 86,000 times. This chapter provides a brief statistical overview of this series.

The papers cover a wide variety of topics, ranging from Brexit, to digital platforms, to fishery subsidies. For the purposes of this analysis, the research papers have been categorized into seven

broad themes (see table 1). This is of course a simplification, as most papers deal with several complex themes simultaneously.

“Research is to see what everybody else has seen, and to think what nobody else has thought.”

— Albert Szent-Gyorgyi

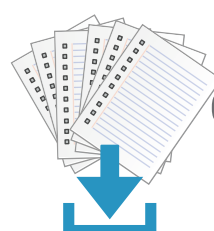
Table 1 Number of research papers published, by broad theme

Year of publication	Broad theme							Total
	Trade	Development / SDGs	Digital	Finance	Competition	Climate change	Industrialisation	
Jan - Mar 2020	2	0	-	-	1	-	-	3
2019	7	2	0	2	-	-	-	11
2018	7	2	1	1	-	1	-	12
July - Dec 2017	8	3	2	1	-	-	1	15
Total	24	7	3	4	1	1	1	41

Source: UNCTAD calculations based on data from UNCTAD (2020).

Trade related papers accounted for almost 60 per cent of all research papers published. They cover a rich variety of topics including tariffs, non-tariff measures, subsidies, gender-in-trade, global gender indices, nowcasting trade, development status, free trade agreements and value chains. Sustainable development, which included papers dealing with the political economy of SDG measurement, the digital and infrastructural divide, Big Data, enterprise contribution to SDGs and inclusive development, accounted for a further 17 per cent.

Since the series was launched in July 2017, almost 86,000 papers have been downloaded.



**Research papers
downloaded almost
86 000 times
since July 2017**

Unsurprisingly, trade-related papers account for the bulk of these (70 per cent) – see table 2.

Table 2 shows that downloads have been steadily increasing, from less than 2,000 in the first year (2017), to almost 44,000 two years later.

Table 2 Number of downloads by year of publication, year of download

Year	Number of downloads							Total
	Trade	Development / SDGs	Digital	Finance	Competition	Climate change	Industrialisation	
Per year of publication								
Jan - Mar 2020	2 420	-	-	-	853	-	-	3 273
2019	24 752	1 945	-	1 429	-	-	-	28 126
2018	9 559	2 218	2 259	441	-	4 110	-	18 587
July - Dec 2017	23 091	5 900	4 047	701	-	-	2 167	35 906
Total	59 822	10 063	6 306	2 571	853	4 110	2 167	85 892
Per year of download								
Jan - Mar 2020	14 019	1 117	930	357	853	795	145	18 216
2019	31 698	4 278	3 915	1 525	-	1 669	812	43 897
2018	13 521	3 724	1 461	689	-	1 646	923	21 964
July - Dec 2017	584	944	-	-	-	-	287	1 815
Total	59 822	10 063	6 306	2 571	853	4 110	2 167	85 892

Source: UNCTAD calculations based on data from UNCTAD (2020).

Figure 1 Publication downloads per month
(Thousands)



Source: UNCTAD calculations based on data from UNCTAD (2020).

The monthly UNCTAD research papers views are illustrated in figure 1. The total number of downloads has steadily increased since 2019, reaching more than 10 thousand in November 2019.

The three most downloaded research papers are:

- 16,423 downloads: African Continental Free Trade Area: Challenges and Opportunities of Tariff Reductions (Saygili et al., 2017).
- 13,776 downloads: Trade and trade diversion effects of United States tariffs on China (Nicita, 2019).
- 6,114 downloads: Brexit. Implications for Developing Countries (Nicita et al., 2019).

These three papers account for more than 36,000 downloads, or 42 per cent of all UNCTAD research papers downloaded.

Most UNCTAD research papers focus on SDG 17



Table 3 shows the number of research papers by division. In cases where a paper was co-authored by an UNCTAD staff member and an external author, that paper was classified to the division of the UNCTAD staff member. In cases where no UNCTAD staff were authors, papers were classified as 'external'. Given the prominence of trade related papers, it is not surprising that DITC accounted for more than 40 per cent of papers published.

Table 3 Number of research papers by UNCTAD Division

Year of publication	UNCTAD divisions					External	All
	ALDC	DGDS	DIAE	DITC	DTL		
Jan - Mar 2020	-	-	-	3	-	-	3
2019	-	6	-	5	-	-	11
2018	2	4	1	4	1	-	12
July - Dec 2017	5	1	-	5	1	3	15
Total	7	11	1	17	2	3	41

Source: UNCTAD calculations based on data from UNCTAD (2020).

The research papers have been coded to SDGs. As with theme classification, this is necessarily a simplification, as several papers deal with more than one SDG. In table 4, some papers are classified to two SDG goals, hence the total of 52 rather than 41. The importance of goals 9, 10 and 17 is evident.

It is important to note that research papers are only one of the release channels employed by UNCTAD. A number of flagship reports, publications, policy briefs, conference documents and news articles have also been published on topics relevant for sustainable development.

Table 4 Number of research papers by SDG

Year of publication	SGD								All
	1	5	8	9	10	13	14	17	
Jan - Mar 2020	-	-	-	1	2	-	-	3	6
2019	-	1	-	1	2	-	3	8	15
2018	-	-	1	1	-	1	-	10	13
July - Dec 2017	1	-	-	3	2	-	-	12	18
Total	1	1	1	6	6	1	3	33	52

Source: UNCTAD calculations based on data from UNCTAD (2020).

References

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III. The convening power of UNCTAD

SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

- Target 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.
- Target 17.12: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Key messages

- UNCTAD held 290 formal meetings in 2019
- More than 12,000 delegates attended UNCTAD meetings in 2019
- One third of participants who recorded their country of origin came from Africa
- 40 % of delegates were female.

The UN brings the world together to advance sustainable development and inclusive trade and economy for all important for a better future for people and the planet, cannot be realized without increased and effective cooperation of all stakeholders at all levels (Sustainability Knowledge Group, 2020). UNCTAD uses its convening power to bring together governments, businesses, civil society, academia and other international organizations. Together they debate, exchange experiences, identify best practices, and develop global standards on the most pressing issues of the day. Most of these meetings and events take place at UNCTAD headquarters in Geneva, Switzerland.¹

“Alone we can do so little; together we can do so much”

— Helen Keller

Meetings include intergovernmental meetings, such as the TDB and its subsidiary bodies, and the Commission on Science and Technology for Development, and fora, such as the Global



**UNCTAD held
290 formal
meetings
in 2019**

Commodities Forum and e-Commerce Week. But included are also study visits, seminars, short courses for diplomats and bilateral government visits.

In 2019, UNCTAD hosted 290 meetings (as registered on the INDICO conference management system), up from 219 in 2017. For roughly 60 - 65 per cent of meetings, detailed participant information has been recorded, allowing more detailed analyses to be undertaken (see tables 2, 3 and 4). Of the meetings where no detailed participant information was recorded, more than a third were internal UNCTAD meetings, including the UNCTAD Research Seminar Series, the UNCTAD Crossing the Line: Research in Motion series, the Secretary General's Town Hall meetings, and so forth. See table 1.²

Table 1 Number of research papers published, by broad theme

Year	Total number of meetings registered on INDICO	Number of meetings with details	Number of meetings without details	Of which number of meetings without details of which external	Of which number of meetings without details of which internal
2019	290	189	101	60	41
2018	264	157	107	68	39
2017	219	136	83	50	33
Total	773	482	291	178	113

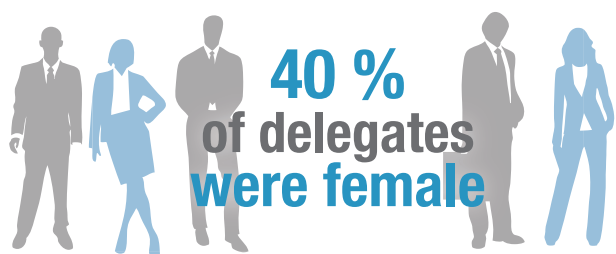
Source: UNCTAD calculations based on data from UNOG-Indico (2020).

Note: The data do not include meetings related to the World Investment Forum.

More than **12 000 delegates** attended **UNCTAD meetings** in 2019



In 2019, 189 meetings were held for which detailed information is available. More than 12,000 delegates attended, of which almost 40 per cent (5,000) were female. Intergovernmental meetings, such as the TDB, and topics like e-commerce drew the largest numbers of participants, together accounting for more than 40 per cent of all participants. Both total and female participation numbers were up in 2019 compared with previous years. Investment (including the multi-year expert meeting on investment, innovation and entrepreneurship for productive capacity-building and sustainable development) and trade meetings (including the multi-year expert meetings on transport, trade logistics and trade facilitation and on trade, services and development) also attracted high participant numbers (see table 2).



Representatives from national governments are the single largest group attending UNCTAD meetings, accounting for between 44 and 52 per cent, depending on the year. Academia, the private sector and non-governmental organizations together account for between 30 and 39 per cent. In 2019, more than 5,400 participants representing national governments attended UNCTAD meetings. This is an underestimate because, as noted in table 1, a further 60 external meetings were registered that year on the INDICO system, for which no participant details are available.

More than one third of participants did not record which country they represented at the

time of registration. Many of these participants represented international organisations, NGOs, academia, or the private sector rather than countries. Of those that represented governments, almost one third came from Africa, with Europe and Asia and Oceania together accounting for half of all participants (see table 4).

One third of participants who recorded their country of origin came from Africa



Reviewing meetings calendar as response to COVID19

Due to COVID-19, all meetings on the UNCTAD premises were put on hold. UNCTAD has been able to react quickly to these novel circumstances, however, already organising and hosting a myriad of online events, consultations and webinars in 2020. The e-Week of online events, for instance, was held from 27 April to 1 May 2020 and attracted more than 2000 registered participants (UNCTAD, 2020a).

Table 2 Number of registered meetings and participants, by broad meeting category and sex, 2017 - 2019

<i>Theme</i>	<i>Number of events</i>	<i>Number of participants</i>	<i>Number of female participants</i>	<i>Number of female participants (%)</i>
2019	189	12 277	4 871	40
Academic	50	1 228	725	59
ASYCUDA	18	73	17	23
Commodities	4	370	260	70
CSTD	4	683	65	10
Debt/Finance	14	759	218	29
Development/Climate	14	366	246	67
E-Commerce	7	2 627	993	38
Intergovernmental	12	2 632	896	34
Investment	12	1 163	479	41
Legal/Competition	4	442	157	36
Maritime	2	61	17	28
Other	29	534	268	50
Trade	19	1 339	530	40
2018	157	9 631	3 643	38
Academic	32	807	510	63
ASYCUDA	22	204	42	21
Commodities	6	933	278	30
CSTD	1	103	31	30
Debt/Finance	7	97	36	37
Development/Climate	12	380	108	28
E-Commerce	10	2 510	989	39
Intergovernmental	19	2 123	668	31
Investment	9	600	253	42
Legal/Competition	4	583	220	38
Maritime	4	286	104	36
Other	16	252	116	46
Trade	15	753	288	38
2017	136	9 627	3 359	35
Academic	25	570	322	57
ASYCUDA	15	58	13	22
Commodities	2	561	170	30
CSTD	6	523	155	30
Debt/Finance	9	673	227	34
Development/Climate	8	175	58	33
E-Commerce	8	1 446	577	40
Intergovernmental	17	2 312	714	31
Investment	7	880	323	37
Legal/Competition	4	466	179	38
Maritime	6	307	94	31
Other	20	838	266	32
Trade	9	818	261	32
2017 - 2019	482	31 535	11 873	38

Source: UNCTAD calculations based on data from UNOG-Indico (2020).

Table 3 **Number of participants by broad meeting category, 2017 - 2019**

<i>Theme</i>	<i>Government</i>	<i>IGO (Inter Governmental Organizations)</i>	<i>United Nations</i>	<i>Private sector</i>	<i>Academia</i>	<i>NGO (Non Governmental Organizations)</i>	<i>Other</i>	<i>Press / media</i>	<i>Total number of participants</i>
2019	5 437	553	583	1249	2 297	1 226	897	35	12 277
Academic	38	1	12	9	1 095	12	61	-	1 228
ASYCUDA	45	3	10	2	-	-	13	-	73
Commodities	318	43	34	85	44	103	55	1	683
CSTD	134	6	7	3	3	10	1	-	164
Debt/Finance	555	30	28	24	37	37	31	-	742
Development/Climate	188	68	49	86	68	112	16	2	589
E-Commerce	956	106	215	556	210	346	225	13	2 627
Intergovernmental	1 881	111	47	91	190	112	198	2	2 632
Investment	362	23	34	166	302	159	116	1	1 163
Legal/Competition	288	27	2	19	63	25	15	3	442
Maritime	19	5	2	13	4	5	13	-	61
Other	188	16	34	33	130	78	47	8	534
Trade	465	114	109	162	151	227	106	5	1 339
2018	4 121	483	487	935	1710	965	890	40	9 631
Academic	4	3	-	3	777	3	17	-	807
ASYCUDA	105	6	11	-	77	-	5	-	204
Commodities	420	64	37	127	70	99	113	3	933
CSTD	60	3	1	7	6	23	3	-	103
Debt/Finance	36	6	14	13	14	10	4	-	97
Development/Climate	203	37	36	24	26	30	24	-	380
E-Commerce	772	104	192	446	211	442	335	8	2 510
Intergovernmental	1 528	116	43	88	83	112	148	5	2 123
Investment	145	9	19	98	144	54	127	4	600
Legal/Competition	351	46	10	33	87	32	21	3	583
Maritime	131	22	33	26	27	27	20	-	286
Other	45	12	14	14	77	72	2	16	252
Trade	321	55	77	56	111	61	71	1	753
2017	5 037	523	499	684	1 481	817	551	35	9 627
Academic	-	-	-	-	566	-	4	-	570
ASYCUDA	42	3	6	1	3	-	3	-	58
Commodities	246	29	42	70	31	91	51	1	561
CSTD	345	12	26	28	29	72	11	-	523
Debt/Finance	504	26	16	16	49	16	46	-	673
Development/Climate	83	14	26	8	11	24	9	-	175
E-Commerce	552	55	167	233	196	148	82	13	1 446
Intergovernmental	1 632	151	67	88	101	133	139	1	2 312
Investment	371	55	24	81	172	87	85	5	880
Legal/Competition	262	32	4	8	92	40	25	3	466
Maritime	104	26	24	55	37	48	10	3	307
Other	504	33	45	36	96	76	39	9	838
Trade	392	87	52	60	98	82	47	-	818
2017-2019	14 595	1 559	1 569	2 868	5 488	3 008	2 338	110	31 535

Source: UNCTAD calculations based on data from UNOG-Indico (2020).

