

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT



KEY STATISTICS and TRENDS

in Trade Policy **2022**



Green goods trade and trade policies



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NOTE

Key Statistics and Trends in Trade Policy is a yearly publication of the Trade Analysis Branch, Division on International Trade and Commodities (DITC), UNCTAD secretariat. The main purpose of this publication is to inform on the use and effects of a wide range of trade policies influencing international trade.

The series is part of a larger effort by UNCTAD to analyse trade-related issues of particular importance to developing countries in terms of their participation in the international trading system, as requested by the mandate of UNCTAD XV. Alessandro Nicita and Julia Grübler contributed to this study, which also benefited from inputs and comments from various DITC staff members and the UNCTAD Statistics team. Desktop publishing was done by Jenifer Tacardon-Mercado.

OVERVIEW

International trade is subject to and influenced by a wide array of policies and instruments. Technical measures and requirements regulate about two thirds of world trade, while various forms of sanitary and phytosanitary measures (SPS) are applied to almost all agricultural products. Border measures contribute substantially to trade costs. On average the compliance costs of such measures are generally higher than tariffs. The World Trade Organization (WTO) remains an important arbiter of trade disputes, however the past few years have seen a general decrease in the number of trade defence investigations brought to the WTO, also because of the problems related to the functioning of its appellate body. As of 2021, there is a large number of trade defence measure in force, most of them by developed countries and major emerging economies.

With the notable exception of the increase in bilateral tariffs between the United States of America and China, tariffs have remained substantially stable during the last few years with tariff protection remaining a significant factor in some sectors and markets. Tariffs have been marginally reduced in some of the sectors as to facilitate trade of products related to the COVID-19 pandemic.

As of 2021, trade costs directly related to tariffs were at about 2 per cent for developed countries' and at about 4 per cent for developing countries. Tariff restrictiveness remains substantial in many developing countries, especially in South Asian and African countries. Moreover, tariffs remain relatively high in some sectors where tariff peaks are present. Those sectors include some of key interest to low-income countries such as agriculture, apparel, textiles and leather products. Tariffs also remain substantial for most South–South trade.

The process of deeper economic integration has remained strong at the regional and bilateral levels, with an increasing number of preferential trade agreements (PTAs) being negotiated and implemented. Most of the recent PTAs address not only goods but also services and increasingly deal with rules beyond reciprocal tariff concessions to cover a wide range of behind the border issues. As of 2021, about half of world trade has occurred under some form of PTA. While the COVID-19 pandemic has severely disrupted international trade, trade under deep trade agreements has been relatively more resilient, increasing the share of trade under deep PTA further in 2021.

This report is structured in two parts. The first part provides a discussion and statistics on the trade of green (environmentally friendly) goods and of some of the trade policies applied to this trade. The second part presents and discusses trends in selected trade policy instruments, including illustrative statistics. The second part is divided into four chapters: tariffs, trade agreements, non-tariff measures and trade defence measures. Trade trends and statistics are provided at various levels of aggregation illustrating the use of the trade policy measures across economic sectors and geographic regions.

DATA SOURCES

All statistics in this publication have been produced by the UNCTAD secretariat by using data from various sources. Data on tariffs and non-tariff measures originate from the UNCTAD Trade Analysis and Information System (TRAINS) database (<https://trainsonline.unctad.org/home>), while data on bound tariffs derive from the WTO's Consolidated Tariff Schedules database (<tdf.wto.org>). Trade data are from the United Nations Commodity Trade Statistics Database (COMTRADE; <comtrade.un.org>). Data on trade defence measures are sourced from the WTO I-TIP (<i-tip.wto.org>). Tariff and trade data are at the Harmonized System 6-digit level and have been standardized to ensure comparability across countries. Data related to preferential trade agreements are derived from various databases, including the WTO regional trade agreement gateway (<rtais.wto.org>) and the World Bank global preferential agreements database (wits.worldbank.org/gptad/trade_database.html). Other macro level data used in the figures originate from UNCTADstat (<unctadstat.unctad.org>). Unless otherwise specified, aggregated data cover more than 160 countries representing over 95 per cent of world trade. Data on non-tariff measures covers around 80 countries, covering about 80 per cent of world trade.

Countries are categorized by geographic region as defined by the United Nations classification (UNSD M49). Developed countries comprise those commonly categorized as such in United Nations statistics. Product sectors are categorized according to the Broad Economic Categories (BEC) and the International Standard Industrial Classification (ISIC). Preferential trade agreements that relate to both goods and services are counted as one. Non-tariff measures are classified according to UNCTAD classification (https://unctad.org/system/files/official-document/ditctab2019d5_en.pdf).

Further information relating to the construction of data, statistics, tables and graphs contained in this publication can be made available by contacting tab@unctad.org.

GLOSSARY

Antidumping: A trade policy instrument within the WTO framework to rectify the situation arising out of the dumping of goods and its trade distortive effect

Ad-valorem equivalent: the conversion in percentage terms of the cost of a trade policy measure not expressed in percentage terms

APEC: Asia-Pacific Economic Cooperation

Applied tariff: The actual tariff rate in effect at a country's border (including preferential rates)

Binding overhang: The extent to which a country's WTO bound tariff rate exceeds its applied rate

Bound tariff line: See tariff binding

CLEG: Combined List of Environmental Goods

Countervailing duty: A tariff designed to counteract the effect of export subsidies

Coverage ratio: The percentage of trade affected by a measure or set of measures

Deep trade agreements: Agreements that include provisions that go beyond reciprocal reductions of tariffs

Duty-free: Not subject to import tariffs

Export restrictiveness: The average level of tariff restrictions imposed on a country's exports as measured by the MA-TTRI

Frequency index: The percentage of tariff lines covered by a measure or set of measures

HS: Harmonized System – An international system for classifying goods in international trade

Import restrictiveness: The average level of tariff restrictions on imports as measured by the TTRI

MA-TTRI: Market Access Tariff Trade Restrictiveness index. An index measuring the average level of tariff restrictions imposed on exports

MFN (most favoured nation) tariff: The tariff level that a member of the General Agreement on Tariffs and Trade / WTO charges on a good to other members

NTM: non-tariff measure – Any policy, other than tariffs, that alters the conditions of international trade

OECD: Organisation for Economic Co-operation and Development

PEGS: Plurilateral Environmental Goods and Services agreement

Preferential scheme: An arrangement under which countries levy lower (or zero) tariffs against imports from members than outsiders

PTA: preferential trade agreement. This includes what WTO refers to as regional trade agreements and also free trade areas, custom unions and common markets.

RPM: relative preferential margin – A measure of the preferential margin for a given country relative to foreign competitors

RTA: Regional trade agreement

Safeguard: A WTO-compliant import protection policy that permits restricting imports if they cause injury to domestic industry

Shallow trade agreement: Preferential agreements including mainly preferential tariffs

SPS: Sanitary and phytosanitary measures

Tariff escalation: Higher tariffs on processed goods than raw materials from which they are produced

Tariff line: A single item in a country's tariff schedule

Tariff peak: A single tariff or a small group of tariffs that is/are particularly high

Tariff water: See binding overhang.

TBT: Technical barriers to trade

Technical NTM: Non-tariff measure related to SPS and TBT

Trade defence measure: Policies within the WTO framework preventing or correcting injury to domestic industry due to imports

True tariff water: Tariff water that takes into account implicit bindings imposed by PTA obligations

TTRI: Tariff Trade Restrictiveness Index – An index measuring the average level of tariff restrictions imposed on imports

Weighted average tariff: Average tariffs, weighted by value of imports

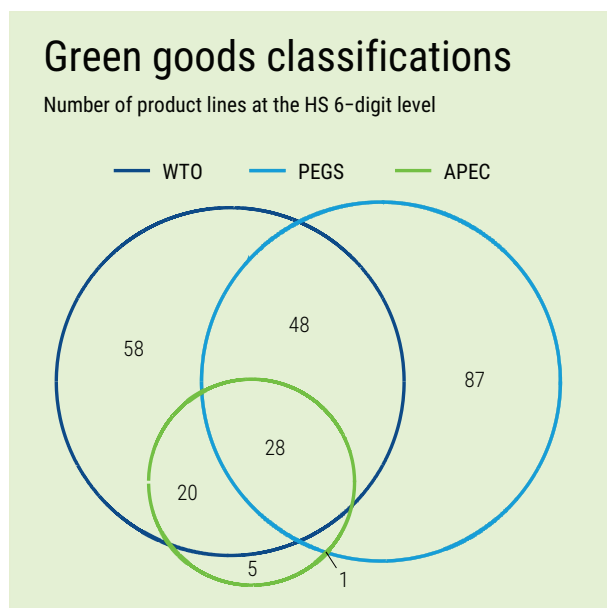
WTO: World Trade Organization

In focus: Green goods trade and trade policies

Green goods, also called environmental goods, refer to products that are thought to be more environmentally friendly. They are designed to be more energy-efficient, use fewer resources, and emit less pollution than their traditional counterparts. Examples include solar panels, wind turbines, electric cars, and water filtration systems. These goods play a crucial role in the transition to a sustainable, low-carbon economy by improving efficiency, reducing emissions, conserving natural resources, and improving air and water quality. Trade policy often has a significant impact on the trade of these goods as economies seek to develop and adopt environmentally friendly technologies, which can significantly reduce CO2 emissions and protect the environment.

While there is a general understanding of what green goods are, there is no universal consensus on a list to identify specific environmental products with the purpose of facilitating their trade. Still, there are various

attempts to identify green goods. The list considered for the statistics of this document is the Combined List of Environmental Goods (CLEG), created by the Organization for Economic Co-operation and Development (OECD) with the purpose of promoting international trade of green goods. The CLEG identifies 248 environmental goods, classified according to the Harmonized System (HS) at the 6-digit level. The list combines three other lists: the Asia-Pacific Economic Cooperation (APEC) list of goods eligible for reduced tariffs among APEC members; the OECD's indicative list for a Plurilateral Environmental Goods and Services (PEGS) agreement, which focuses mainly on goods related to combating climate change; and the list of environmental goods proposed by a "Friends group" of WTO, which is part of the efforts to reduce trade barriers for environmental goods among WTO members. It's worth noting that neither the "WTO list" nor the CLEG have been officially adopted by any negotiating body.