Table 4 Number of participants by geographic region, 2017 - 2019

<i>Theme</i>	<i>Africa</i>	<i>Europe</i>	<i>Latin America and the Caribbean</i>	<i>North America</i>	<i>Asia and Oceania</i>	<i>Not Specified</i>	<i>Total</i>
2019	2 259	1 712	1 186	103	2 238	4 779	12 277
Academic	2	116	4	25	137	944	1228
ASYCUDA	23	12	-	-	10	28	73
Commodities	124	49	76	5	80	36	370
CSTD	140	36	47	7	67	386	683
Debt/Finance	173	117	68	11	156	234	759
Development/Climate	75	21	53	-	50	167	366
E-Commerce	639	493	289	21	624	561	2 627
Intergovernmental	611	550	437	23	659	352	2 632
Investment	122	79	54	4	156	748	1 163
Legal/Competition	88	69	32	4	99	150	442
Maritime	9	5	2	1	3	41	61
Other	73	72	31	-	62	296	534
Trade	180	93	93	2	135	836	1 339
2018	2 264	1 374	883	70	1 515	3 525	9 631
Academic	-	77	-	-	2	728	807
ASYCUDA	53	7	1	-	44	99	204
Commodities	222	52	70	11	107	458	920
CSTD	-	-	-	-	-	22	22
Debt/Finance	12	27	10	6	38	102	195
Development/Climate	84	29	30	-	59	174	376
E-Commerce	633	521	383	27	619	327	2 510
Intergovernmental	757	456	216	12	304	378	2 123
Investment	76	31	23	1	86	383	600
Legal/Competition	151	70	50	5	85	222	583
Maritime	54	38	27	1	15	151	286
Other	69	20	12	2	30	119	252
Trade	153	46	61	5	126	362	753
2017	2 184	1 564	1 228	252	1 991	2 408	9 627
Academic	0	218	42	123	36	151	570
ASYCUDA	29	6	3	1	19	-	58
Commodities	182	87	75	10	101	106	561
CSTD	66	103	67	26	118	143	523
Debt/Finance	167	120	82	3	195	106	673
Development/Climate	33	17	21	1	28	75	175
E-Commerce	318	205	213	22	351	337	1 446
Intergovernmental	678	401	323	38	535	337	2 312
Investment	164	133	70	10	141	362	880
Legal/Competition	77	78	58	6	102	145	466
Maritime	27	23	32	1	27	197	307
Other	243	97	121	8	186	183	838
Trade	200	76	121	3	152	266	818
2017-2019	6 707	4 650	3 297	425	5 744	10 712	31 535

Source: UNCTAD calculations based on data from UNOG-Indico (2020).

Notes

- 1 More information about the UNCTAD upcoming events and the UNCTAD meetings calendar are available online (UNCTAD, 2020b, 2020c).
- 2 These statistics only cover meetings and events organized by UNCTAD at its headquarters in Geneva. Many other meetings organized by UNCTAD at the regional or national level, outside Geneva, are not counted. The data also do not include meetings co-organized by UNCTAD outside the Palais and do not include the World Investment Forum.

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IN FOCUS: COVID-19

COVID-19: Measurement issues and assessments

“This virus is shrewd in its camouflage and unabashed in its cruelty”.

– Aysha Taryam

COVID-19: Measurement issues and assessments

Timeline of a pandemic

On 31 May 2020, the WHO reported that more than 5.9 million people had been confirmed infected with COVID-19. That same day, 367 166 deaths globally were attributed to the virus.¹

Five months earlier, on 31 December 2019, the WHO country office in China was notified that a new strain of pneumonia of unknown cause had been detected in the Hubei Province. On 7 January 2020, the Chinese authorities identified this pneumonia as a new strain of coronavirus. By mid-January, ministries of health in both Thailand and Japan confirmed imported cases of the novel coronavirus. The Republic of Korea reported their first case on 20 January. The following day, the WHO began issuing daily situation reports² and confirmed 282 cases across the four affected countries, with six deaths in China.

Thereafter, events unfolded quickly (see figure 1) and, by the end of January, the day after the WHO designated “2019-nCoV acute respiratory disease” as the interim name of the disease, their Emergency 2019-nCoV Committee declared a PHEIC under the 2005 International Health Regulations (WHO, 2005). That day, the WHO reported 9 826 confirmed cases across 20 countries and 213 deaths (all in China).³ The first confirmed cases in Italy were also reported that day.

On 26 February, the first cases of COVID-19⁴ were reported on the African continent (all in Algeria), at which point COVID-19 was present in 45 countries or territories across all six WHO regions⁵ (see figure 2). Two days later, the WHO (2020a) increased their assessment of the global risk of spread and impact from high to very high. At this point, there were 83 652 confirmed cases spread across 54 countries.⁶

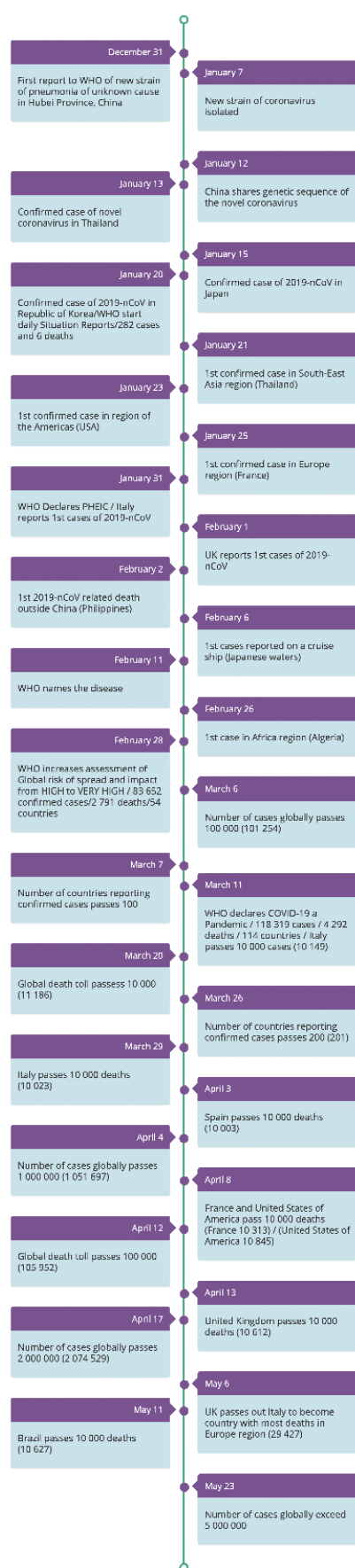
On 6 March, the number of global confirmed cases attributed to COVID-19 passed the 100 000 mark (see figure 3). The following day, the number of countries reporting confirmed cases exceeded 100. Four days later, the WHO declared COVID-19 a pandemic. In doing so, the Director General of WHO expressed concern at both the alarming levels of spread and severity, and the alarming levels of inaction. He explained that the WHO had assessed that COVID-19 could now be characterized as a pandemic, clarifying that this did not change the threat level (WHO, 2020b).

By the end of May 2020, the aggregate cumulative number of confirmed cases and deaths reported by countries to the WHO was 5.9 million and 367 thousand, respectively. As of 31 May 2020, Europe and the United States of America combined accounted for 65 per cent of all confirmed cases and 77 per cent of all COVID-19 deaths, as shown in figure 4 (readers should be aware that there are particular measurement problems with COVID-19 statistics as currently reported by all sources (see section Measurement issues below)).

In the first three or four months of the pandemic, the global cumulative total deaths was led by European countries (notably Belgium, France, Germany, Italy, Spain and the United Kingdom) as well as by the United States of America. But since then, as shown in figure 5, it has been the Americas that have accounted for most of the growth (most notably Brazil and Mexico, in addition to the United States of America).

At a country level, the spread and prevalence of COVID-19, as well as the measures taken to contain its spread, have varied considerably. For a variety of reasons, a number of countries showed

Figure 1 The first five months: Some key events, until end-May 2020



Source: UNCTAD derived from WHO (2020a).

much higher prevalence rates than others. The trajectory of the number of confirmed cases in a selection of hardest hit countries is compared in figure 6.

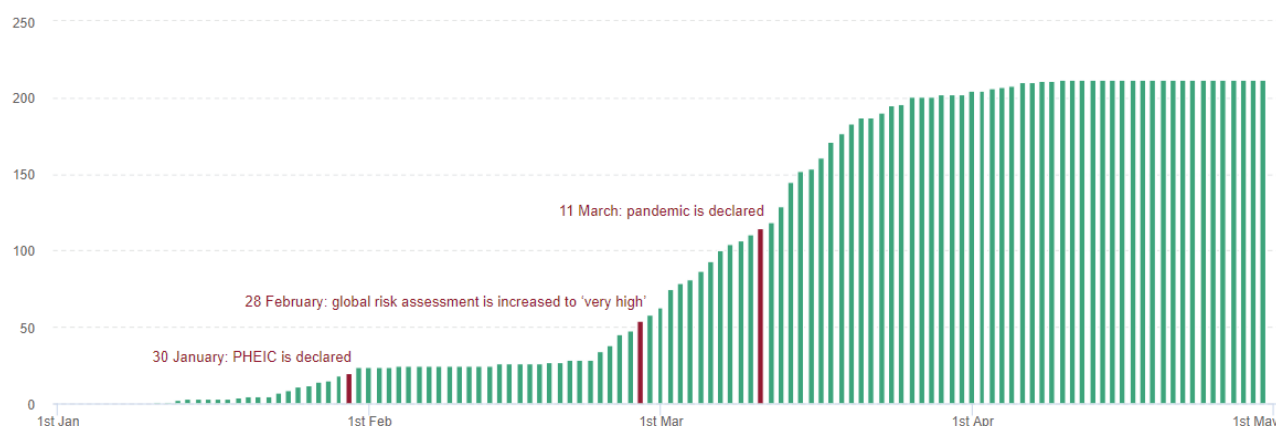
A curiosity of COVID-19, in the early months at least, is that it has hit developed countries much harder than developing countries, in terms of prevalence, with the notable exceptions of the Islamic Republic of Iran and, more recently, Brazil and Mexico. In figure 6, the time axis is normalized to the start date (i.e. the date when a confirmed case was first reported to the WHO by a country) so that the trajectory of COVID-19 spread in the first 100 days can be compared.

Comparing the worst hit countries in Europe with badly hit countries elsewhere in the world, the patterns are immediately different in both timing and scale. Although Italy rose to prominence in the media, Spain and Belgium have been the worst affected countries to date on a per capita basis. The spread accelerated early and rapidly in Italy, Spain and Belgium, peaking in Italy and Spain around day 62 (i.e. approximately two months after the first confirmed cases were reported). The number of new cases peaked about two weeks later in Belgium (day 74).

In France and Germany, acceleration started about 10 days later than in Italy and Spain. Both countries experienced similar trajectories and prevalence to each other, with the spread of COVID-19 peaking around days 69 and 70. Initially, the United Kingdom had an almost identical trajectory to France, albeit lagged by a few days; however, new cases peaked on day 70 in France, whereas the spread continued accelerating in the United Kingdom and did not reach its maximum for another week. Furthermore, unlike France and Germany, the peak was not followed by a rapid decline. Rather, the number of new cases continued at a slightly reduced rate, until around day 91, when the number of cases began rising again, and then finally began to decline around day 100.

Some of the worst hit countries elsewhere in the world have had a markedly different experience

Figure 2 Number of countries, territories or areas reporting confirmed cases of COVID-19



Source: UNCTAD calculations based on WHO (2020a).

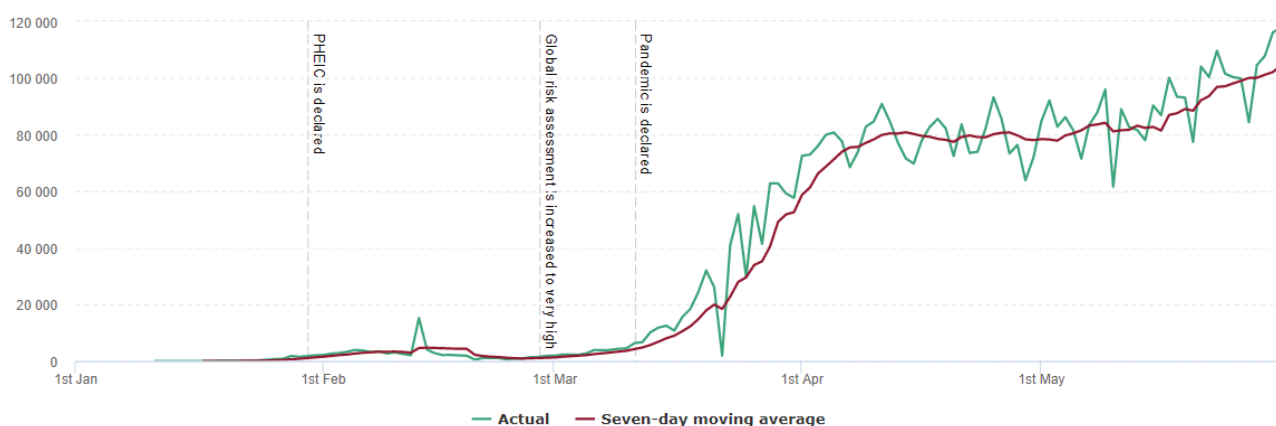
to that in Europe. Acceleration was much more varied, beginning around day 13 in the Islamic Republic of Iran, day 40 in Brazil but not until around day 60 in the United States of America. To date, the per capita number of cases per day in the United States of America and Brazil are a little over half of what was experienced in Spain at its peak.

The Islamic Republic of Iran was hit by COVID-19 relatively early and rapidly. When most countries were just beginning to experience an acceleration in spread (around day 45), the spread in the Islamic Republic of Iran was already at its maximum. Unlike most European countries, however, this

country did not experience a sharp downturn, but rather a gradual deceleration which troughed around day 76 and then began slowly rising again.

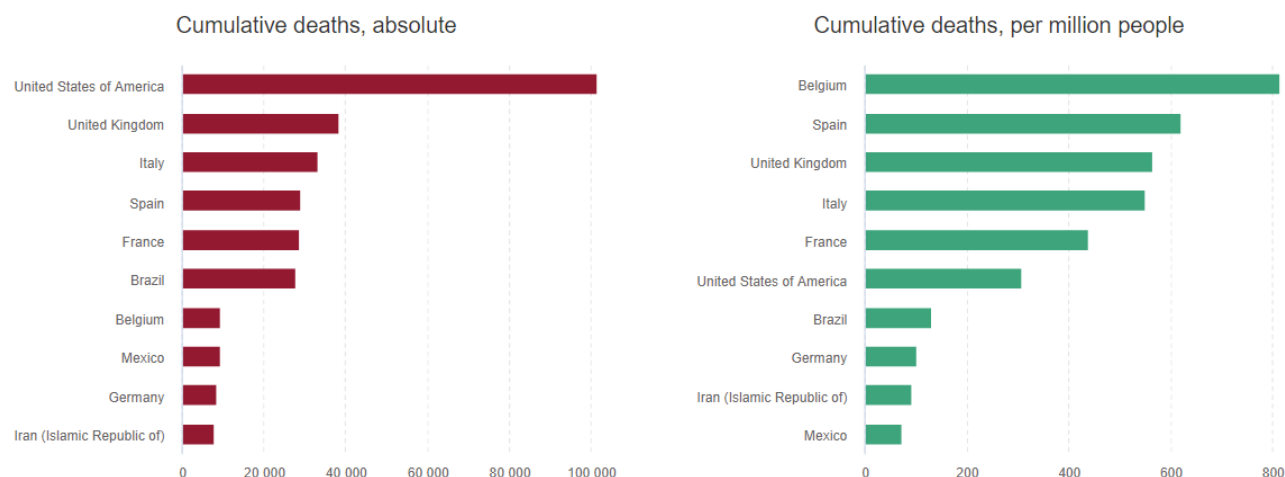
The United States of America, once acceleration began, experienced quite a steep trajectory similar to that observed in Italy. By day 83, cases in the United States of America peaked at 95 cases per million people (higher than Italy's peak of 91 per million people) and then, similar to the United Kingdom, the number of new cases did not reduce significantly, but fell back to a slightly reduced rate of spread. Again, like the United Kingdom, the trajectory began increasing again around day 97.

Figure 3 Number of global confirmed cases per day



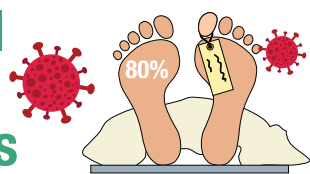
Source: UNCTAD calculations based on WHO (2020c).

Figure 4 Ten most affected countries, cumulative deaths, 31 May 2020



Source: UNCTAD calculations based on WHO (2020c) and United Nations (2019).

At the end of May 2020, the 10 worst affected countries accounted for 80% of all COVID-19 related deaths

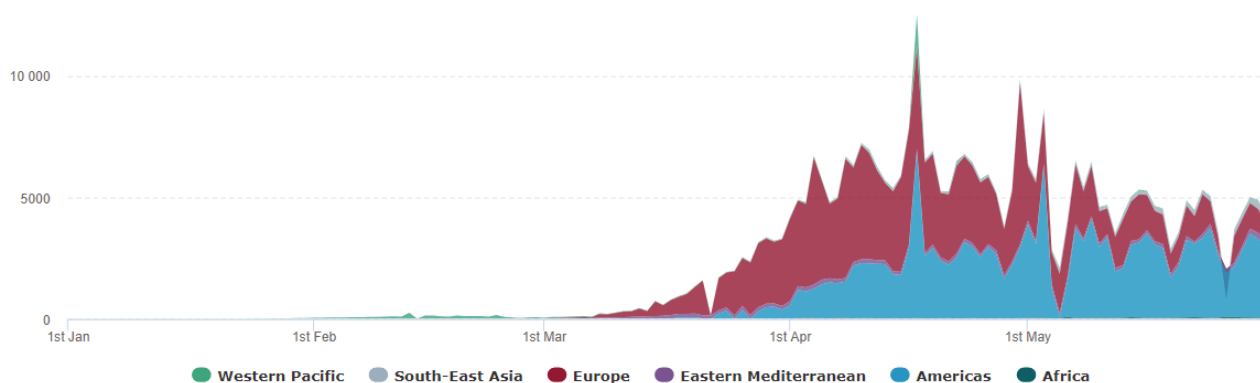


The number of cases in both the Russian Federation and Brazil have increased steadily along a similar curve, albeit with acceleration in the Russian Federation lagging by about 20 days. By day 100, the number of cases per capita in Brazil, at 110 per million, had far surpassed the

peak in the United States of America. Cases in Mexico have been rising slowly but inexorably.

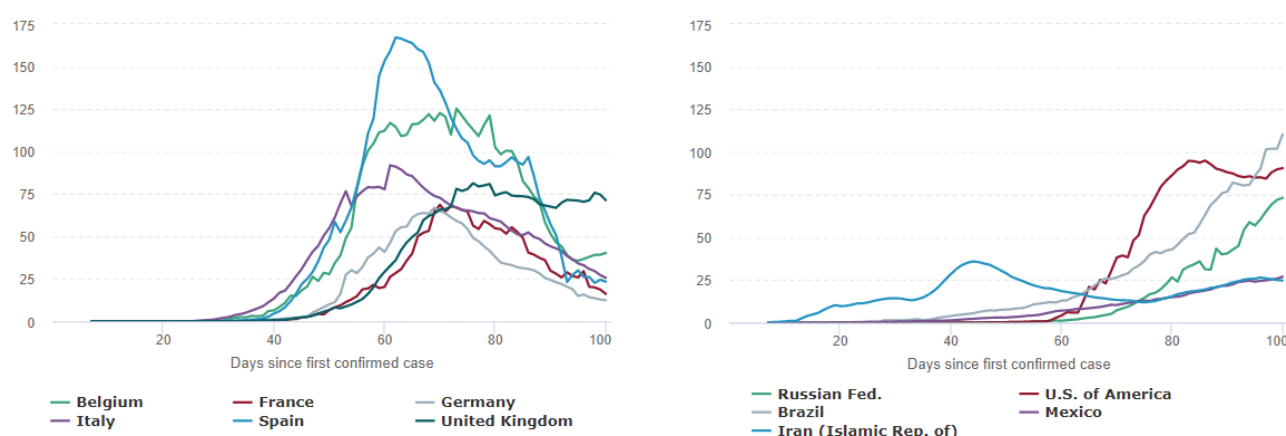
An important aspect to note about the outbreaks within each of these countries is their highly heterogeneous and, at least initially, concentrated nature, both in terms of geography and demography. Most countries initially experienced severe outbreaks in one or several geographic areas, for example Lombardy in Italy or New York in the United States of America, rather than a uniform development across the country. Specific communities or groups have also been affected differently by the virus, with many countries experiencing outbreaks in care-homes, meat-processing plants, or low-income communities.

Figure 5 Ten most affected countries, cumulative deaths, 31 May 2020



Source: UNCTAD calculations based on WHO (2020c).

Figure 6 The first 100 days: Number of confirmed cases per million people, selected countries



Source: UNCTAD calculations based on WHO (2020c) and United Nations (2019).

This has also led to second-wave developments in some countries as at-risk communities experience outbreaks amidst an otherwise “under control” situation, such as it has been the case with meat-processing plant workers in Germany or migrant workers in Singapore, or as previously spared geographic areas succumb to the pandemic, as with the southern United States of America.

Measurement issues

One of the challenges of analysing COVID-19 statistics is that their quality is unproven and considerable methodological differences exist across countries. They likely suffer from problems considering that organizing a new global data collection during a pandemic, at both national and international level, on a disease about which relatively little is known, is not going to be without teething problems. There is also always the risk that some countries may inaccurately or not report COVID-19 related statistics at all (BBC, 2020). The WHO notes “Differences are to be expected between information products published by WHO, national public health authorities, and other sources using different inclusion criteria and different data cut-off times. While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change. Case detection, definitions, testing strategies, reporting practice, and lag times differ between countries/

territories/areas. These factors, amongst others, influence the counts presented, with variable underestimation of true case and death counts, and variable delays to reflecting these data at global level.”⁷ Furthermore, when making international comparisons, one should also be cognisant that a range of factors not directly related with the state of a country’s health system likely impact infection rates. These include: the age structure of populations, the density or urbanization of populations, prevalence rate of chronic diseases and perhaps also ethnicity.

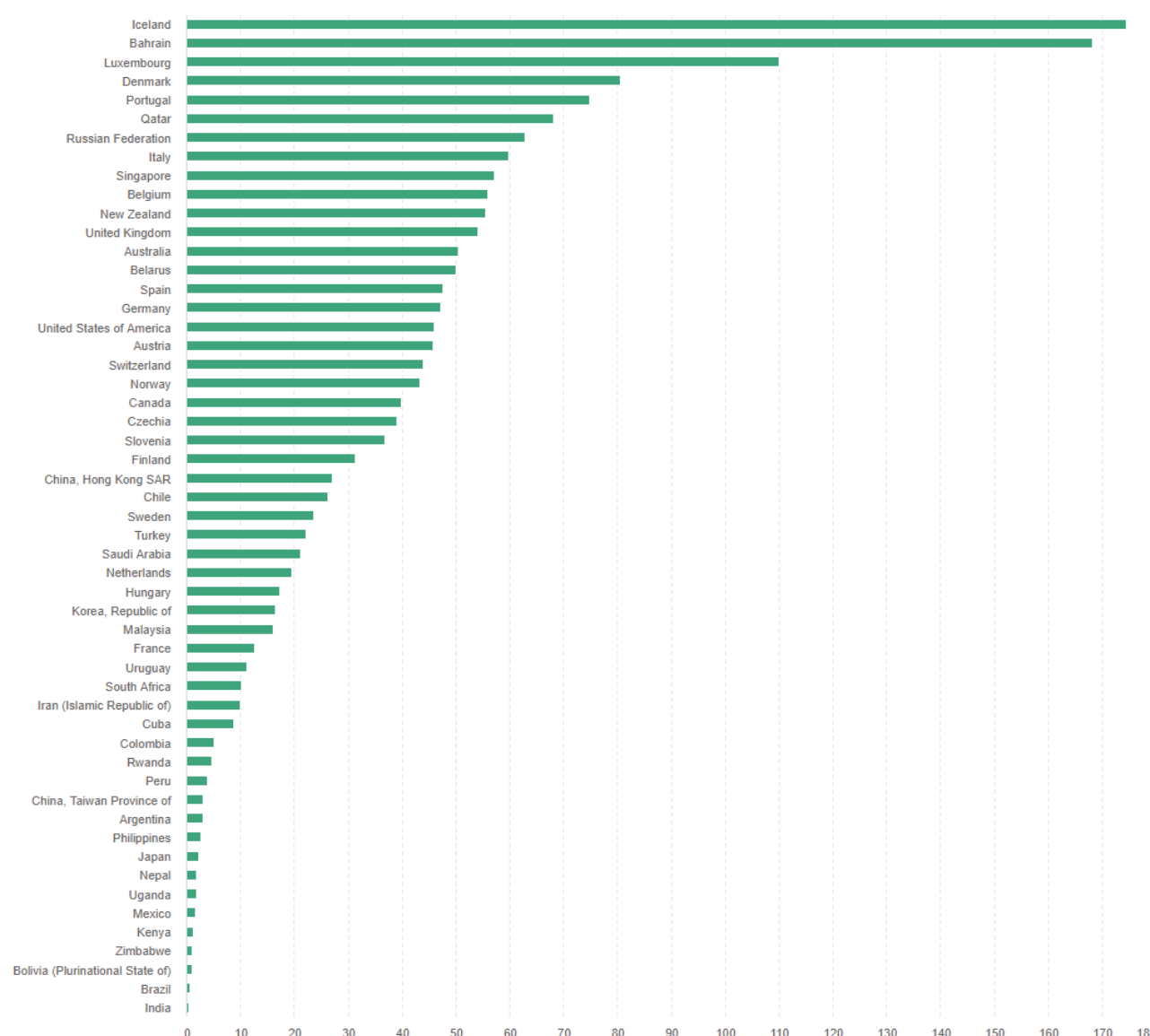
The two principal variables, ‘confirmed cases’ and ‘deaths’, are to some extent problematic, and this impacts on the veracity and general quality of derived variables, such as mortality rates. The number of ‘confirmed cases’ is based on the number of laboratory-confirmed cases, which rely on the quantity and consistency of testing in countries. This varies enormously, as experience has shown (see figure 7). Some countries undertake large-scale population testing, whereas others have adopted less comprehensive approaches. As countries have learned more about COVID-19, some have changed their testing methods and schemes, causing methodological breaks and discontinuities in time series. For example, several countries have changed their reporting ‘day’, i.e. the 24-hour period that comprise the reference period, as did the WHO themselves on 18 March.⁸

Furthermore, uncertainty regarding the numbers of asymptomatic and undiagnosed cases, and of course misdiagnosed cases, means that the actual number of cases may be quite different to the number of officially confirmed cases. An early study from China suggests that almost 80 per cent of cases of infection were classified as mild or asymptomatic (Day, 2020). In a pre-print study published in April 2020, Lu et al. (2020) estimate the proportion of asymptomatic cases to be lower, ranging from 18 to 50 per cent. Therefore, it is important when using the ‘confirmed cases’ metric to understand that this statistic is the

number of cases reported by each country, and that the reference date may not always accurately reflect the date of the event.

Figure 7 illustrates the variation in the numbers of tests undertaken by countries, which as noted above, will immediately impact the number of confirmed cases reported. From a surveillance and control perspective, it should also be noted there is an important distinction between the number of tests performed and the number of tests analysed and reported. The time delay between the two is also of critical importance.