Source: UNCTAD secretariat calculations.

The three lists which comprise the CLEG partially overlap, but they also identify environmental products from different viewpoints.¹ The APEC list contains 54 HS 6-digit products largely related to environmental monitoring, renewable energy production, waste management and recycling. The WTO list includes most of the products of the APEC list, but also adds more than 100 products, notably relating to air pollution control and water management. The PEGS list includes 77 products that are present on either the WTO or APEC list, plus 87 additional products that focus on heat and energy management and resource efficiency. While many products appear on two lists, only 28 products are considered green by all three lists. These products are mostly related to environmental monitoring and renewable energy production.

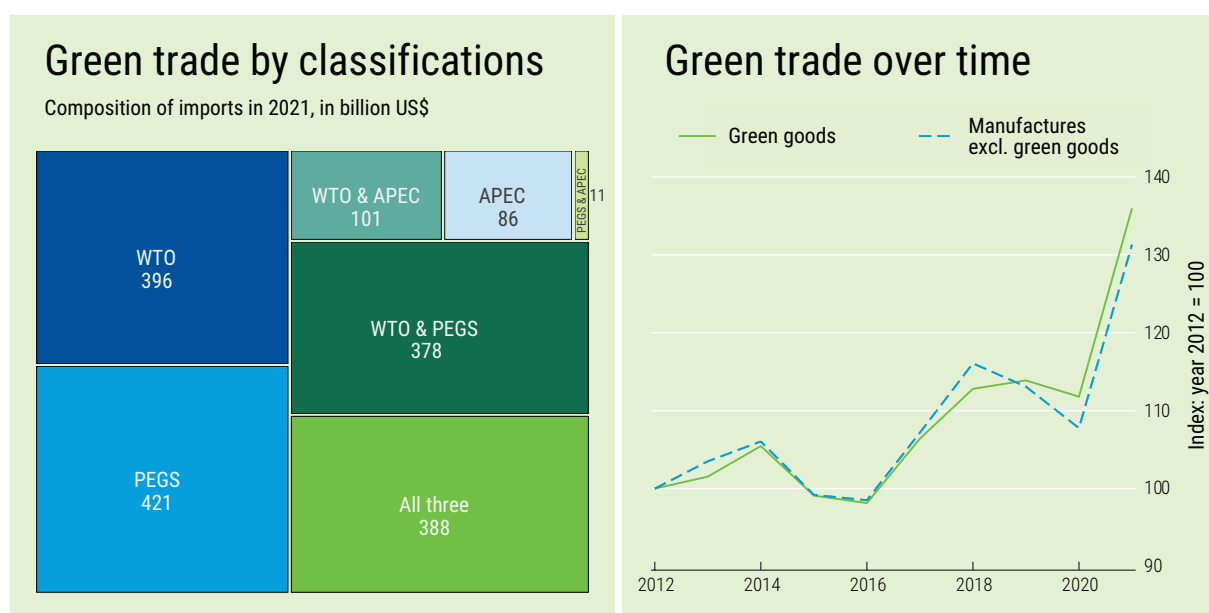
¹ See OECD (2019) "Report on a set of policy and indicators on trade and environment". [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/TAD/ENV/JWPTE\(2018\)2/FINAL&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/TAD/ENV/JWPTE(2018)2/FINAL&docLanguage=En)

Environmental sector	Number of HS 6-digit lines in the classification				Number of HS 6-digit lines overlapping the classifications			
	CLEG	WTO	PEGS	APEC	WTO and PEGS	WTO and APEC	APEC and PEGS	WTO, PEGS and APEC
Air pollution control	12	12	2	5	2	5	1	1
Environmental monitoring	37	34	33	16	30	16	15	15
Environmentally preferable products	6	5	0	1	0	0	0	0
Heat and energy management	25	4	24	0	3	0	0	0
Natural resources protection	3	3	0	0	0	0	0	0
Noise and vibration abatement	4	4	3	0	3	0	0	0
Remediation of soil and water	4	4	0	0	0	0	0	0
Renewable energy production	54	30	50	15	30	10	11	10
Resource efficient products	47	4	46	0	3	0	0	0
Waste management and recycling	25	24	3	11	2	11	1	1
Water management	31	30	4	6	3	6	1	1

Source: UNCTAD secretariat calculations based on “Report on a set of policy and indicators on trade and environment”, OECD (2019).
 Note: Table reports number of lines in each of the classifications, and number of overlapping lines in two or more classifications.

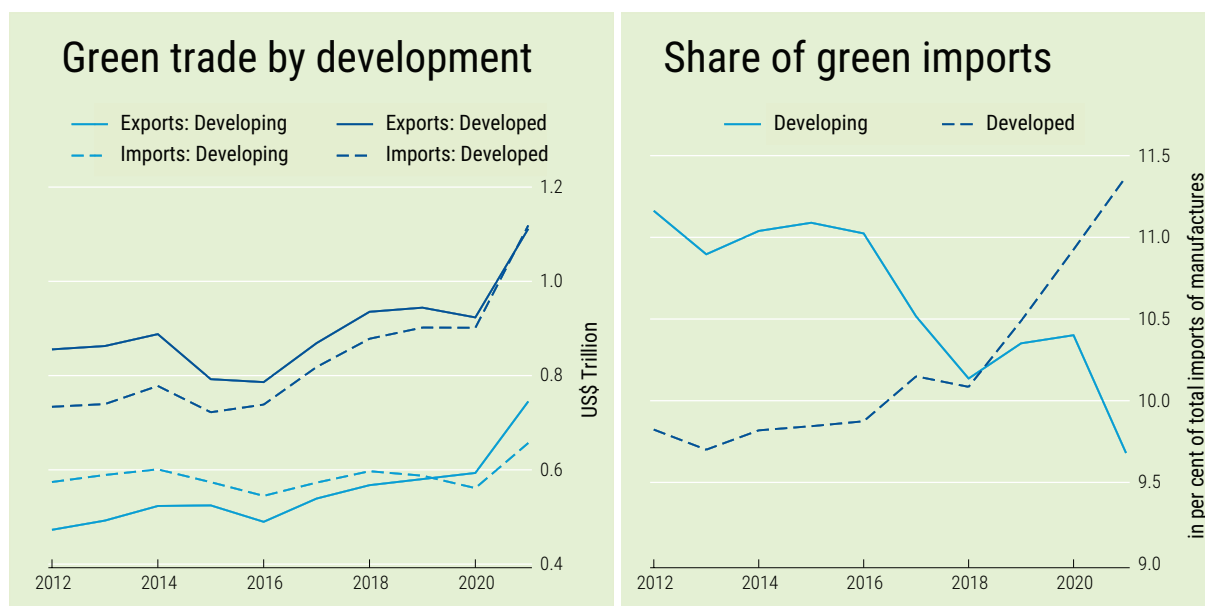
Trade in green goods

In 2021, global trade of products listed on the CLEG totalled US\$ 1.8 trillion. Trade of goods listed on the WTO list totalled almost US\$ 1.3 trillion. Those goods on the PEGS list accounted for about US\$ 1.2 trillion while the products in the APEC list were valued at about US\$ 600 billion. Trade in the 28 products defined as green by all three lists amounted to about US\$ 388 billion. Notably, whereas these 28 products represented only 11 per cent of the products in the CLEG, they accounted for 22 per cent of the total trade of green products. The value of trade in environmental goods has increased by about 36 per cent since 2012, slightly outpacing global trade of other manufactures. This pattern is largely due to a slower decline in the trade of green goods during the COVID-19 downturn but an equally strong uptick in 2021.



Source: UNCTAD secretariat calculations based on COMTRADE data.

Developed countries are the main players in the trade of green products. In 2021, the North-North trade in green products amounted to about US\$ 730 billion, while the South-South trade in green goods totalled only about US\$ 320 billion. During the last 10 years, green trade increased both for developing and developed countries at about the same pace. However, while developed countries' imports of green products increased relative to their total imports of manufactures, developing countries' trade of green goods shows an opposite trend. Specifically, while green imports represented only 9.8 per cent of total manufacturing imports in developed countries in 2012, they accounted for 11.4 per cent in 2021. Conversely, this share decreased from about 11.2 per cent to 9.7 per cent for developing countries.



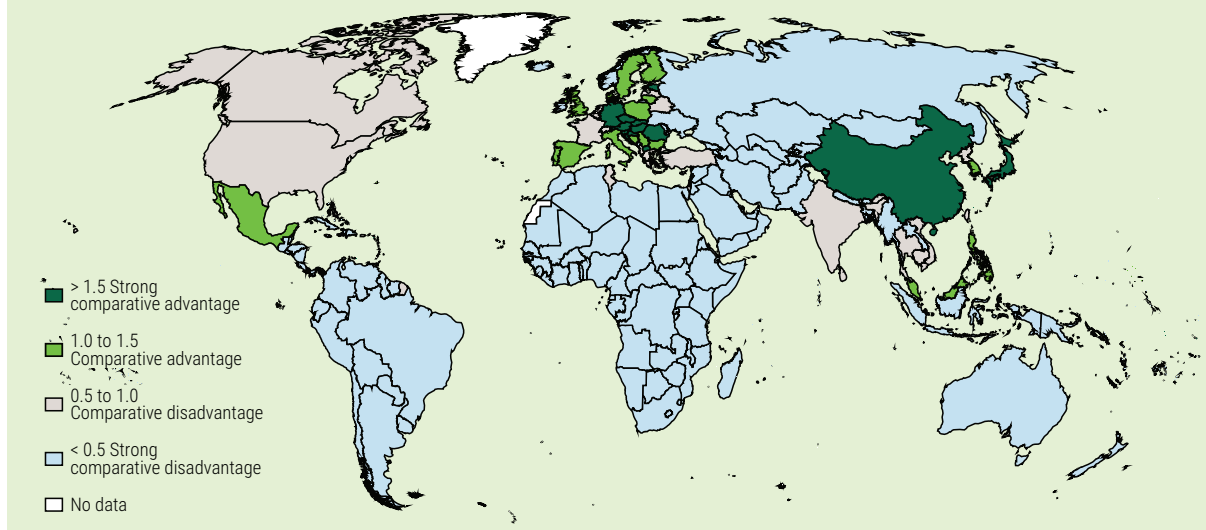
Source: UNCTAD secretariat calculations based on COMTRADE data.