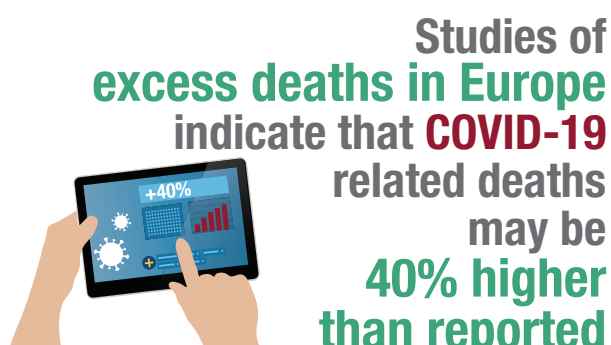
Figure 7 Total COVID-19 tests per thousand people



Source: Our World in Data (2020).

Notes: Counts refer to 26 May 2020 or nearest available. For some countries, the statistics are not updated regularly: India (24 April); Brazil (20 April); France (5 May); China, Hong Kong SAR (19 May); Spain (21 May). No data were available for China.

Almost certainly, both ‘confirmed cases’ and ‘deaths’ are undercounted, probably to different degrees, which no doubt will, with time, explain some of the apparently high mortality rates. Given the problems with the reported statistics, the actual prevalence of COVID-19 in populations remains for the time being unknown. In a February 2020 interview, Neil Ferguson, Professor of epidemiology at Imperial College London, estimated that China had only detected around 10 per cent or less of its coronavirus cases (Ferguson, 2020). In France, a recent study by Salje et al. (2020) estimated that on 11 May⁹ about 2.8 million¹⁰ people (or 4.4 per cent of the population) had been infected by COVID-19 – some 20 times more than the official estimate of 137 073 reported to the WHO for that day.¹¹ A serological antibody test conducted in the canton of Geneva in Switzerland (Hôpitaux Universitaires de Genève, 2020) found seroprevalence in the population to be 5.5 per cent (or 27 000 people) on 17 April 2020, or some five times higher than official estimates. Although using different approaches, these studies yield similar results, which suggest that the proportion of the target populations infected in April/May was between four and six per cent.

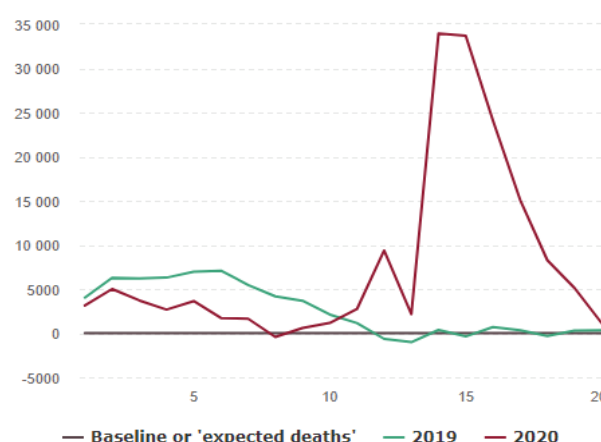


From a policy perspective, these studies suggest that countries are a long way from developing herd immunity, which in turn implies that population immunity is probably insufficient to avoid a second wave. On 25 April, the WHO (2020d) warned there was no evidence that people with COVID-19 are immunised. They noted, on 12 May, that the concept of herd immunity is generally used for calculating how many people will need to be vaccinated in a population to protect others, not for calculating the occurrence of immunity through infections (Independent,

2020). Many studies support the conclusion that a relatively small proportion of the population has been infected to date. A study using three different approaches (Lu et al., 2020) estimated that as much as 10 per cent of the population in the United States of America may have been infected by mid-April 2020. On 20 April, the WHO noted that early studies suggest that only two to three per cent of the global population had been infected (WHO, 2020b). The ONS in the United Kingdom reported on 5 June that, as of 24 May, 6.8 per cent of people who provide blood samples tested positive for antibodies to COVID-19 (ONS, 2020).

At first glance, ‘deaths’ statistics appear to be less problematic, but on closer examination, a number of problems are also evident. In several countries it has emerged that deaths (initially at least) only included deaths in hospitals, and that deaths in other institutional or private households had not been included. There have been several revisions to official reports, as causes of death have been re-evaluated as more is learned about the disease. This too has led to reporting lags, and problems matching events to dates properly. Furthermore, analyses of ‘excess deaths’, i.e. the deviation in mortality from the expected level, suggests that deaths attributed to COVID-19 are being undercounted.

Figure 8 Excess deaths by week (all ages), weeks 1 to 20 of 2020 (1 Jan to 9 May)



Source: UNCTAD calculations based on EuroMOMO (2020).

Note: These figures include the 24 countries or territories participating in the EuroMOMO network.



EuroMOMO (2020) monitors mortality for several countries in Europe.¹² Their data suggest that between weeks 12 and 20, i.e. between the weeks beginning 16 March and finishing 26 April, there were 142 577 excess deaths in Europe (see figure 8). The excess mortality in 2020 is notable, both in scale and in seasonal pattern. The weeks in which excess mortality was unusually high during the first quarter of 2020 were quite distinct from the typical seasonal flu patterns associated with the winter months. For the same countries and during the same period, the WHO reported that deaths attributed to COVID-19 rose from 13 786 on 16 March to 116 029 on 26 April, an increase of 102 243. This number is 40 000 lower than the number of excess deaths reported by EuroMOMO (2020). While most of these excess deaths can, in all probability, be attributed to COVID-19, caution must again be exercised: it is likely that other medical treatments were postponed or cancelled, as people avoided doctors and hospitals. This in and of itself may have had led to a spike in excess mortality.

A false sense of security?

In October 2019, a new GHS Index was launched jointly by Johns Hopkins University and the Nuclear Threat Initiative, with the purpose of conducting a first comprehensive assessment and benchmarking of health security and related capabilities across the 195 countries that are signatories to the WHO International Health Regulations. The index was constructed by the Economist Intelligence Unit, in consultation with Nuclear Threat Initiative and the Johns Hopkins University Center for Health Security and advised by an international panel of experts (Johns Hopkins University et al., 2019).

The GHS Index assesses not only countries' health security capacities, but also the existence of functional, tested and proven capabilities for stopping outbreaks at the source. It also tests whether that capacity is regularly tested and shown to be functional in exercises or real-world events. It was not designed to warn specifically against COVID-19, but to assess the readiness of countries to deal with a biological event or pandemic, such as COVID-19, in general.

In their 2019 inaugural report, the authors issued some stark warnings, reporting that countries were not prepared for a globally catastrophic biological event, nor were they fully prepared for epidemics or pandemics. Collectively, they note, international preparedness was weak. Many countries did not show evidence of the health security capacities and capabilities that needed to prevent, detect, and respond to significant infectious disease outbreaks. Prophetically, they warned: "knowing the risks, however, is not enough. Political will is needed to protect people from the consequences of epidemics, to take action to save lives, and to build a safer and more secure world". They also noted that "unfortunately, political will for accelerating health security is caught in a perpetual cycle of panic and neglect".

The GHS Index is described as a multidimensional analytical framework, commonly known as a benchmarking index. It is essentially a composite, comprising six categories: (1) prevention; (2) detection and reporting; (3) rapid response; (4) health systems; (5) compliance with international norms; and (6) risk environment. Those categories are populated with 34 indicators and 85 sub-indicators. The overall index for each country is the weighted sum of the category scores, where the weights are agreed by an expert panel. In constructing the index, three other weighting types were tested: neutral weights; equal weights; and weights derived from a principal component analysis.

One would hope that the GHS index never need be tested in a live situation. But it has been, and like many metrics, it has been confounded by COVID-19. In retrospect, the GHS (as is

often the case with composite indices) may have hidden as much as it has revealed. It highlights again the question of whether country rankings have any real utility or simply distract readers from important underlying messages. Although the report issued many stark warnings, the indices themselves may have conveyed a different message; at least for countries ranked near the top, with scores in excess of 70, the indices may have given a false sense of security. Developments in the first half of 2020 have made some of the GHS country rankings appear incongruous. It is too early to conduct any definitive analyses of

COVID-19, thus any assessment is necessarily premature. Perhaps in the longer term, the index rankings may correlate better with events. That said, the first six months have generated some noteworthy comparisons.

The index ranked the United States of America as the best prepared country in the world, followed by the United Kingdom. Additionally, included in the top 20 best prepared countries were Belgium, France, Netherlands, and Spain. It is striking that these are some of the hardest hit countries by the COVID-19 pandemic in both absolute and per

Table 1 GHS top 20 best prepared countries compared with 20 worst affected countries by COVID-19 (as of 31 May 2020)

Countries	GHS overall		Worst affected countries		
	Best prepared ranking	Confirmed COVID-19 cases	Confirmed COVID-19 cases per million	COVID-19 deaths	COVID-19 deaths per million
United States of America	1	1	8	1	8
United Kingdom	2	5	17	3	2
Netherlands	3	26	30	15	7
Australia	4	69	114	78	133
Canada	5	17	32	12	11
Thailand	6	91	179	94	158
Sweden	7	25	11	16	5
Denmark	8	58	43	42	23
Republic of Korea	9	56	130	58	120
Finland	10	70	57	52	30
France	11	15	34	5	6
Slovenia	12	112	76	74	36
Switzerland	13	36	27	26	14
Germany	14	11	37	11	22
Spain	15	6	12	6	3
Norway	16	66	51	61	42
Latvia	17	121	85	110	86
Malaysia	18	67	121	70	134
Belgium	19	22	13	9	1
Portugal	20	32	26	28	17

Source: Johns Hopkins University et al. (2019) and WHO (2020c).

capita terms. It also ranked Brazil and Mexico in the top 30 and placed New Zealand only 35th.

Four measures of ‘worst affected’ are presented: confirmed cases; confirmed cases per million of population; deaths; and deaths per million of population. The United States of America, the United Kingdom and Spain are in the top 20 hardest hit, no matter which measure is used. Sweden, France and Belgium are in three of the four measures. Canada and Germany feature in two (see table 1).

It is of course easy to be wise with hindsight. But the particular importance of indicators for Political and Security Risk and Public Health Vulnerabilities are striking. In their commentary, the authors portentously noted the importance of ‘political will’ – this seems to have been the critical factor in how well countries have dealt with COVID-19 to date. Unfortunately, it is extremely difficult to measure political will. Furthermore, in light of developments, this dimension might warrant a higher weight in the overall index. Perhaps the overall risk environment needs to be supplemented as well, as the index doesn’t seem to adequately address potential transmission vectors. For example, some connectivity and globalization indices would arguably strengthen the robustness of the index.

The importance of public health systems is also now clear. COVID-19 has graphically illustrated the importance of government and public infrastructure and services more generally and the critical role they play during a time of crisis. Thus, a wider reflection of public services generally, including the strength and investment in national statistical systems, but in particular investment in public health systems, might also improve the index.

Another composite index, compiled using an AI approach, has been published by the Deep Knowledge Group (2020). This index is more bespoke, targeting COVID-19 directly. The latest version, from June 2020, also provides country rankings, which in light of events appear more credible. However, it should be stressed that this index is updated contemporaneously and

is specific to COVID-19, so this should not be surprising. Unlike the GHS, the purpose of which was to conduct an ex-ante assessment of countries preparedness for a biological event, such as, a pandemic, the purpose of the index from the Deep Learning Group is to inform government decisions during the current pandemic, helping them to optimize current and post-pandemic safety and stability, in order to maintain the health and economic well-being of their populations and alleviate the collateral damage caused by COVID-19.

Policies implemented during the COVID-19 pandemic

Person-to-person contagion of COVID-19 depends on the characteristics of the virus itself, including how easily it can infect a new host and how long it can survive outside the human body. But it also depends on the number of potential opportunities of transmission provided by social interaction between people. Since contagion can be rapid, and carriers may unwittingly spread the virus, as COVID-19 appears to have a long lag before symptoms manifest themselves, it has turned out to be essential to contain the spread of the disease at an early stage, before it affects larger shares of the population and the number of patients exceeds the capacity of health systems.

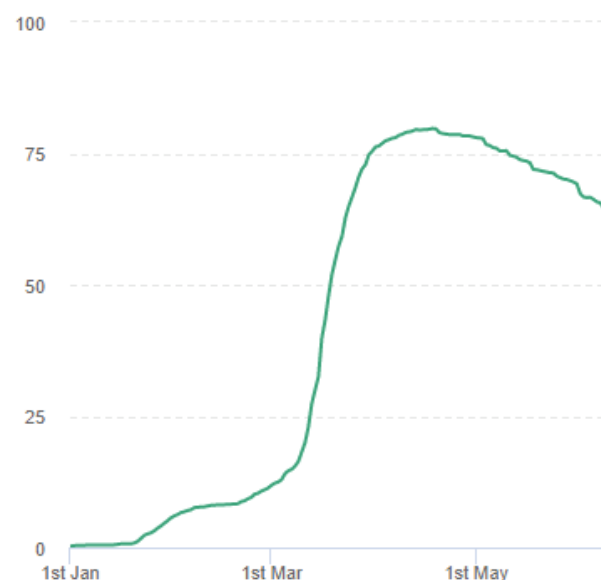
Although facing many unknowns about the virus and its transmission mechanisms, governments around the world started implementing containment measures aimed at reducing the probability that an infected person transmits the virus. These measures included, but were not limited to: school closures; limiting non-essential business activity and promotion of remote work; restrictions on public or private gatherings and cancellation of public events; stay-at-home requirements; restrictions on domestic or international travel; obligatory or recommended use of masks, gloves and other physical barriers; and information campaigns. These measures were applied broadly to the entire population or targeted to specific population groups (for example, in highly affected geographical areas or for most at-risk groups).

The curve in figure 9 measures the application of physical distancing measures worldwide since the outbreak of the disease. It is constructed as a population-weighted average of country-level scores on the Oxford COVID-19 Government Response Tracker's Stringency Index.¹³ There was a first wave of policies in late January and early February, primarily concentrated on China and other countries in East and South-East Asia that responded to the first cases of the disease. The implementation of such measures was more widely adopted around mid-March, after the number of affected countries passed 100 and the disease was declared a pandemic by the WHO (see section Timeline of a pandemic). Since early May, we see a gradual decrease in the index, as some of the containment measures are rolled back in areas where the disease is considered to be under control.

The global trend observed in the first months of 2020 hides significant different patterns at the country level. As shown in figure 10, some countries swiftly implemented distancing measures and successfully contained the spread of the disease. In all these countries, there were already strict measures in place by the time there were 100 confirmed cases, with a resulting slowdown in the contagion rate. In some cases, such as El Salvador, New Zealand or the Philippines, some measures were active even before the first case was detected. Other countries delayed the onset of these policies (see figure 11) until the number of cases was already high and rapidly increasing, with a resulting surge in the spread of the disease. It is worth noting the case of Singapore, one of the first countries to put in place containment measures against COVID-19. This resulted in slower infection rates already in February; however, the country was affected by a second wave beginning in mid-March forcing it to scale up their policy response.

In some cases, neighbouring countries chose different policies to contain the spread of the virus. Figure 12 shows the situation in four Nordic countries. While Denmark, Finland and Norway took strict measures (the three of them scored above 60 on the Stringency Index by mid-March),

Figure 9 Stringency of global confinement measures



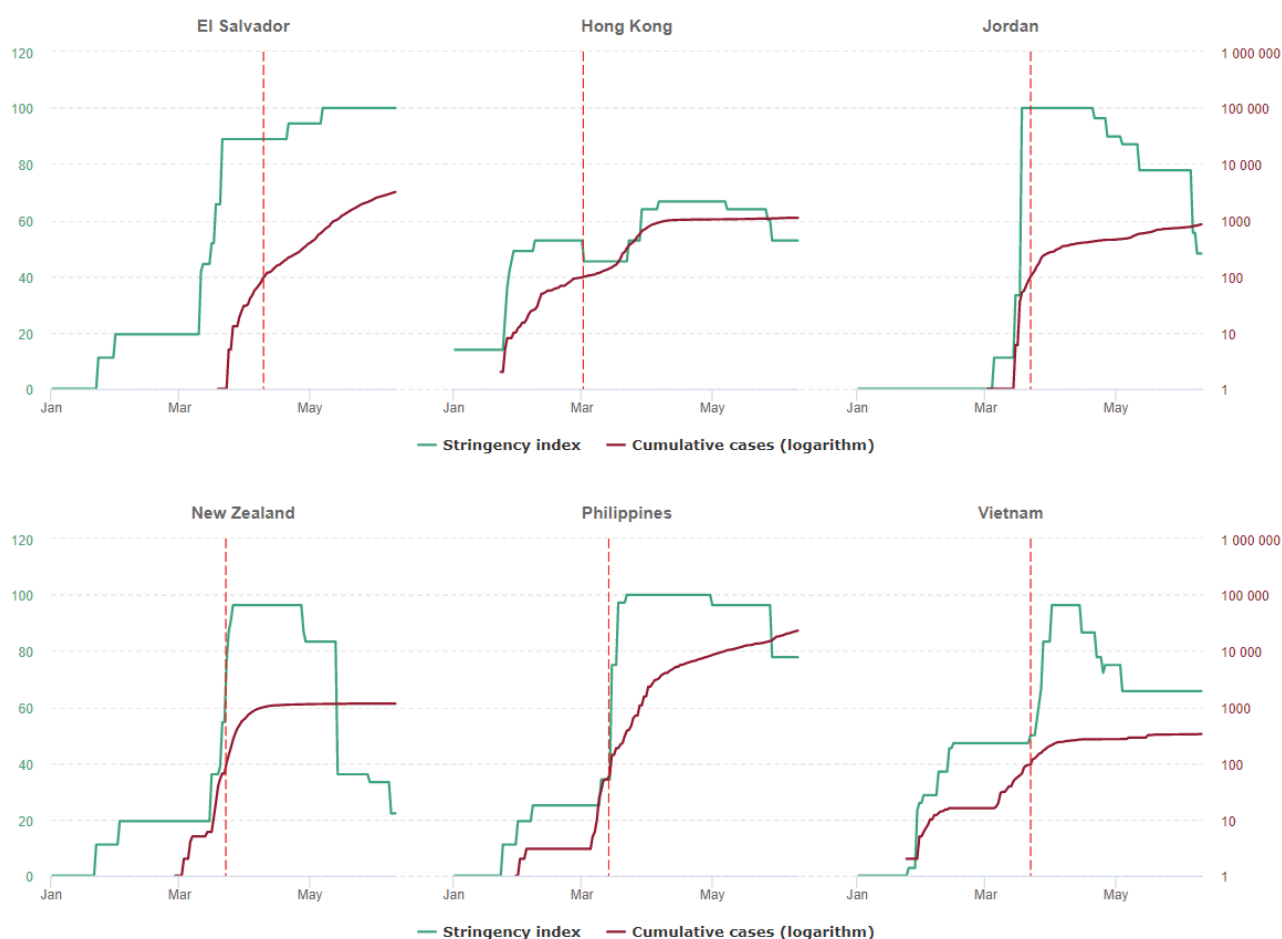
Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and UNCTAD (2020a).

Note: This index ranges from 0 to 100, with higher numbers indicating more stringent confinement measures. The global average is calculated as the population-weighted average of country level indices.

Sweden adopted a more relaxed containment policy. As of 10 June 2020, Sweden had 4 547 confirmed cases of COVID-19 per million people, compared to 2 072 in Denmark, 1 268 in Finland and 1 580 in Norway. In terms of confirmed deaths, Sweden has registered 467 deaths per million people, in comparison with 102, 58 and 44 in Denmark, Finland and Norway, respectively.

Although the pandemic remains active and it is too soon to conduct a full evaluation of the impact of containment measures, early evidence seems to indicate that they were effective in slowing down the infection rate of COVID-19 and reducing the number of deaths. The timing of the measures has also proven crucial, with those implemented faster resulting in stronger effects (Deb et al., 2020).

Figure 10 Stringency of confinement measures and cumulative COVID-19 cases, selected countries

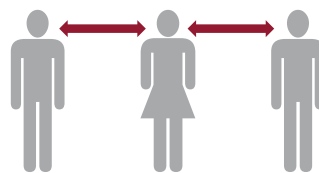


Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and WHO (2020c).

Notes: This index ranges from 0 to 100, with higher numbers indicating more stringent confinement measures. Cumulative number of cases are in logarithmic scale. The red dotted lines indicate the date when the number of confirmed cases reached 100.

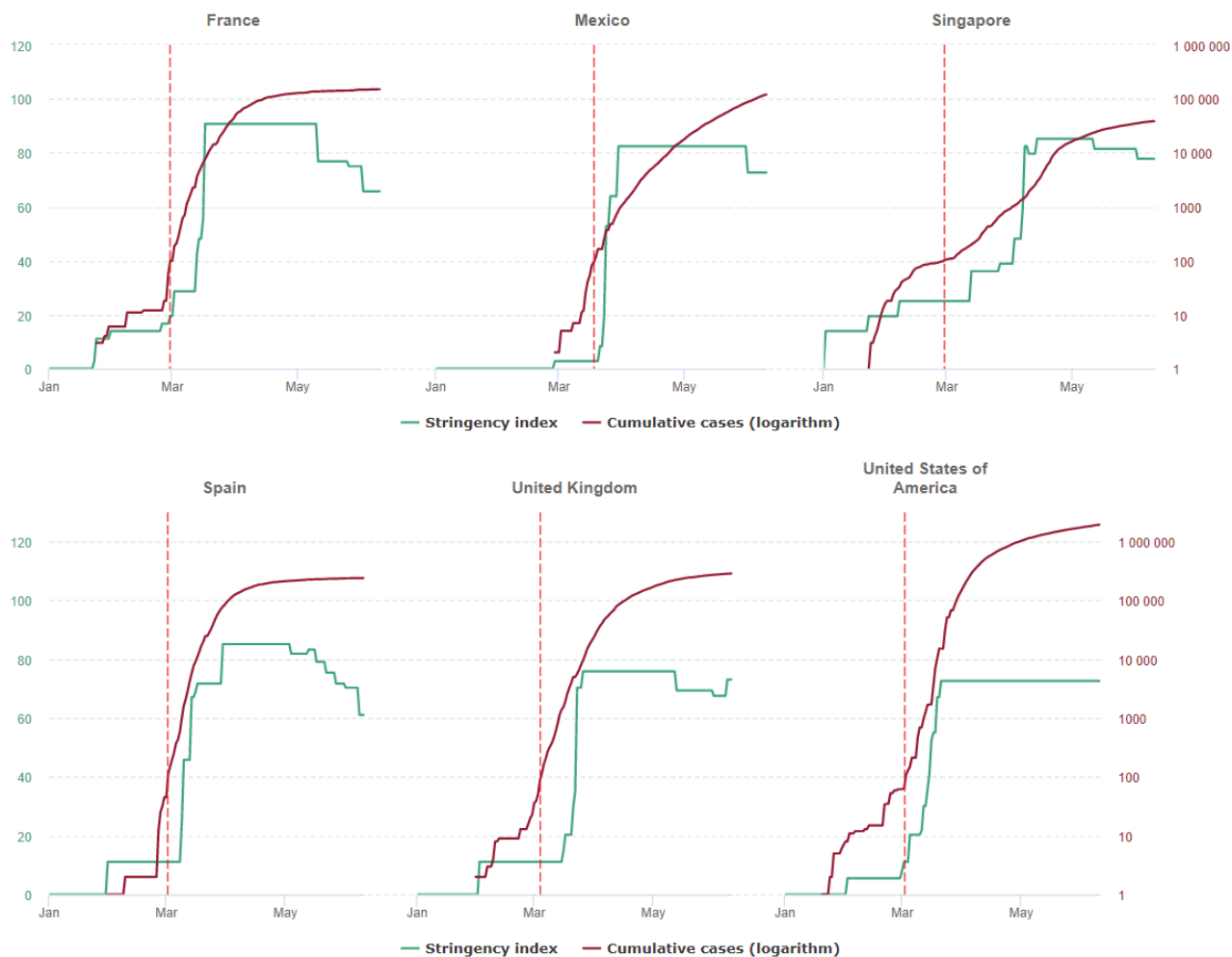
It quickly became evident that, while the containment measures could be effective in slowing down the rate of infection, they also had serious economic and social consequences. With international trade collapsing, domestic economic activity at a standstill and unemployment soaring, the pandemic could also bring long-lasting harm to the economy. And the detrimental economic effects are not distributed evenly. Because of their lower diversification, more limited capacity to hedge risks and less resources in general, smaller firms were particularly affected. Also, poorer families, households in rural areas, workers in the informal sector and certain population groups were more impacted than others.

Countries that implemented distancing measures quickly appear to more successfully contained the spread of the disease



The health crisis could, therefore, exacerbate existing sources of inequality. Governments proposed and started implementing policy packages covering fiscal, monetary and macro-prudential measures, along with employment preservation, income support and social protection policies.

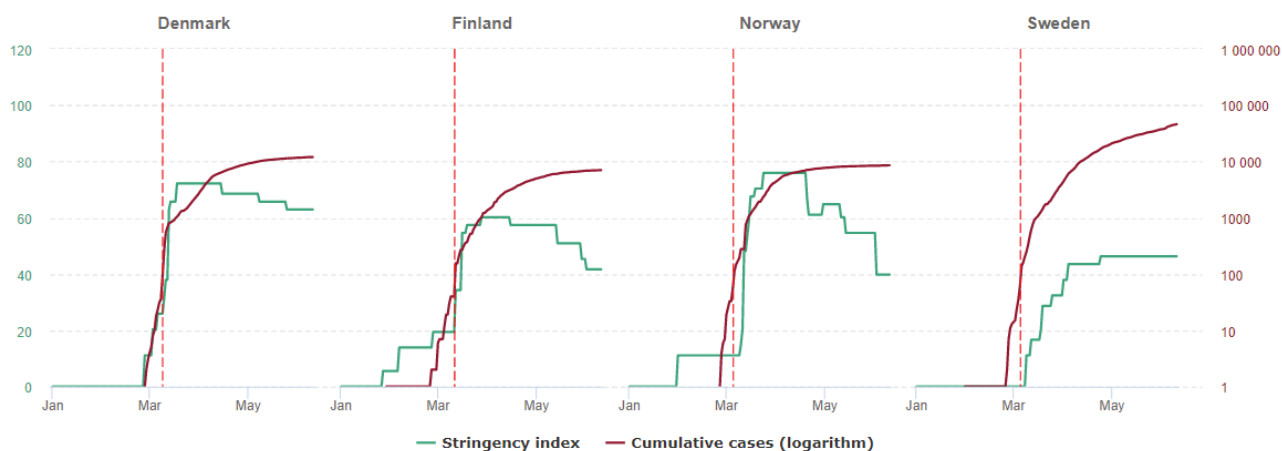
Figure 11 Stringency of confinement measures and cumulative COVID-19 cases, selected countries



Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and WHO (2020c).

Notes: This index ranges from 0 to 100, with higher numbers indicating more stringent confinement measures. Cumulative number of cases are in logarithmic scale. The red dotted lines indicate the date when the number of confirmed cases reached 100.

Figure 12 Stringency of confinement measures and cumulative COVID-19 cases, selected countries

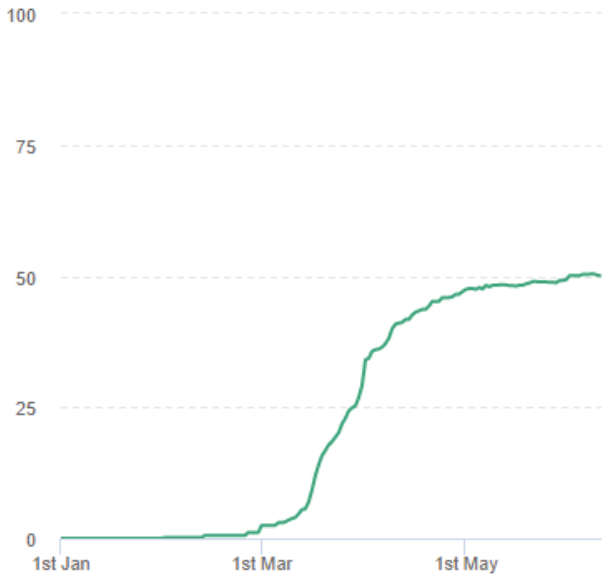


Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and WHO (2020c).

Notes: This index ranges from 0 to 100, with higher numbers indicating more stringent confinement measures. Cumulative number of cases are in logarithmic scale. The red dotted lines indicate the date when the number of confirmed cases reached 100.