A small group of economies dominates the trade of green goods. In 2021, the top five exporters of green goods accounted for over half of global green goods exports. China is the leading exporter with a market share of 23 per cent, followed by Germany (14 per cent), the United States (8 per cent), Japan (6 per cent), and Italy (4 per cent). Similarly, imports of green products are also heavily concentrated among a few economies. The United States is the largest importer with a share of 14 per cent, followed by China (9 per cent), Germany (8 per cent), France (4 per cent), and the United Kingdom (3 per cent).

Most developing countries lack comparative advantage in the export of green products, though the picture is changing slowly with an increasing number of developing countries, in particular from South-East Asia, becoming competitive exporters.² Countries such as China, Japan, Malaysia, Mexico, the Philippines, the Republic of Korea, and many European Union member countries have a strong comparative advantage in exporting green products. On the other hand, most developing countries, except for India, Türkiye and some East Asian economies, reveal a strong comparative disadvantage in exporting green products.

² Comparative advantage is generally measured by the Balassa index. The Balassa index measures a country's comparative advantage as the export of a particular product relative to global averages. An index greater than one implies comparative advantage. An index lower than one, implies comparative disadvantage.

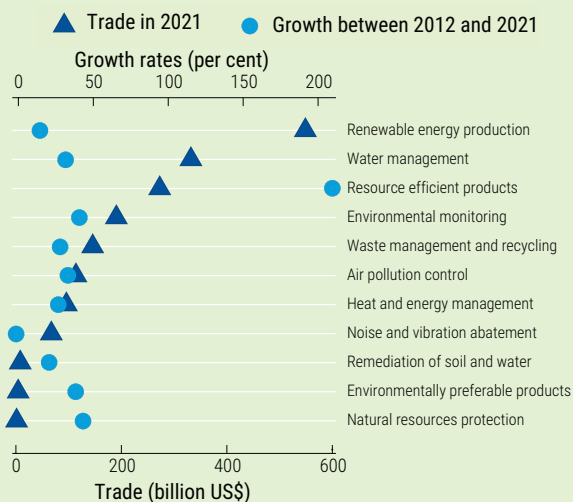
Revealed comparative advantage in the export of green goods



Source: UNCTAD secretariat calculations based on COMTRADE data.

Trade in environmental products varies significantly across different environmental sectors. By far the largest share of trade in environmental products is renewable energy production, which totalled approximately US\$ 550 billion in 2021 (31 per cent). This is followed by water management at US\$ 330 billion and resource efficient products at US\$ 275 billion (18 per cent and 15 per cent). Trade growth has been substantial in all environmental sectors over the past decade, with the exception of noise and vibration abatement, which experienced a slight decline. Resource-efficient products have seen the most significant growth by far, with trade volume more than tripling since 2012. Trade in water management and environmental monitoring sectors has grown by 30 and 40 per cent respectively since 2012. Environmentally preferable products and goods associated with natural resources protection have also experienced substantial trade growth since 2012, though starting from lower levels.

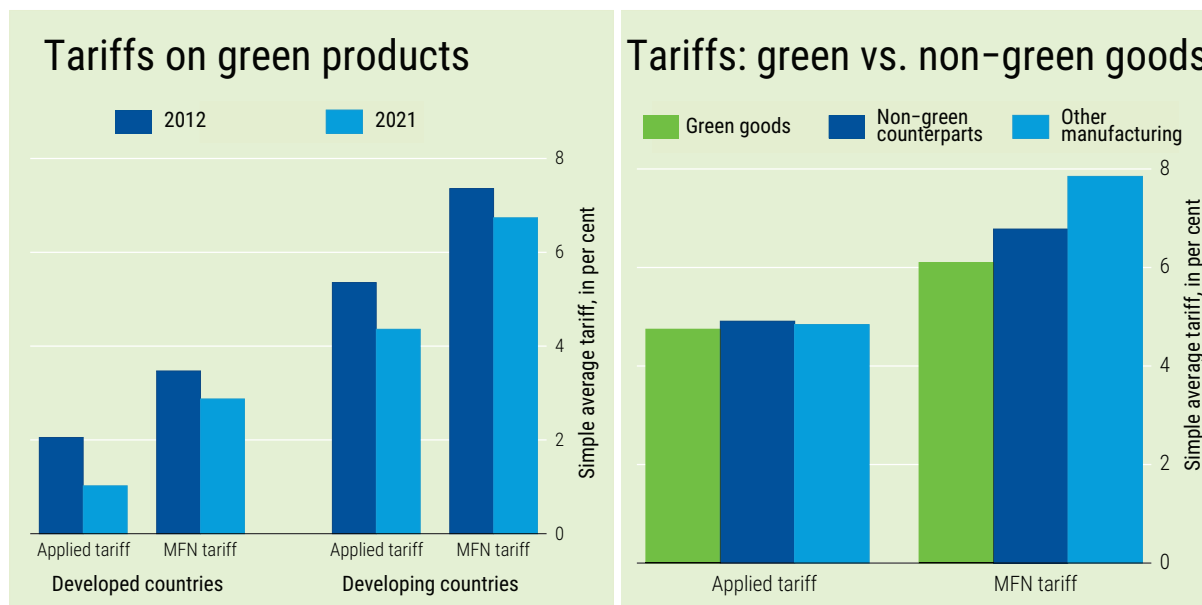
Trade by green sector



Source: UNCTAD secretariat calculations based on COMTRADE data.

Trade policy on green goods

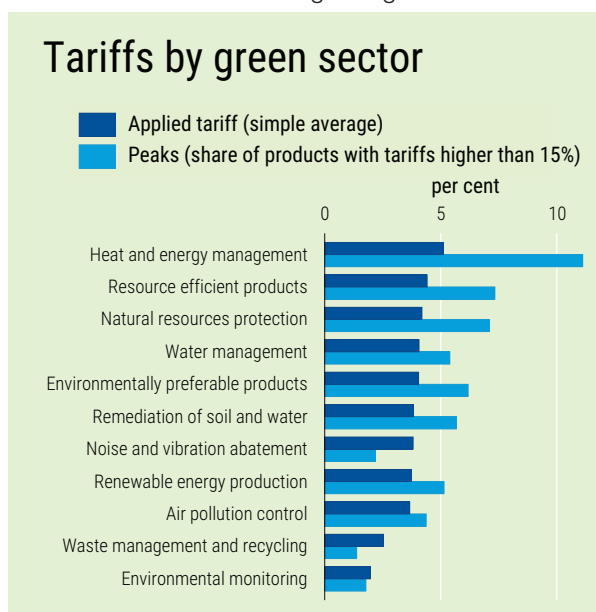
In 2021, the average tariff imposed on international trade of environmental goods was about one per cent in developed countries and 4 per cent in developing countries. Most-favored nation (MFN) tariffs are much higher than applied tariffs, the average MFN tariffs are about 3 per cent for developed countries and 7 per cent for developing countries. Both applied and MFN tariffs on green goods exhibit large variance across countries and products. Amid low averages, trade of green goods often faces substantial tariffs (about 10 per cent of applied tariff lines are above 15 per cent). Since 2012, the average applied tariff on environmental goods has decreased by about 1 percentage point in both developed and developing countries. However, this decline in tariffs is a result of overall trade liberalization, rather than specific initiatives targeting environmental goods. Tariffs on environmental goods have also declined in MFN terms, but only by one half of a percentage point during the last decade (from 6.5 per cent in 2012 to about 6 per cent in 2021).



Source: UNCTAD secretariat calculations based on UNCTAD TRAINS database. Data is for 2021

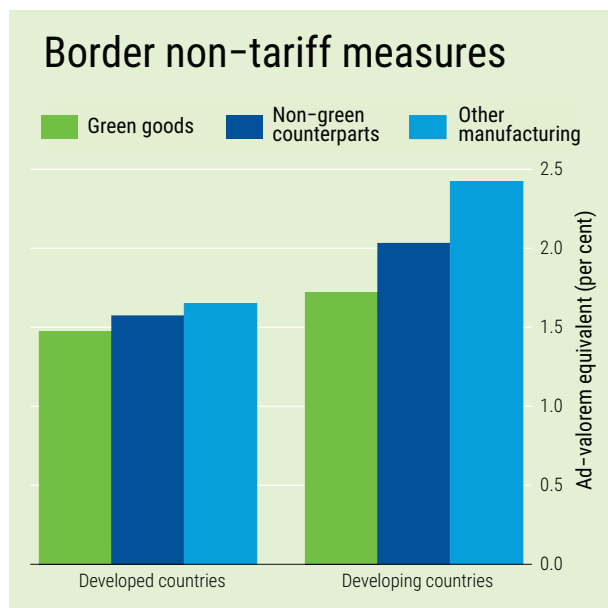
Tariffs do not generally provide green goods with a preferential margin vis-à-vis their non-green counterparts.³ In order for trade policy to effectively encourage the use of environmentally friendly technologies, it is important for countries not only to impose low tariffs on environmentally friendly products, but also to impose relatively higher tariffs on non-green substitutes. A comparison of tariffs on green goods and other industrial products suggests that the existing tariffs on global trade are unbiased towards green goods. On the other hand, the MFN tariff structures tend to favour green goods, because non-green counterparts and other manufactures generally face relatively higher tariffs.

Tariffs on green goods vary across environmental sectors. Tariffs tend to be higher products related to the heat and energy management sector, resource-efficient products, and goods related to the protection of natural resources. These sectors also have a substantial number of tariff peaks. For example, about 10 per cent of the bilateral HS 6-digit products related to heat and energy management face tariffs that are higher than 15 per cent. Conversely, tariffs tend to be lower for environmental monitoring equipment, waste management and recycling. Fewer than 2 per cent of the tariffs in these sectors exceed 15 per cent. Overall, many green goods still face substantial tariffs in many instances. As a consequence, there is significant potential for negotiating tariff reductions, particularly on a MFN basis.



Source: UNCTAD secretariat calculations based on UNCTAD TRAINS database. Data is for 2021

³ Counterparts are defined as products categorized in the same HS 4-digit sector of green products, but not identified as green by the CLEG.