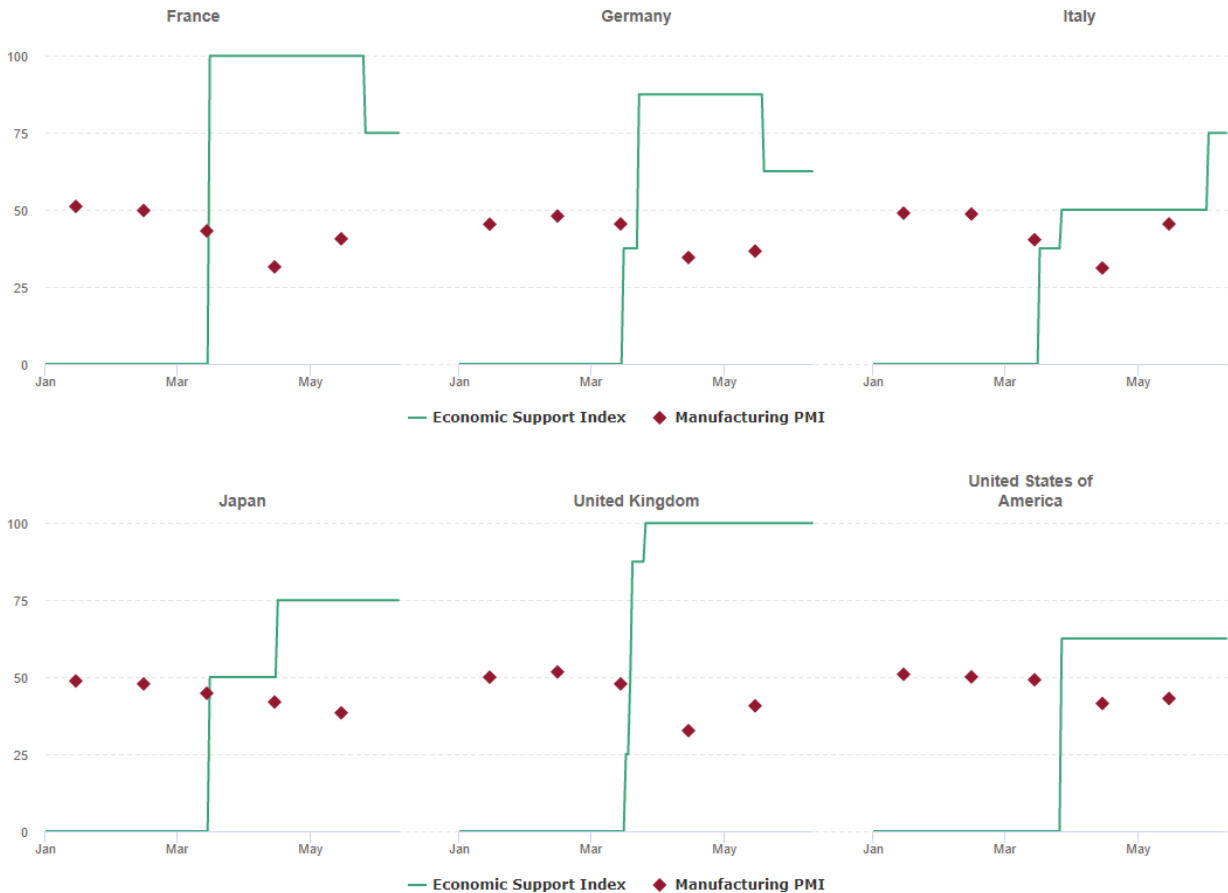
The Oxford COVID-19 Government Response Tracker's Economic Support Index provides a quantitative indicator of such measures. Because it only covers policies related to income support and debt/contract relief for households (and does not include fiscal stimulus for firms, for instance), it only provides a partial picture of the full spectrum of economic measures taken as a response to the pandemic. However, it can still give an indication of how reactive the governments were when faced with the supply and demand shocks brought by the pandemic.¹⁴ A GDP-weighted global average of this index is presented in figure 13.

Figure 13 Global economic support measures



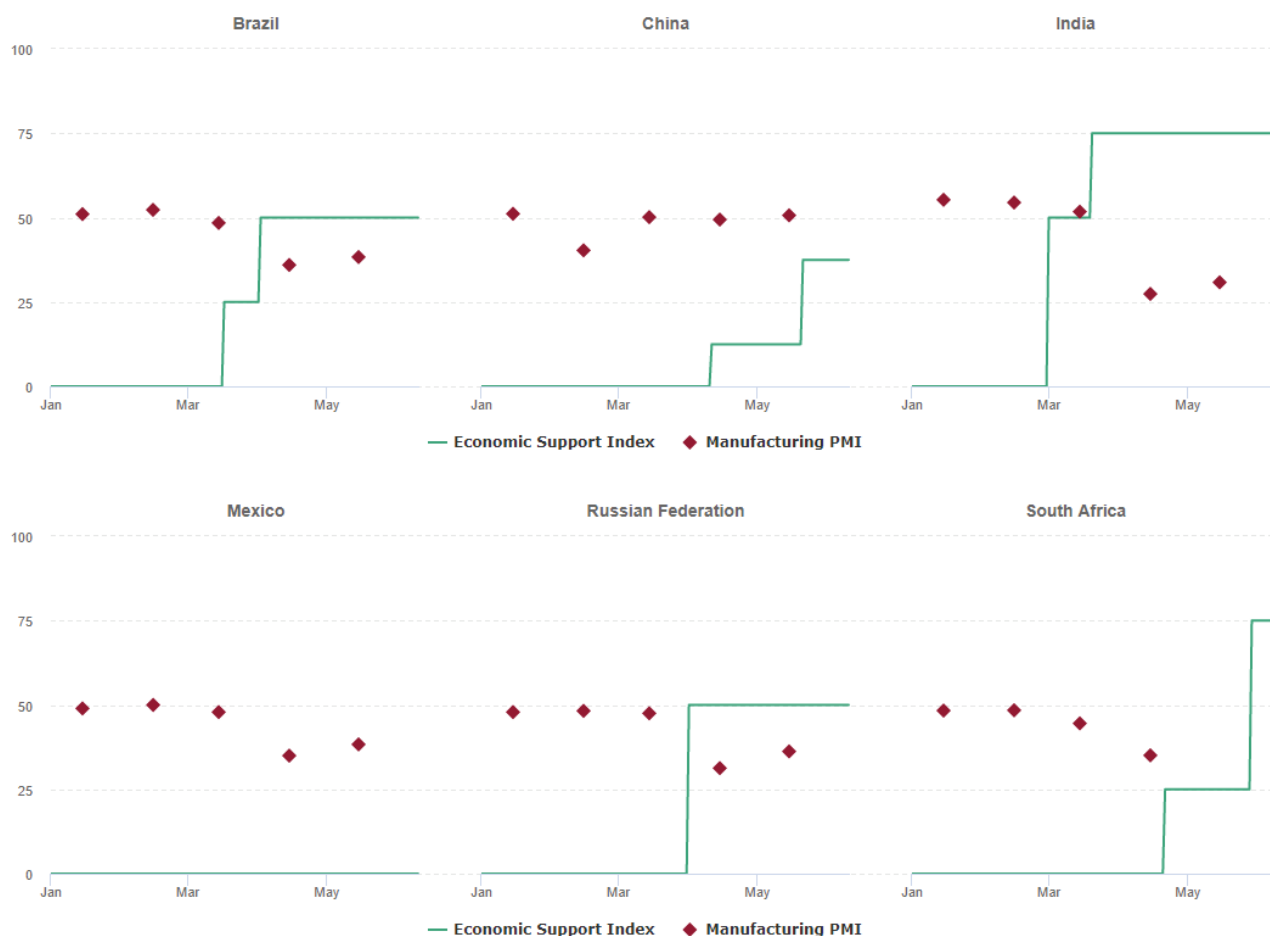
Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and UNCTAD (2020a).
Note: This index ranges from 0 to 100, with higher numbers indicating more economic support measures. The global average is calculated as the GDP-weighted average of country level indices.

Figure 14 Economic support measures and manufacturing activity, selected countries



Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and Refinitiv (2020).
Notes: The Economic Support index ranges from 0 to 100, with higher numbers indicating more economic support measures. PMIs are diffusion indices, with values above (below) 50 indicating an expansion (contraction).

Figure 15 Economic support measures and manufacturing activity, selected countries



Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and Refinitiv (2020).

Notes: The Economic Support index ranges from 0 to 100, with higher numbers indicating more economic support measures. PMIs are diffusion indices, with values above (below) 50 indicating an expansion (contraction).

Figures 14 and 15 show the implementation of economic support against the evolution of the PMI in the manufacturing sector, a timely indicator of economic activity in this sector. The first graph covers developed economies, while the second includes developing and transition economies. We see a strong response since mid-March or early April in many countries, as soon as economic indicators signalled a slowdown. But other countries have implemented more muted economic stimulus. The capacity of countries to implement stimulus policies depends on factors such as the available fiscal space and the degree of development of the financial sector. Because of this, the crisis could also deepen pre-existing inter-country inequalities, affecting poorer or less financially-integrated economies to a larger degree.

COVID-19 and the SDGs

COVID-19 has had a dramatic impact on the global economy, environment and society. This section presents a small flavour of developments since the outbreak. One indicator has been selected to represent each of the three key pillars. For economy, developments in international trade are examined, which relate directly to SDG targets 17.11 and 17.13; for social, the likely impact of COVID-19 on extreme poverty, target 1.1, are highlighted; for environment and climate change we examine changes in greenhouse gas emissions, target 9.4.

Other analyses regarding COVID-19 and the SDGs are included elsewhere in this report, related to:

- Tourism (see Developing economies in international trade)
- Tariffs on medical goods (see Barriers to trade)
- Development finance to LDCs (see Robust and predictable financing sources, Official support for sustainable development and Policies to promote trade)
- Food security (see Trade, food security and sustainable agriculture)
- Debt sustainability (see Developing country external debt sustainability)
- Unequal access to ICT (see The potential benefits and risks of ICT)
- Declining output (see Sustainable industrialization and technology)

Economy: Severe decline in global trade

At the end of 2019, global merchandise trade volumes and values were showing modest signs of recovery. But in 2020, as the world adopted a range of measures to contain the COVID-19 pandemic, the global economy grounded to a halt, and international trade with it. In early May 2020, the monthly UNCTAD Trade Nowcast (UNCTAD, 2020b) estimated that the value of global merchandise trade would fall in the second quarter of 2020 by 27 per cent year-on-year (see figure 16). As economies start to reopen after

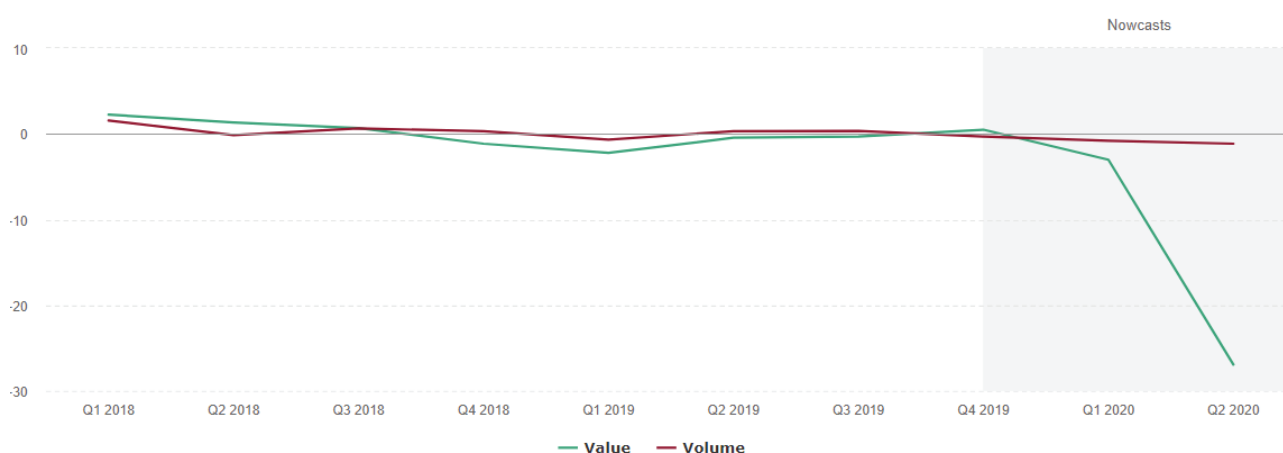
containment, a rebound in June is anticipated. However, as no data are available yet to reflect this upturn, the nowcast is still extrapolating prior trends. Consequently, the June edition of the UNCTAD Trade Nowcast was suspended, as UNCTAD statisticians were concerned that their models were overshooting, as data picking up impacts of decontainment were not yet available.

The UNCTAD nowcasts incorporate a wide variety of data sources to capture the diverse determinants and indicators of trade. To help users understand this, UNCTAD also publishes, alongside the headline nowcast, a time series, showing how the nowcast has evolved on a weekly basis, as the model incorporates new information (see figure 17). For value estimates, one can see a clear deterioration since late April as new data became available.

“The 2020 trade collapse will be big, sudden, synchronised and broad – but it should not be unexpected”

– Richard Baldwin, Professor of International Economics, The Graduate Institute, Geneva

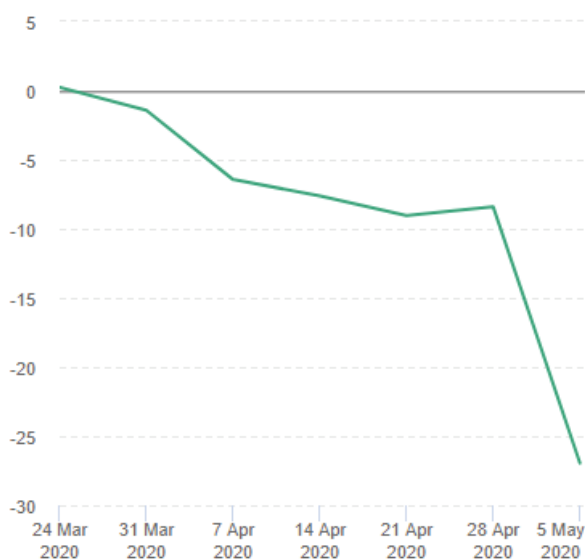
Figure 16 Global merchandise trade
(quarter-on-quarter growth rate, seasonally adjusted)



Source: UNCTAD calculations based on University of Oxford, Blavatnik School of Government (2020) and WHO (2020c).

Notes: This index ranges from 0 to 100, with higher numbers indicating more stringent confinement measures. Cumulative number of cases are in logarithmic scale. The red dotted lines indicate the date when the number of confirmed cases reached 100.

Figure 17 Evolution of global merchandise trade nowcast, 2nd quarter of 2020
(quarter-on-quarter growth rate, seasonally adjusted)



Source: UNCTAD (2020b).

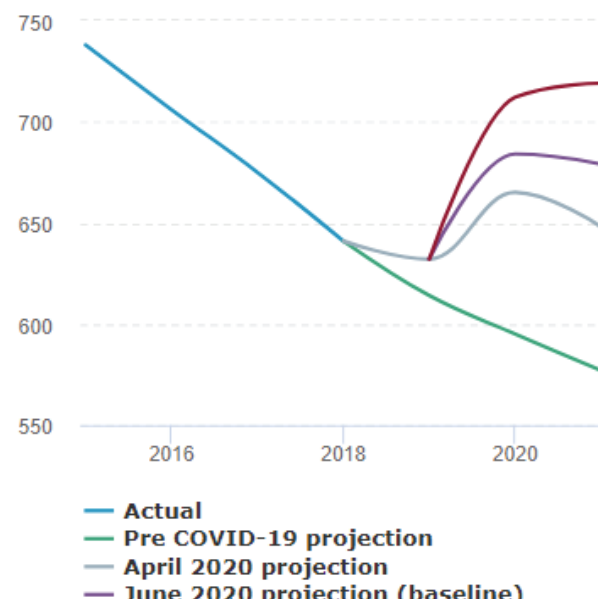
Note: The shaded area indicates UNCTAD nowcasts as of 5 May 2020.

Social: Worsening impact on global poverty

In May, the World Bank (Gerszon-Mahler et al., 2020) estimated that COVID-19 could push between 40 and 60 million into extreme poverty (CCSA, 2020). Since then, the epicentre of the pandemic has shifted from Europe to the Americas and the Global South, increasing the death toll in low- and middle-income countries. As a result, they have updated their assessment of the impact of COVID-19 on global poverty.

Based on the updated growth forecasts presented in their Global Economic Prospects, the World Bank (2020) has updated their impact assessment on global poverty. They present two scenarios, a baseline scenario (global growth contracts by five per cent in 2020) where the outbreak remains at currently anticipated levels, with economic activity recovering later in the year. The more pessimistic downside scenario (global growth contracts by eight per cent in 2020) anticipates a more persistent outbreak, forcing prolonged containment measures, resulting in vulnerable firms closing, vulnerable households sharply reducing consumption, and several low- and

Figure 18 The impact of COVID-19 on global extreme poverty
(millions of persons)



Source: Gerszon-Mahler et al. (2020).

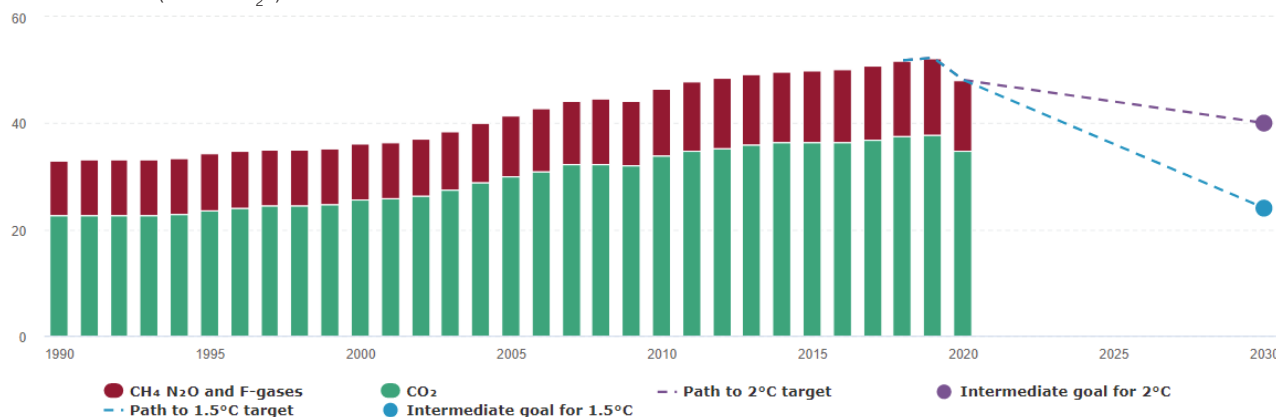
middle-income countries experiencing heightened financial stress.

Based on these deteriorating economic forecasts, the World Bank have updated their assessment of the impact of COVID-19 on poverty. They estimate that the baseline scenario will result in 71 million people being pushed into extreme poverty (measured by the international poverty line of US\$1.90 per day), whereas the downside scenario would see this rise to 100 million people.

Environment: Reduction of CO₂ emissions due to COVID-19 not enough to reach climate targets

In the first quarter of 2020, global CO₂ emissions were more than five per cent lower compared with the same period in 2019 according to estimates by IEA (2020). Depending on the scenario used, 2020 global CO₂ emissions are forecast to decline by around eight per cent; the equivalent of 2.6 Gt. This will be the largest reduction ever recorded and will bring us back to levels last seen a decade ago. The last significant decline, caused by the global financial crisis in 2009, only yielded a reduction of 0.4 Gt.

Figure 19 Greenhouse gas emissions and target reductions
(Gt of CO₂e)



Source: UNCTAD calculations based on the Netherlands PBL (2019) and UNEP (2019).

Notes: For additional details, see Make or break for green economy.

Early in 2020, global demand for energy fell sharply owing to containment measures taken against the COVID-19 pandemic. Significant contributors to this slump in demand were the fall in demand for air and road travel (see Make or break for green economy). The fall in demand, combined with changes in the global energy mix in favour of renewables, in turn, contributed to notable short-term improvements in air quality, particularly falls in NO₂ (Carbon Brief, 2020; NASA, 2020; European Data Portal, 2020; CCSA, 2020).

Although record-breaking, the forecast reduction of CO₂ emissions caused by the COVID-19 outbreak will not be enough to achieve even the weakest of the targets set out by the Paris Climate agreement. Global emissions would need to be cut by almost eight per cent every year for the next ten years to keep us within reach of the Paris Climate agreement. Even if COVID-19 has induced fast reductions of CO₂ emissions in 2020, it will not be enough to win the fight against climate change. More effective and lasting efforts are needed to reduce CO₂ emissions and other greenhouse gases to limit global warming below 2°C or especially below the 1.5°C target by 2100. As populations and GDP per capita continue to grow, a drastic reduction in carbon intensity will be required. Rising energy efficiency serves as an important step in that direction, as well as renewable and cleaner energy.

Trade shocks and gender equality in employment¹⁵

Business cycles are not gender neutral (e.g. Hoynes et al., 2012; Peiro et al., 2012; Razzu and Singleton, 2016), as a consequence of gender-segregation into different industries and occupations (Razzu and Singleton, 2018). Economic downturns usually affect men more than women since men tend to work in industries that are more closely tied to economic cycles (e.g. construction and manufacturing). However, the COVID-19 economic downturn may be different as sectors most exposed to the collapse absorb a sizeable share of female employment (ILO, 2020b). Therefore, women are likely to be more affected, at least in the short-term (Alon et al., 2020). As the economic consequences of COVID-19 unfold, the effects may spread. As outlined above, the latest UNCTAD (2020b) nowcast anticipates that the world trade will fall by 27 per cent during the second quarter of 2020. This will have differing effects on women and men in the labour markets which will be important to consider in the crisis response.

To analyse the link of gender and trade in these conditions, we estimate the response of women's and men's employment to changes in international trade. A set of gender balanced indicators in employment, as proposed by Van Steveren (2012), shows how gender equality has evolved

during previous economic fluctuations. These indicators also provide early signs of changes in the labour market by gender in response to changing international trade. Data from the EU and the United Kingdom, comparable by EU regulation, make an interesting case study, noting the synchronizing effect of the common economic area on business conditions.

Figure 20 compares year-on-year changes in male and female unemployment rates with year-on-year changes in international trade for EU countries and the United Kingdom. The ratio of female to male unemployment seems to follow similar patterns to international trade, meaning that male employment increases more than female's as trade increases. From this viewpoint, international trade benefits men more than women (Luomaranta et al., 2020).

To inspect the relationship of trade and employment in selected groups in the labour markets, we estimate a set of panel-VAR regressions using Abrigo and Love (2015) as:

$$X_{i,t} = \pi_i + \Theta(L)X_{i,t} + \varepsilon_{i,t}$$

where $X_{i,t} = [\ln Y_t \ln T_t \ln U_t]$ vector includes the labour force indicator of interest, international trade growth rate, and unemployment growth rate, all in logs. $\Theta(L)$ the matrix polynomial in the lag operator L . π_i captures the country fixed

effects and $\varepsilon_{i,t}$ is the error term. As in Clark and Summers (1980), unemployment rate is used to capture the state of the economy, distinguishing overall economic conditions from international trade.

The first two charts in figure 21 illustrate the differing responses of male and female employment rates to a one per cent increase in international trade in goods. Indeed, based on the estimated model, male employment rate reacts more strongly to an increase in trade than female rates: 0.24 per cent increase for men compared with only 0.13 per cent for women. Similarly, male employment will drop by 0.24 per cent for every one per cent decrease in international trade. This reinforces the observation that male employment is more pro-cyclical than female employment.



The remaining four charts review responses to a one per cent increase in unemployment to capture the labour market responses to worsening economic conditions in a number of gender

Figure 20 Quarterly ratio of women's to men's unemployment and trade in goods, EU and United Kingdom (year-on-year change)



Source: UNCTAD calculations based on the Eurostat (2020).

Notes: Both variables are standardized to have mean zero and standard deviation of one.

Figure 21 Impulse responses of employment and unemployment rates in selected groups in the labour markets, EU and United Kingdom (year-on-year change)



Source: UNCTAD calculations based on the Eurostat (2020).

Notes: We apply a set of homogeneous panel VAR models, useful for analysing cyclical responses of the variables, all of which are entered in a stationary form and are de-trended and de-seasonalized natural logarithms of year-on-year growth rates. The impulse-response plots provide a short-term response to one per cent increase in the impulse variable (international trade in goods) on the response variables (selected employment variables) in each country. The lag length is selected by the Akaike information criterion. Notice that the plots should only be used to consider the very short-term responses. The titles placed above each plot provide the impulse variable and the response variable, respectively.

balance indicators. The third chart compares women's unemployment to men's unemployment among youth, with a declining development referring to men's unemployment rate increasing faster than women's among young workers (20-24 years). In part-time employed, gender balance in employment shifts for the benefit of men, when economic conditions deteriorate. Similarly, women would gain relative to men when the economy picks up.

The opposite is true among employees with a lower education, as gender balance in employment shifts for the benefit of women when the economy deteriorates. Men are relatively more hit in low-skill jobs when the economy plummets. The

gender balance in employment in the high-skill category is not strongly responsive to economic shocks.

Taken together, the results provide evidence that international trade has gendered impacts on employment and points out that young, part-time workers and those with a lower education are most vulnerable to shocks, such as those related to the COVID-19 pandemic. According to ILO (2020c), over one in six young people (aged 15 to 24) surveyed have stopped working since the onset of the COVID-19 pandemic, and for those remaining in employment, working hours have dropped by 23 per cent.

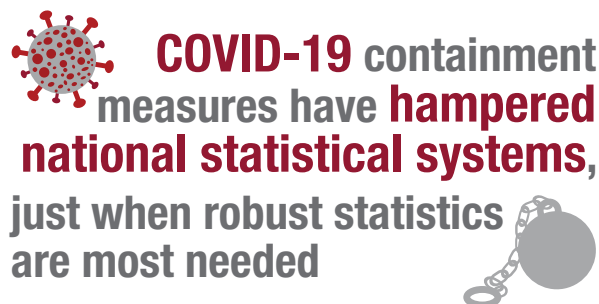
Gender balance in the labour markets can be significantly affected by international trade and economic fluctuations and should, therefore, be closely monitored. UNCTAD (2018) provides a conceptual framework for analysing the interconnections of gender equality and trade. Countries should collect and analyse gender statistics linked to trade to inform crisis response and recovery plans, since it looks like the most vulnerable are likely to suffer the strongest effects of the COVID-19 related economic downturn.¹⁶

Impact on global statistics

The global COVID-19 crisis has disrupted the compilation of official statistics across the global statistical system, throwing up a wide range of methodological, conceptual and data collection challenges. National and international statistical organizations have had to implement a variety of innovative actions to ensure the continuity of key statistical collections and outputs.

COVID-19 has posed challenges for some longstanding statistical concepts, not least, the definition of unemployment. The internationally agreed statistical concepts and definition of unemployment, set out in the 1982 ILO Resolution Concerning Statistics of the Economically Active Population, Employment, Unemployment and Underemployment¹⁷, have been strained by confinement. In summary, to be classified as unemployed, a person must be without work, available for work, and seeking work during a reference period. But what happens when an economy closes? Curiously, strict application of ILO rules, despite the difficulties presented for job search amid COVID-19 restrictions, and the variety of government social protection and furlough schemes put in place to protect labour that have fully or partially replaced wages and salaries usually paid by employers, could yield a counter-intuitive result, whereby the numbers employed and unemployed would be little impacted by the pandemic. Consequently, some countries have made special adjustments, in respect the ILO standards, to yield credible results. For example, in Ireland the Central Statistics Office presents their traditional (or standard methodology)

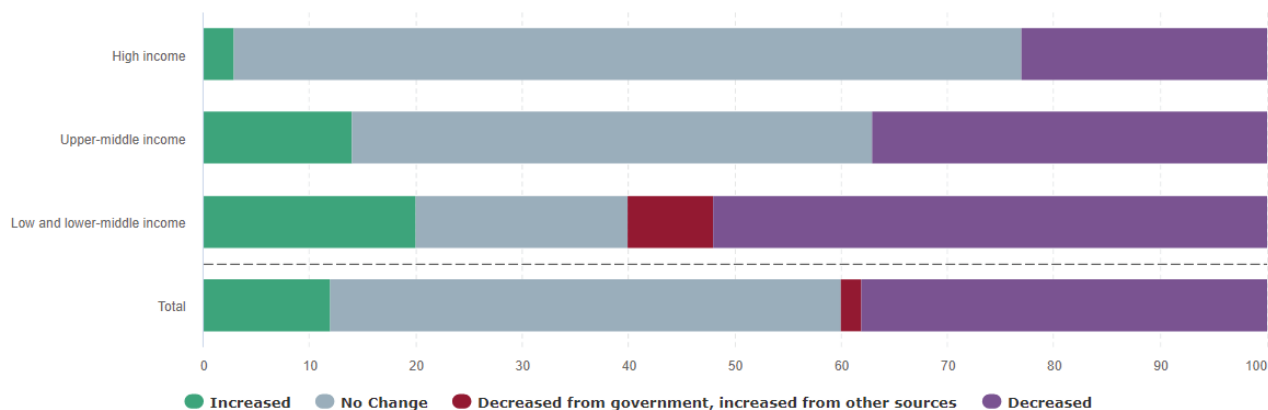
monthly unemployment estimates alongside an alternative COVID-19 adjusted unemployment measure that estimates the share of the labour force that were not working due to unemployment or who were out of work due to COVID-19 and were in receipt of special COVID-19 related social protection or unemployment payments. In May 2020, the traditional measure for unemployment was estimated to be 5.8 per cent, whereas the COVID-19 adjusted rate was 26.1 per cent (CSO, 2020).