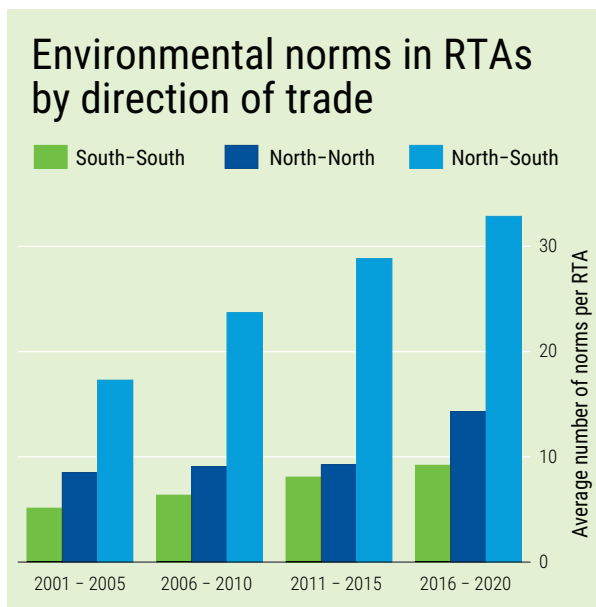
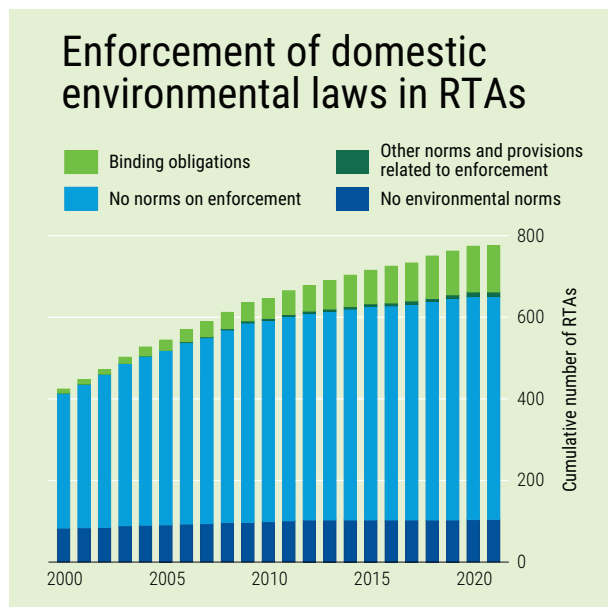


Source: UNCTAD secretariat calculations based on UNCTAD TRAINS database. Data is for 2019.

Administrative burdens and conformity assessments to environmental standards often increase the cost of importing green products. The ad-valorem equivalent of border non-tariff measures (NTMs) provides an estimate of these costs. On average, the additional border costs associated with the importation of green products is in the order of about 1.5 per cent of the import value. These costs tend to be slightly higher when importing into developing countries compared to developed countries. In the case of developing countries, however, green goods appear to face slightly lower costs associated with NTMs than non-green counterparts.

The trade of green goods is increasingly addressed through provisions and norms in trade agreements.⁴ Despite slow progress to facilitate trade of green goods through multilateral trade negotiations, the uptake of environmental concerns has gained traction in trade agreements. The large

majority of RTAs signed since 2000 has included provisions related to environmental sustainability. Environmental provisions differ, however, in their design, focus and stringency. Many RTAs do not contain norms on the enforcement of domestic environmental laws and regulations. However, there is a trend towards the inclusion of binding obligations, with an increase in the share of RTAs containing such norms from 2 per cent in 2000 to 15 per cent in 2021. The number of environmental norms entering trade agreements is particularly strong for RTAs between developed and developing countries (North-South) while the use of environmental norms is more muted for agreements between developing countries (South-South) and between developed countries (North-North).



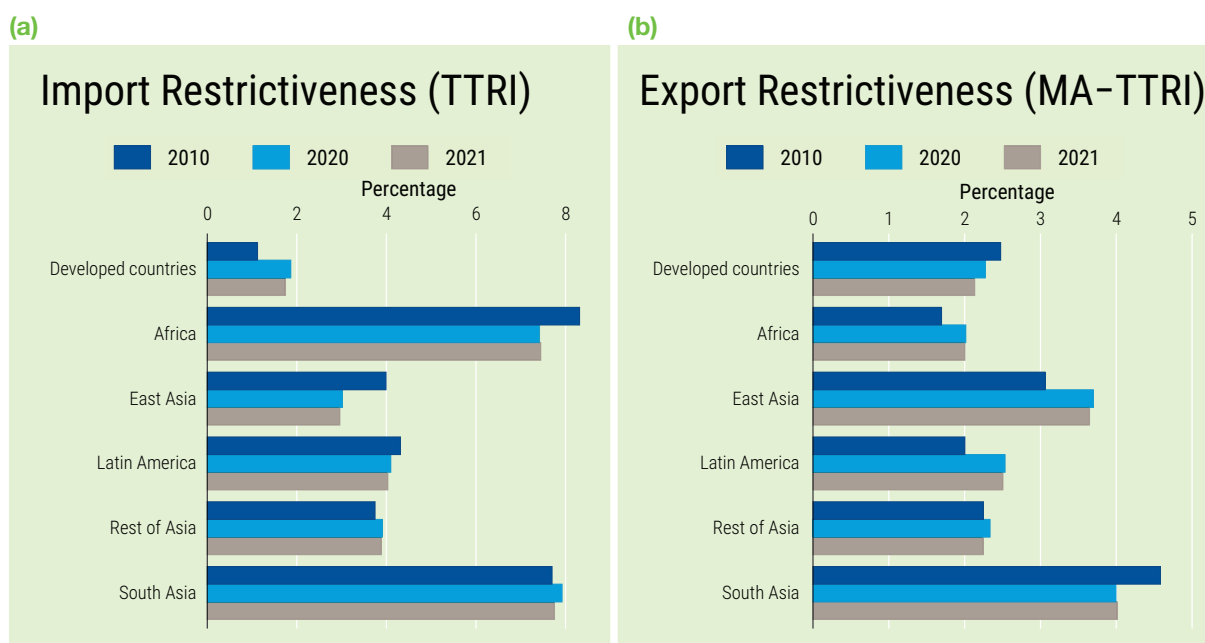
Source: UNCTAD secretariat calculations based on the Trade German Institute of Development and Sustainability Trade and Environment Database.

⁴ Norms are identified in the TREND database (TRade & ENvironment Database) and include laws and regulations, as well as provisions, rules with varying degrees of enforceability, and statements that are merely aspirational. These are coded independently from the treaty structure.

1. TARIFFS

Tariffs have remained essentially stable between 2010 and 2021. The notable exception is the rise in tariffs in developed countries. This is mostly due to the retaliatory tariffs between the United States and China. More broadly, import restrictiveness remains relatively higher in developing countries, especially in South Asia and in Africa. Exporters in East and South Asia face the relatively higher tariffs. The recent increase in tariffs faced by East Asian exports is largely due to United States tariffs on China.

Figure 1
Average import and export restrictiveness, by region



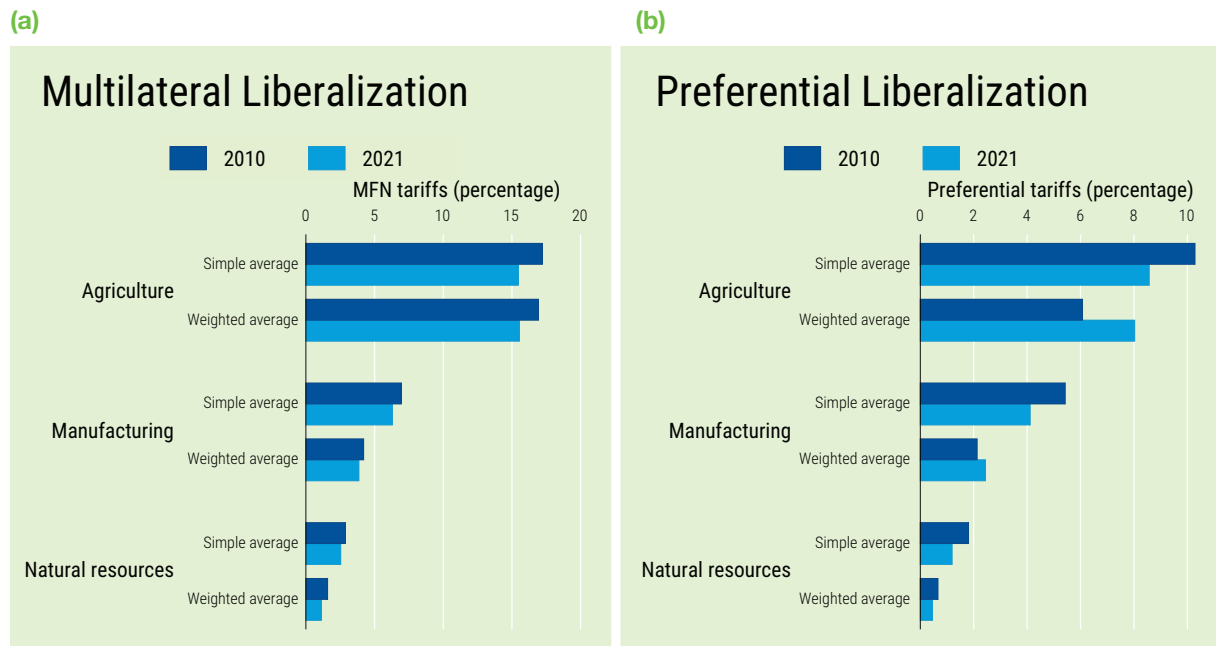
Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

Figure 1a portrays the tariff trade restrictiveness index (TTRI), which measures the average level of tariff restrictions imposed on imports. The index is weighed so as to control for different import values and import demand elasticities. The market access counterpart (MA-TTRI) summarizes the tariff restrictiveness faced by exports (Figure 1b). Both indices are calculated on the basis of applied tariffs (ad valorem and specific tariffs), including tariff preferences. Multilateral and unilateral liberalization contributed to the decline of tariff restrictions during the last decade. Nevertheless, despite a continuing declining trend, the tariff liberalization process has largely stalled. Notably, during the last two years tariffs have increased in some instances but largely because of the retaliatory tariffs between the United States and China. As 2021, tariff restrictiveness remains substantially higher in developing countries than in developed countries. Among developing countries, import restrictiveness is highest in South Asia and Africa.

Although slightly increasing, African countries face the most liberal market access conditions with an MA-TTRI of about 2 per cent in 2021. This was largely due to unilateral preferences granted by developed countries and an export composition tilted towards natural resources that typically face low tariffs. In contrast, exports from South Asia faced a higher average level of restrictiveness, about 4 per cent. The recent increase in export restrictiveness for East Asia exports is largely because retaliatory tariffs of the United States on China.

Since 2010, tariffs have somewhat declined, but mostly on a preferential basis. The tariffs imposed on agricultural products remain higher without significant changes in MFN rates, but have declined by about 2 points under preferential trade agreements. Similarly, preferential tariffs on manufacturing have declines at a faster pace than MFN tariff. Weighted averages tariffs have in some instances increased, however this has been largely due to retaliatory tariffs between the United States and China.

Figure 2
Multilateral and preferential tariff liberalization

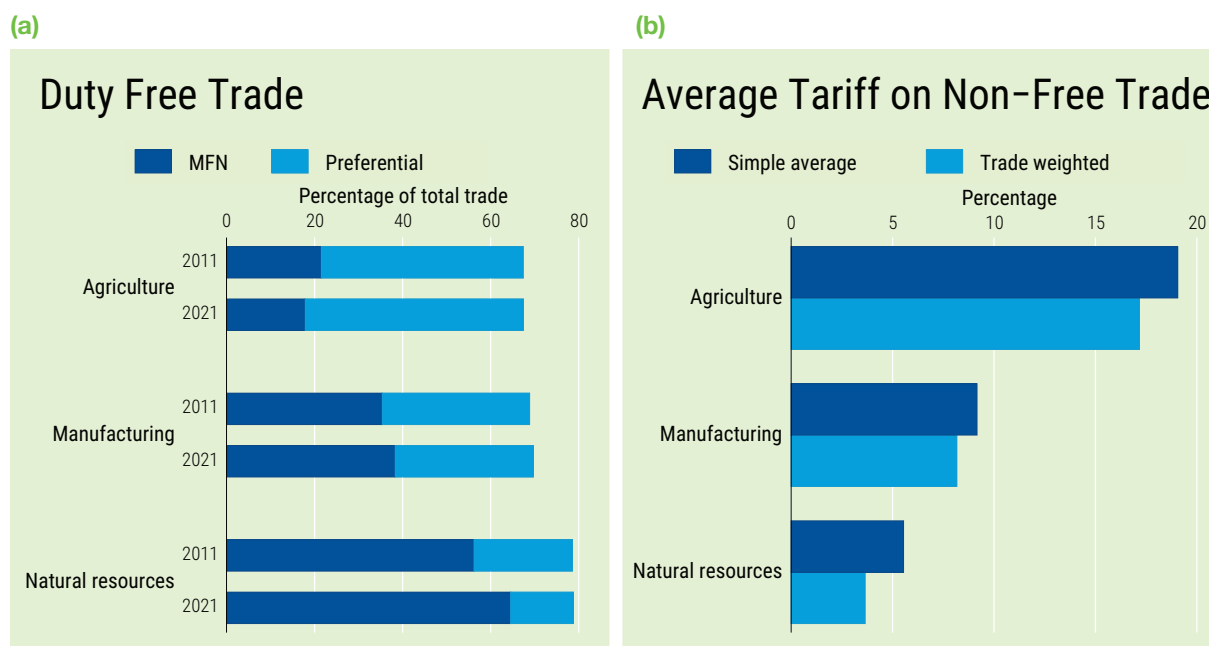


Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

Figure 2a and 2b illustrate average MFN and preferential tariffs for 2010 and 2021 in three main sectors. The decline in tariffs that has occurred since 2010 is a result of both multilateral and preferential liberalizations. Agricultural MFN tariffs have been reduced on average by about 2 percentage points. Preferential liberalization has contributed to about 1.5 percentage points to the reduction of simple agricultural tariffs. In regard to manufacturing, the proliferation of preferential schemes has resulted reductions in this sector amounting to about 1 percentage point on a simple average basis. The increases in the trade weighted averages are largely a result of the retaliatory tariffs imposed by the United States and China on each other. Liberalization both in MFN and preferential terms has also occurred in natural resource trade, further reducing the already low levels of tariffs in this sector.

International trade continues to be largely free from tariffs both as a result of zero MFN duties and because of duty-free preferential access. However, tariffs applied to the remainder of international trade can be high. Preferential access continues to play a key role for agricultural market access, but also remain significant for manufacturing products.

Figure 3
Free trade and remaining tariffs, by broad category

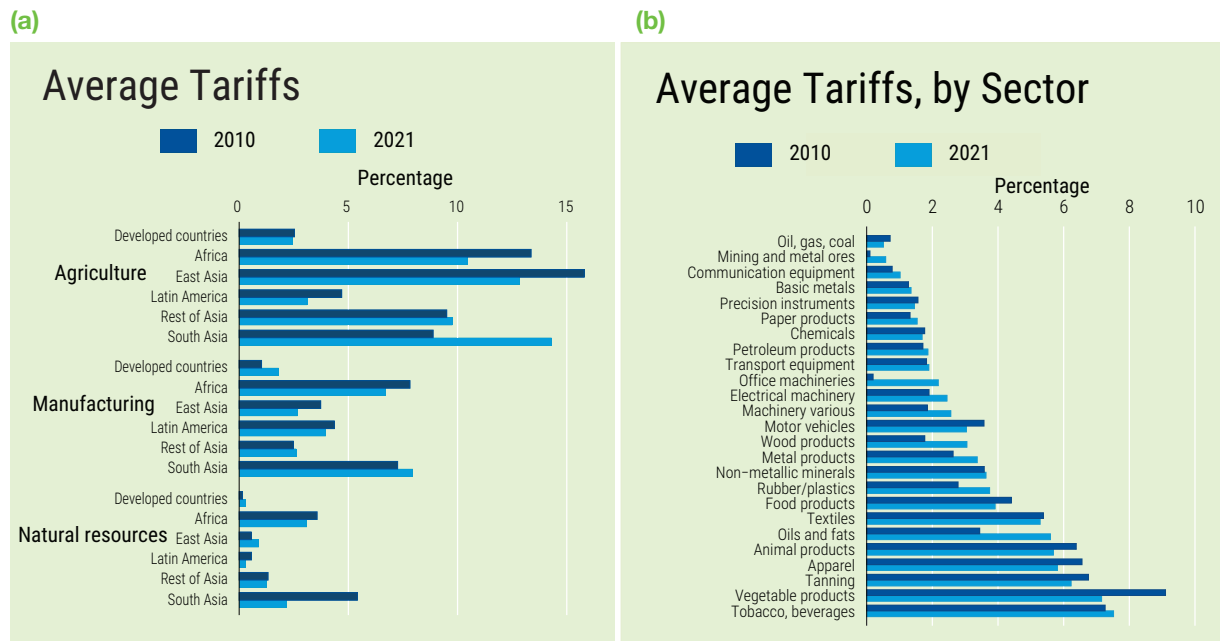


Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

International trade has been largely liberalized owing to both zero MFN tariffs and preferential duty-free access. The consequence is that as of 2021, about two-third of international trade is free of tariffs (Figure 3a). Still, tariffs applied to the remainder of international trade are often very high (Figure 3b). Importantly, there are differences between agriculture, manufacturing and natural resources. Agricultural trade is free from tariffs largely due to preferential access (as opposed to zero MFN tariffs). In this regard, preferential access and reciprocal concessions continue to play a key role for agricultural market access, as the remaining tariffs are fairly high (averaging almost 20 per cent). Preferential access is also important for manufacturing products, for which the simple average tariff is at almost 10 per cent. On the other hand, preferential access is of limited importance in the case of natural resources, as trade in this category is largely tariff-free under MFN rates, and remaining tariffs are generally very low (on average about 6 per cent).

Low average tariffs mask large differences across economic categories and product sectors. In general, international trade in agriculture is taxed at a much higher rate than trade in manufacturing and natural resources. Tariffs also remain relatively high for manufacturing products, such as textiles and apparel, which are important for developing countries. Moreover, trade in some sectors has recorded higher tariffs in 2021 than in 2010, largely because of still applying retaliatory tariffs between the United States and China.