The compilation of national accounts is also facing similar conceptual challenges, not least how to treat or account for COVID-19 related payments to enterprises, employees and self-employed in the system of national accounts and GDP. The Intersecretariat Working Group on National Accounts (2020) advise that government supports to employers to maintain businesses and keep employees on payroll, and government supports to self-employed to support business, should be recorded in the SNA as 'other subsidies to production'. Government supports to households to maintain income (depending on whether they are considered as social benefits or not), should be recorded as social security benefits, social assistance benefits or miscellaneous current transfers. For example, the Coronavirus Job Retention Scheme implemented in the United Kingdom, where employers of furloughed staff are paid 80 per cent of salaries by government, will be treated as a subsidy to business, to be netted off the income measure of GDP (Athow, 2020).

COVID-19 has additionally thrown up a whole host of methodological issues. For example, many national statistical offices have had to either temporarily suspend face-to-face interviews or switch very quickly to other

Figure 22 Impact of COVID-19 on NSOs' funding by country income group
(Percentage)



Source: UNDESA and World Bank (2020).

modes of data collection, such as telephone or web-based collection, web scraping, or greater use of administrative or privately held data. Important household surveys, such as labour force, consumer price index, household budget, income and living condition surveys have suffered from disruptions. This presents not only logistical and infrastructural challenges but also significant statistical challenges. For example, creating telephone databases or adopting dual or multiple frame sampling (a challenge if surveying both landline and mobile phones) are significant complications. Furthermore, if NSOs switch from CAPI to CATI, then they will also need to adjust for 'mode' as each mode of collection has its own inherent biases. They may also need to deal with suddenly reduced response rates (ILO, 2020d). Many traditional imputation and seasonal adjustment procedures, which rely on historic patterns, will have been rendered redundant by containment.

Equally, enterprise surveys too have been impacted as many businesses are closed or have 'relocated' to new addresses as business owners and employees work from home. The crisis is likely to pose very particular challenges for the quality of statistical business registers, as enterprise churn, the washing machine of enterprise births and deaths, is likely to be much higher and less predictable than usual. In turn, this will impact both sample selection and the weighting of many

other business surveys. NSOs have also had to grapple with the knotty problem of compiling price indices when markets have shut down. For example, how to continue residential and commercial property price indices when there are no transactions, and consequently no reported prices for some products. How do you impute for a market that does not exist? These are important questions for the indices themselves, but also for the derived deflators – the basis for volume and constant price measures. COVID-19 will also disrupt normal seasonal patterns, introducing a set of new challenges for statisticians hoping to present consistent time series and provide timely information.

From an official statistics perspective, COVID-19 hit at a particularly unfortunate time, as 2020 was the beginning of the next round of the decennial census of population. More than 120 countries were scheduled to conduct census enumeration between 2020 and 2021. Censuses are expensive, and if delayed, many of the sunk costs cannot be recouped and may result in cancellations rather than just postponements. By early May 2020, UNFPA reported that already 64 countries had reported adverse impacts of COVID-19 on their population and housing censuses (CCSA, 2020). In a recent survey, 'Monitoring the state of statistical operations under the COVID-19 Pandemic' jointly conducted by UN DESA and the World Bank (more below), 58 per cent of the

61 countries who were planning a Population and Housing Census in 2020 reported impacts on their preparatory activities, with more than half (53 per cent) postponing fieldwork to later in 2020 or to 2021 or beyond (UNDESA and World Bank, 2020). If the global census round is disrupted, this will ripple through the entire statistical system, as not only will many minority and vulnerable populations go uncounted, but as the denominator for so many other indicators, the impact will be felt in every statistical domain – social, economic and environmental.

National statistical systems and international statistical offices around the world have risen to the challenge. Like many other industries, they have switched rapidly to working from home, while simultaneously introducing new data collection methodologies, adapting existing conceptual frameworks to incorporate government interventions and yield technically accurate but plausible results. There has also been considerable innovation, with many offices having introduced new data sources, surveys and statistics.

Statistics Canada (2020), for instance, introduced a monthly flash GDP estimate in April 2020 to provide a faster approximation of the scale of economic disruption in March 2020. Statistics South Africa (2020) and the ONS in the United Kingdom (Athow, 2020), among others, have introduced online surveys on the business impact of COVID-19 and surveys to assess the impact on people, households and communities, similarly to the new Household Pulse Survey of the United States (United States Census Bureau, 2020). Many offices have partnered with government and private organisations to access timely data sources, such as big data on ship tracking, road traffic sensors, credit card transactions and mobile phone use. Statistics Netherlands improved the timeliness of many statistics, including mortality, retail trade, use of energy, bankruptcies statistics and introduced new statistics on emergency measures and mobility among others. Statistics Estonia and the Ghana Statistical Services, for example, have been measuring mobility under the confinement period using anonymized mobile phone data (Migration data portal, 2020; Ghana

Statistical Services and Vodafone Ghana, 2020). A quick adaptation of data collection methods has also been necessary under confinement, including in South Africa, where a large proportion of price data collection was moved online (Statistics South Africa, 2020), and offices like the United States Census Bureau and Statistics New Zealand have started using credit card purchase and supermarket price data directly for statistical production.

As noted above, the UN DESA and the World Bank's Development Data Group, in coordination with the five UN regional commissions, recently conducted a global online survey to monitor the nature, scale, and scope of the impact of the coronavirus crisis on statistical agencies, as well as to identify new data needs. The survey results, covering 122 responding countries, highlight the tremendous challenges being faced by national statistical offices as a result of the COVID-19 crisis, but also illustrate the range of measures being taken to mitigate negative impacts and meet new data demands. 65 per cent of NSO headquarters offices are partially or fully closed, 90 per cent have instructed staff to work from home, and 96 per cent have partially or fully stopped face-to-face data collection. The results also show that NSOs in low- and lower middle-income countries have been hardest hit, where nine out of ten offices report impediments to their ability to meet international reporting standards and additional funding constraints. Unsurprisingly, the survey has reinforced the importance of technological infrastructure and skills, which has allowed some offices to find substitute modes of data collection for face-to-face interviews. Worryingly, at a time when good quality statistics are needed, 38 per cent of responding NSOs reported funding cuts.

UNCTAD Statistics responded quickly by introducing a new quarterly nowcast for merchandise and services trade (UNCTAD, 2020b), providing up-to-date information on global trade (see section COVID-19 and the SDGs – Economy). The online statistical capacity development that UNCTAD provides in cooperation with WTO and UNSD has continued uninterrupted (see UNCTAD in Action TrainForTrade), bringing

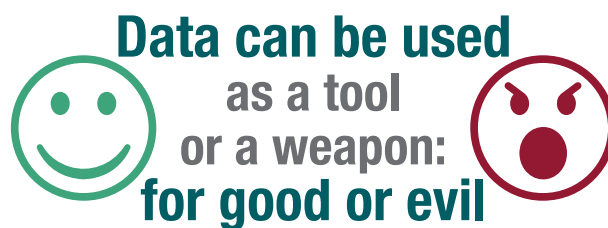
capacity to developing and developed countries all around the world.

36 international organisations also quickly came together, under the aegis of the CCSA, and assembled a report in May 2020, ‘How COVID-19 Changed the World: a statistical perspective’, providing a wide range of statistics to illustrate how COVID-19 has impacted different aspects of our lives (CCSA, 2020).

There is a lot of work to be done. The fast spreading COVID-19 pandemic shows the interconnectedness of countries and underlines the need for more granular, interlinked and timely official statistics. There is, most likely, no return to ‘business as usual’ for official statistics. The statistical community will need to reshape future official statistics by exploring new partnerships, integration of surveys, registers and alternative data sources for the provision of timely, agile and more bespoke statistics to inform policies with a rich picture of the economy and society – be it on health, employment, production, trade, globalisation, technology, inequality, skills, environment or their interactions. Interesting debates are underway on what this future might look like on the Statistical Journal of the International Association of Official Statistics discussion platform¹⁸ and on the UN DESA COVID-19 Response page¹⁹.

2020 hindsight

In recent years, there has been much debate surrounding the ethics of using personal data and what are the acceptable trade-offs vis-a-vis privacy. Captains of industry 4.0, such as Mark Zuckerberg (Facebook), Scott McNealy (Sun Microsystems) and John McAfee (McAfee Associates) have all argued that the concept of privacy is extinct (Kirkpatrick, 2010; Noyes, 2015; McAfee, 2015). Many disagree and have voiced concerns over the loss of privacy (Pearson, 2013; Payton and Claypoole, 2014; Zuboff, 2019). New data protection legislation in Europe (EU, 2016) and in California (State of California, 2020) suggest that at least some legislators still see a value in privacy. Nevertheless, it is difficult to see



how the concept of privacy can survive unscathed with the relentless drive towards the Internet of Things - smart phones, smart TVs, smart cars, smart homes and smart cities, and harvesting of personal data. Soon it seems everything we do will be monitored. One cannot help but wonder whether privacy as an ‘ideal’ might still be alive and well, but privacy in ‘practice’ is on life-support; day after day, we read about enterprises and institutions failing to protect personal records.

There is a risk that COVID-19 may exacerbate this situation. In a time of crisis, populations expect their governments and public services to adapt and provide new services (and information) without delay. At the same time, populations tend to have elastic ethical frontiers. Thus, social license typically contracts in good times but loosens in emergencies, with the result that populations are less concerned about the how job gets done as long as it gets done. While this is understandable, reactions to recent crises have arguably permanently stretched the limits of the pre-crisis ethical frontiers. For example, following 9/11 many legal barriers to data sharing were quickly swept aside as the political focus shifted from privacy to security (Lyon, 2001); many were never reinstated. The COVID-19 pandemic may do the same. In March 2020, it was reported that 19 countries were accessing citizen data to track the virus (Cozzens, 2020; Doffman, 2020), including Austria, Germany, Italy, the United Kingdom and the United States of America, while Liechtenstein is even planning to electronically tag and monitor its citizens (Financial Times, 2020). Furthermore, Google began publishing detailed statistics, harvested from their applications and platforms, on population movements (Kelion, 2020; McGrath, 2020). Yale’s professor Sudhir neatly sums up the situation: ‘Privacy concerns are on the back burner during this emergency’ (Sudhir,

2020). While this is understandable, it raises the question of what happens after the crisis? Can we put the genie back in the bottle afterwards?

COVID-19 may have additionally unwittingly exposed tensions between community and individual rights. Many will argue that the growth of the Internet of Things and the ability to measure everything is a good thing. But good for who? As Sen (1999, p. 150) reminds us, ‘in judging economic development it is not adequate to look only at the growth of GNP or some other indicators of overall economic expansion. We have to look also at the impact of democracy and political freedoms on the lives and capabilities of the citizens’. There are some who now fear the growth and centralisation of technology as a direct threat to democracy (Reich, 2015; Taplin, 2017; Zuboff, 2019). Data can both be a tool and a weapon; used for good or evil. As noted in the 2019 In Focus of SDG Pulse The many faces of inequality, (UNCTAD, 2019) equal access to data is of central importance to achieving the 2030 Agenda. The growth in proprietary data is exacerbating the split between ‘the data haves and have-nots’ and is creating a new dimension of inequality.

Notes

- 1 WHO (2020a, report #132).
- 2 WHO (2020a, report #1).
- 3 WHO (2020a, report #11).
- 4 On 11 February 2020, the WHO, in consultation and collaboration with the OIE and the FAO, named the novel coronavirus as COVID-19.
- 5 Africa, Americas, Eastern Mediterranean, Europe, South East Asia, and Western Pacific.
- 6 WHO (2020a, report #37).
- 7 WHO (2020a, report #133).
- 8 WHO (2020a, report #58).
- 9 The date of the first stage reopening.
- 10 Range around the estimate: 1.8 – 4.7 million people.
- 11 WHO (2020a, report #112).
- 12 24 participating countries or territories: Austria, Belgium, Denmark, England, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Malta, the Netherlands, Northern Ireland, Norway, Portugal, Scotland, Spain, Sweden, Switzerland and Wales.
- 13 This composite index provides a quantitative score of the implementation of nine types of containment and physical distancing measures in over 150 countries. It is updated daily from a variety of data sources. It is scaled to a 0-100 range, with higher numbers indicating more “stringent” containment measures. For a complete description of these index and its methodology, see Hale et al. (2020).
- 14 For a more complete compilation of economic measures, see IMF (2020) and OECD (2020).
- 15 This note is based on ongoing research and should be taken as preliminary. More developed research report will appear as an UNCTAD research paper.

- 16 These tests provide only a partial view as we are not capturing the complex interrelationships between the labour market and, for example, policies imposed during the COVID-19 lockdowns. Instead, we measure, in a simple way, the responses of the selected employment variables to trade and unemployment, as a marker of the state of the economy, to provide insights on gendered economic structures which can help anticipate future developments.
- 17 Adopted by the Thirteenth International Conference of Labour Statisticians, see ILO (1982).
- 18 Official Statistics in the context of the COVID-19 crisis, see Statistical Journal of the International Association of Official Statistics (2020).
- 19 UNDESA (2020).

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