Figure 4
Trade weighted average tariffs, by region, broad category and sector

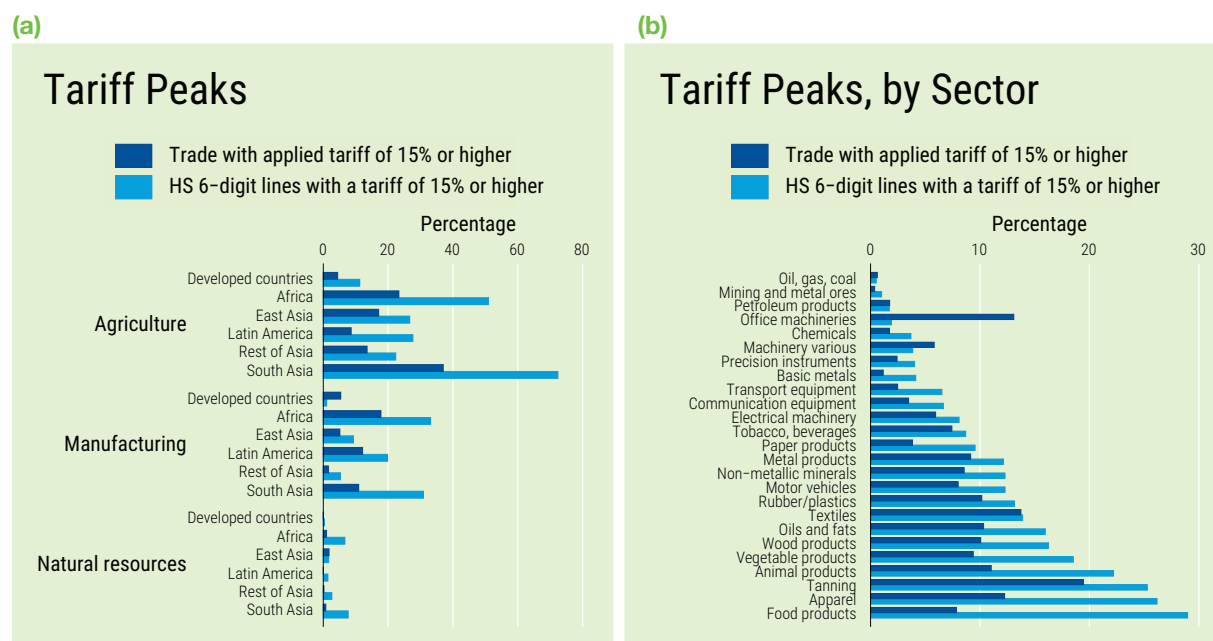


Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

Figures 4a and 4b depict the trade weighted average tariff for broad as well as specific categories of products. Tariff restrictions remain quite different across geographic regions and economic sectors. In general, international trade in agriculture is taxed at a much higher rate than trade in manufacturing and natural resources. Even within agriculture, tariffs vary greatly across geographic regions. South Asian and East Asian countries tend to apply relatively high tariffs in agriculture, while such tariffs are on average much lower in Latin American and developed countries. Manufacturing tariffs remain high only in the South Asian region (about 8 per cent on average), and in Africa (about 8 per cent on average). Average tariffs vary greatly across product sectors, ranging from about 7 per cent for vegetable products and tobacco, beverages to almost zero for fuels and metal ores. Even considering all concessions and preferential schemes, international trade is subject to high tariffs not only in relation to agricultural products but also in the case of manufacturing products of importance for developing countries such as textiles and apparel (about 6 per cent). Finally, the increase in average tariffs in many sectors (and notably, office machinery) is largely due to the retaliatory tariffs between the United States and China.

Amid generally low tariffs, there are a significant number of products where tariffs are relatively high. Tariff peaks are part of the tariff structures of many developing and developed countries. Tariff peaks tend to be concentrated in products of interest to low income countries, such as agriculture, apparel, textiles and tanning.

Figure 5
Tariff peaks, by region, broad category and sector (2021)

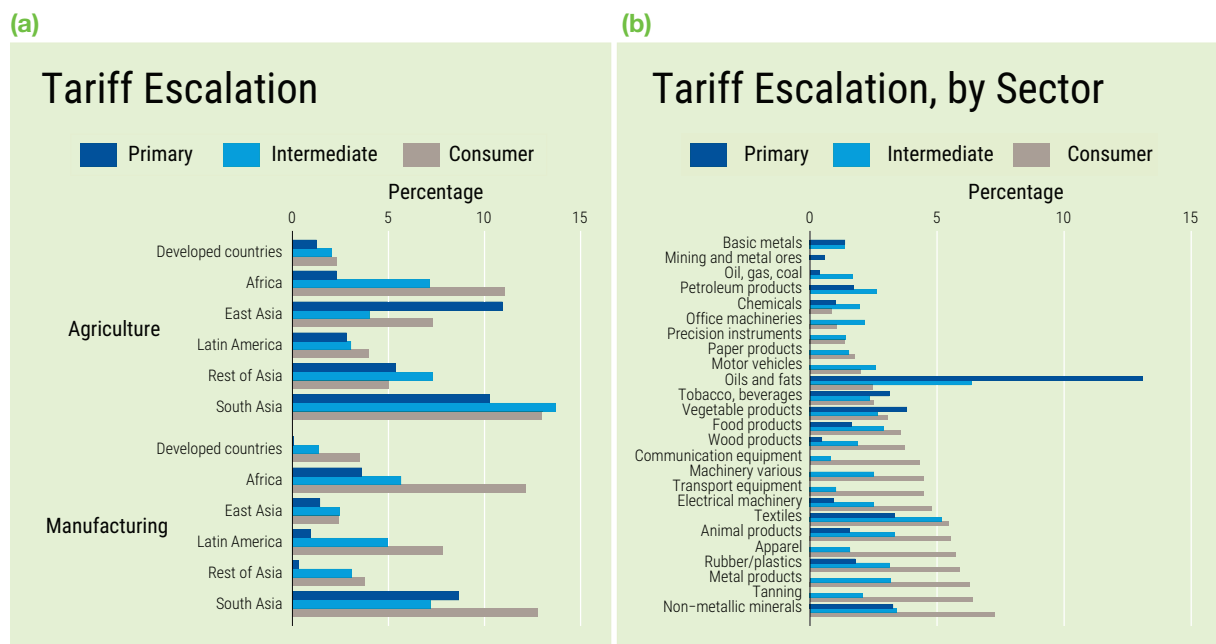


Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

In view of generally low tariffs, and even when all concessions such as unilateral and reciprocal preferential schemes are taken into account, there remain a significant number of products for which tariffs are relatively high. These high tariffs (at or above 15 per cent) are generally referred to as tariff peaks and are usually levied on sensitive products. Tariff peaks appear in the tariff structure of many developing countries, but with different patterns. For example, tariff peaks are a large part of the tariff structure of agricultural products of developing countries in South Asia and Africa (Figure 5a). Tariff peaks tend to be less prevalent in manufacturing, and less so in natural resources sectors. Tariff peaks tend to be concentrated in some of the products of interest to low income countries, such as the agricultural sectors, but also apparel, textiles and tanning. For example, tariffs on about 7 per cent of international trade in food products (and almost 30 per cent of the products in this group) are higher than 15 per cent (Figure 5b). Similarly, about 12 per cent of international trade in apparel is subject to a tariff of 15 per cent or more. The large percentage in the trade of office machineries subject to high tariff is the result of the United States retaliatory tariffs on China.

Tariff escalation remains a feature of the tariff regimes of both developed and developing countries. It is more pervasive in manufacturing products than in agriculture. Tariff escalation is prevalent in many sectors, including those of importance (e.g. apparel) to developing countries. Still for some important sectors (e.g. motor vehicles, office machineries) tariffs are higher for intermediate relative to consumer products.

Figure 6
Tariff escalation by region, broad category and sector (2021)



Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

Tariff escalation – the practice of imposing higher tariffs on consumer (finished) products than on intermediates and raw materials – is present in the tariff structure of many countries. This practice favours processing industries closer to consumers, while discouraging the undertaking of processing activities in countries where raw materials originate. Most developing and developed countries adopt escalating tariff structures, but to varying degrees. Overall tariff escalation is more pervasive in manufacturing products than in agriculture (Figure 6a). Indeed, the tariff structure for the Asian regions is not escalating in the agricultural sector. Tariff escalation is prevalent in most sectors, including those of importance to developing countries: apparel, animal products, tanning and many light manufacturing sectors, some notable exceptions are motor vehicles and office machineries where intermediate inputs face a higher tariff relative to finished products (Figure 6b).

The pattern of trade restrictiveness varies greatly among regional trade flows. Intra-regional trade is generally subject to lower TTRI than interregional trade. A large number of South–South regional trade flows are still burdened by relatively high tariffs. Tariffs have change little during the last 10 years, with some notable exceptions.

Table 1
Tariff restrictiveness, matrix by region (percentage), 2021

Importing region	Exporting region					
	Developed countries	Africa	Latin America	East Asia	South Asia	Rest of Asia
Developed countries	1.6	0.7	1.2	5.4	2.6	0.9
	-0.1	0.2	0.4	3.2	-0.1	0.2
Africa	8.4	2.9	8.5	11.4	8.4	9.9
	-0.1	0.1	0.5	0.4	0.0	3.8
Latin America	3.2	2.7	1.2	7.6	9.1	4.3
	-0.5	0.0	-0.2	0.0	-0.3	-0.1
East Asia	4.7	2.1	5.3	1.5	3.2	1.6
	-0.9	0.6	0.7	-1.1	-1.0	0.0
South Asia	10.0	5.3	9.7	8.2	5.6	5.9
	1.1	-1.2	3.2	-0.3	-2.0	-0.5
Rest of Asia	4.0	1.9	5.7	4.4	3.6	2.1
	0.1	0.5	0.8	0.0	0.0	0.2

Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

Note: Changes between 2010 and 2021 are shown in a smaller font.

Table 1 represents a matrix of the average levels of tariffs imposed on trade flows between regions in 2020. Differences in the rates exhibited in the table arise from different patterns of both market access and trade composition. The effect of regional trade agreements is reflected in the relatively lower degree of restrictiveness on intraregional compared with interregional trade. A large number of South–South trade flows are still burdened by relatively high tariffs. For example, trade between Latin America and South Asia face an average tariff of about 9 per cent. Tariffs have remained relatively constant in regard to trade between regions. Small changes are largely due to shifting composition of trade flows (as opposed to an increase in tariffs on particular product lines).

The system of tariff preferences affects international competitiveness by providing various countries with different market access conditions. Because trade agreements are often regional, the system of preferences tends to favour regional trade over interregional trade. Still, the magnitude of the effect of preferences differs widely across regions. South Asian and African countries enjoy the highest preferential margins in trading with regional partners, estimated at about 5 percentage points.

Table 2
Relative preferential margins, matrix by region (percentage), 2021

Importing region	Exporting region					
	Developed countries	Africa	Latin America	East Asia	South Asia	Rest of Asia
Developed countries	0.5	0.2	2.6	-2.7	0.4	0.2
	0.3	0.0	2.4	-2.0	1.2	0.1
Africa	0.5	4.6	-3.0	-2.3	-1.6	0.5
	0.8	0.8	-2.2	0.1	-0.3	-0.1
Latin America	-0.3	-0.6	3.5	-1.3	-2.0	-0.8
	-0.2	-0.2	-1.1	0.6	-0.2	0.4
East Asia	-0.4	-0.2	-1.2	0.6	0.0	0.0
	0.1	-0.3	-1.4	0.2	0.1	0.0
South Asia	-0.9	0.7	-0.6	0.1	4.1	-0.4
	-0.3	0.9	-0.5	0.6	2.9	-0.2
Rest of Asia	0.3	0.2	-0.6	-0.8	-0.4	1.3
	0.2	-1.3	0.3	0.4	0.0	-0.2

Source: UNCTAD secretariat calculations based on COMTRADE data and UNCTAD TRAINS data.

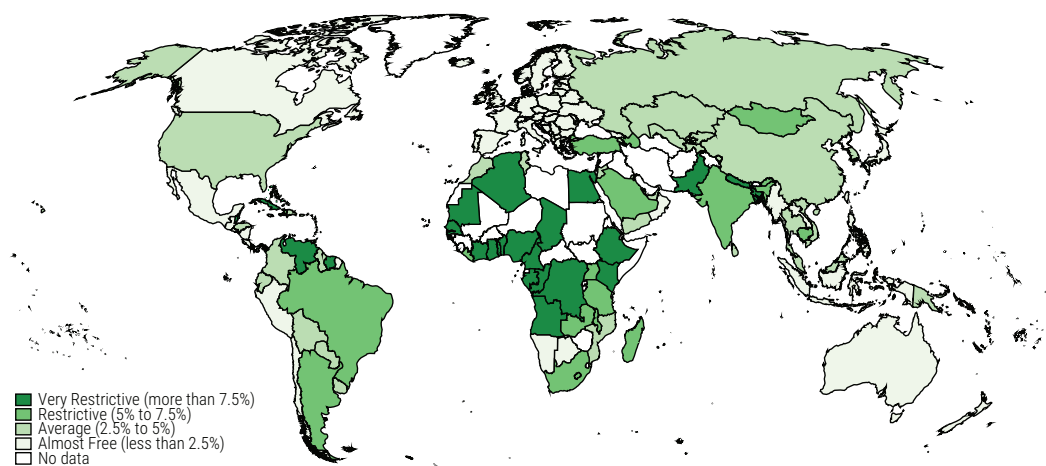
Note: Changes between 2010 and 2021 are shown in a smaller font.

Table 2 reports relative preferential margins (RPMs) calculated at the regional level for 2021 and their changes since 2010. RPMs provide a measure of the average preferential margin for a given country by taking into consideration any preference provided by its trading partners to foreign competitors. RPMs can be positive or negative, depending on the advantage or disadvantage a country has in terms of preferences with respect to other competing exporters. The RPM is exactly zero when there is no discrimination; it is largest for South Asian and African countries, which enjoy about a 4.6 percentage point advantage on foreign competitors when trading within their region. The RPM is also large within Latin America, (about 3.5 percentage points). On the other hand, the preferential systems provide only about half percentage points advantage to East Asian countries trading in their own region. With very few exceptions, interregional trade faces a negative RPM, suggesting that the preferential tariff structure negatively impacts non-regional exporters' competitiveness. The least favoured are exporters of Latin America seeking to trade with Africa. Those countries face RPM of about minus 3 percentage points.

Import restrictiveness differs substantially across countries, and even within the same region. Many developing country exports, especially in Latin America and East Africa still face relatively high tariffs. Tariffs imposed on Chinese exports are relatively higher due to retaliatory tariffs of the United States.

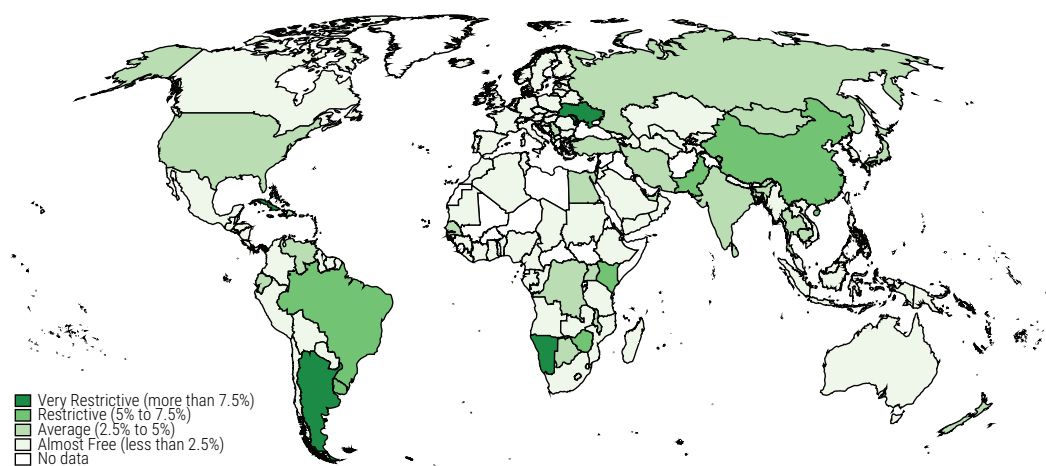
Figure 7
Import restrictiveness

(a) Import restrictiveness (2021)



Source: UNCTAD secretariat calculations based on COMTRADE and UNCTAD TRAINS data.

(b) Export restrictiveness (2021)



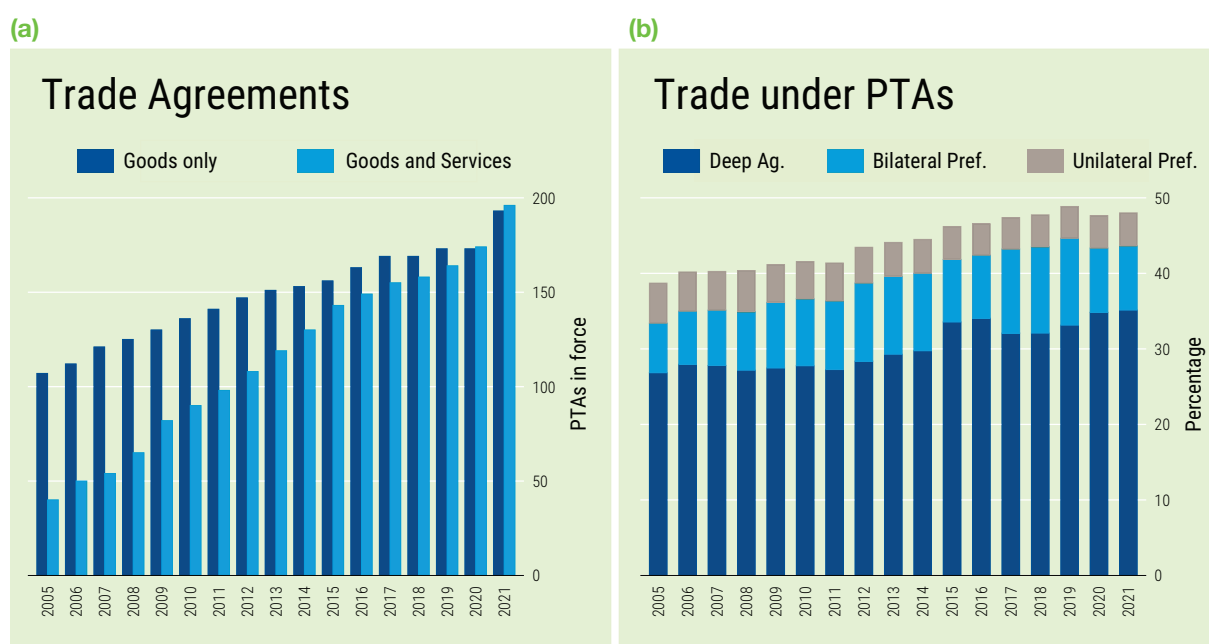
Source: UNCTAD secretariat calculations based on COMTRADE and UNCTAD TRAINS data.

Figure 7a illustrates the average level of tariff restrictions imposed on imports (as measured by the TTRI). The level of tariffs differs substantially across countries, and even within the same region. Figure 7b reports the overall level of tariff restrictions faced by exporters (as measured by the MA-TTRI). Latin American countries face high tariffs because a large share of their exports consists of agricultural products.

2. TRADE AGREEMENTS

The international trading system is regulated by an increasing number of preferential trade agreements (PTAs). Most of the recent trade agreements address not only goods but also services, and deal with rules beyond reciprocal tariff concessions. The percentage of trade within PTAs has continued to increase. The increase of trade agreements for 2021 is largely due to new agreements signed by the United Kingdom as it left the European Union. The percentage of trade under deep agreements has steadily increased, and more so after 2019.

Figure 8
Trade agreements



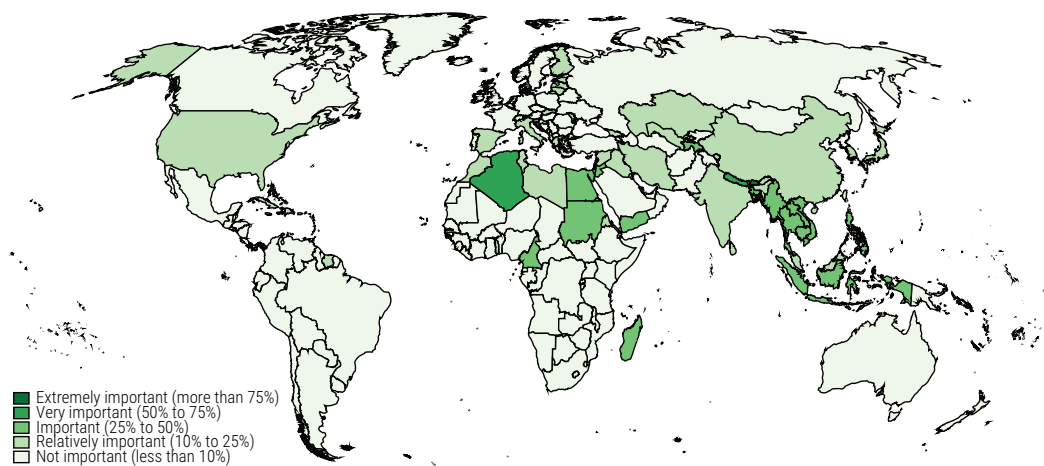
Source: UNCTAD secretariat calculations based on WTO RTAIS data and COMTRADE data.

Figure 8a illustrates the number of PTAs that have been in force in each year since 2005. The number of PTAs in force has approximately doubled from less than 150 in 2005 to more than 300 in 2021. About half of all trade agreements in force go beyond tariff concessions, to cover services and behind-the-border measures. After 2015 the upward trend has been largely driven by new trade agreements covering both goods and services. The rise in the number of trade agreements for 2021 is largely statistical, and due to the new agreements signed by the United Kingdom to substitute for its pre-existing agreements as a member of the European Union. Although the number of PTAs has increased dramatically, the percentage of trade taking place under PTAs has not increased as much (Figure 8b). In 2020 there was an inversion of this trend largely due to trade under deep RTA being more resilient to the disruptions brought by the COVID-19 pandemic. Overall, even without considering trade within the European Union, about one third of world trade took place under deep trade agreements (i.e., those with trade rules going beyond traditional tariffs and existing WTO agreements, to cover deeper behind-the-border measures).

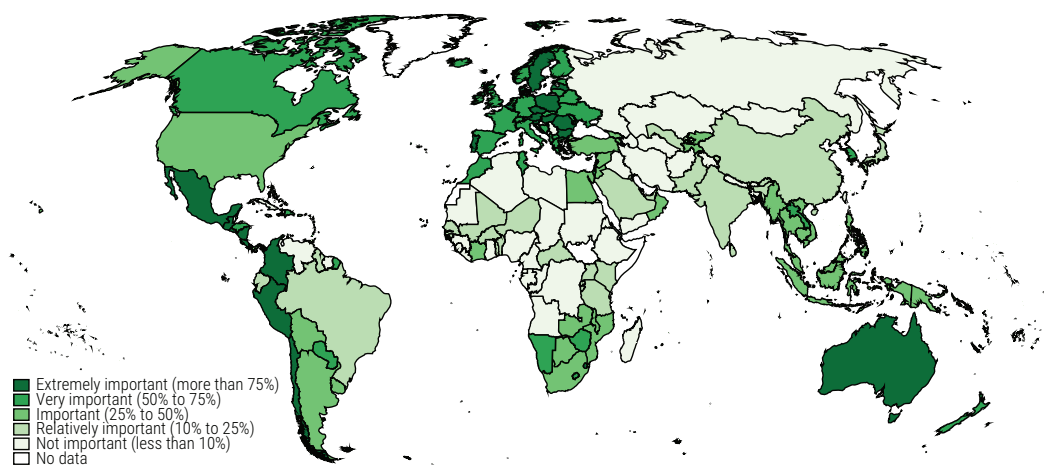
For the large majority countries trade occurs under deeper agreements covering more than tariff preferences. Shallow agreements cover only a smaller per cent of trade, which is substantial only for a limited number of countries, largely in the East Asian region. As of 2021, most of the trade of African countries occurs outside any preferential trade agreements, but for the Southern African region.

Figure 9
Importance of preferential trade agreements

(a) Importance of PTAs, as measured by percentage of trade (2021)



(b) Importance of deep PTAs, as measured by percentage of trade (2021)



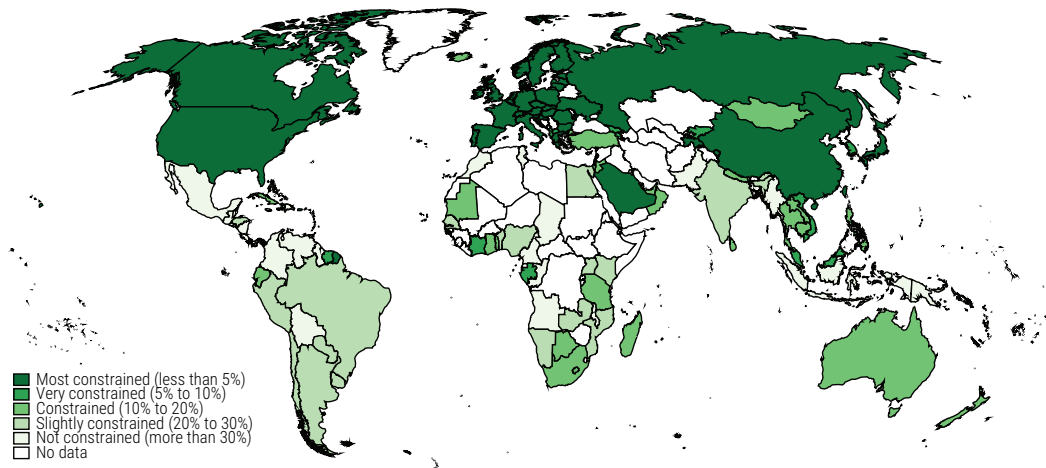
Source: UNCTAD secretariat calculations based on WTO RTAIS and COMTRADE data.

A large share of international trade of many developed countries occurs under some form of PTA, and in many cases under trade rules going beyond traditional reciprocal market access concessions. Figure 9a shows the percentage of trade occurring under shallow agreements (i.e. those relating mainly to tariff concessions). Figure 9b shows the percentage of trade occurring under deep agreements (i.e. those with trade rules going beyond traditional tariffs and existing WTO agreements, to cover deeper behind-the-border measures).

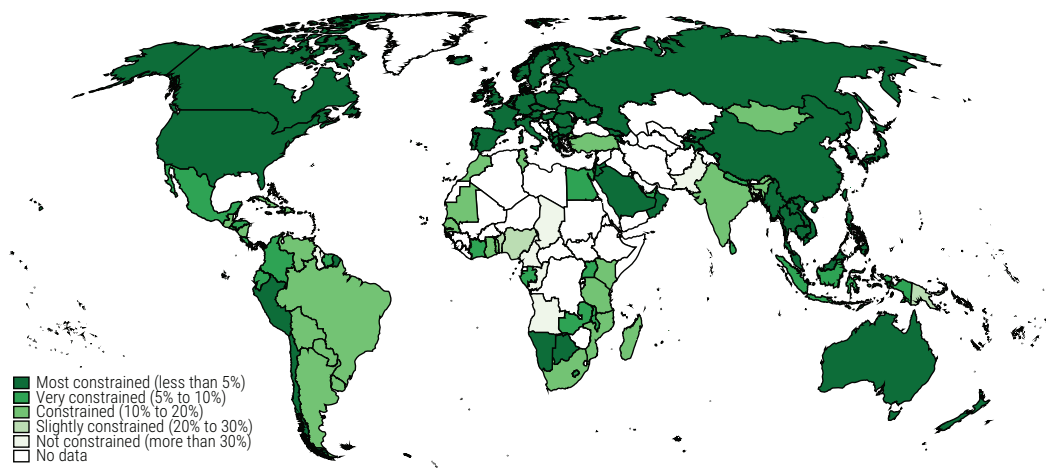
WTO bound tariff and bilateral trade agreements limit the policy space of countries in raising their tariffs. Developed countries tend to have very limited policy space in raising their tariffs, as most tariff lines are bound by WTO obligations. Once PTAs are accounted for, a substantial amount of trade is locked under preferential tariffs, which in turn means that the amount of “true” tariff water is lower.

Figure 10
Policy space: Multilateral constraints

(a) Tariff water (2021)



(b) True tariff water (2021)



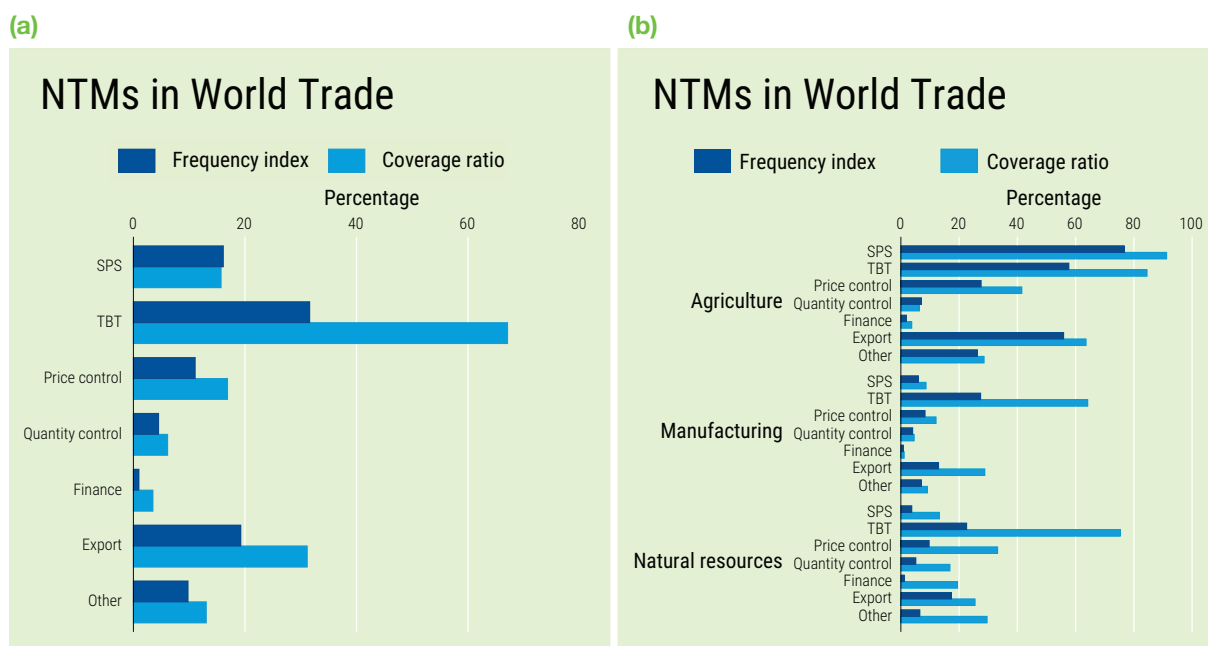
Source: UNCTAD secretariat calculations based on UNCTAD TRAINS and COMTRADE data.

Figure 10a portrays the average tariff water (trade weighed) calculated as the difference between WTO bound tariffs and applied MFN tariffs. Figure 10b portrays the average tariff water calculated as the difference between bound and applied tariffs, considering the implicit bindings imposed by both WTO and PTA commitments. The difference between the tariff that a country applies at the border and the country’s commitments to other WTO members is referred to as “tariff water”, or “binding overhang”. In principle, tariff waters provide the policy space for country to set their tariff at non-cooperative levels.

3. NON-TARIFF MEASURES

Non-tariff measures include a diverse array of policy measures serving different purposes. Among the various types of non-tariff measures, technical barriers are the most pervasive, as most international trade is regulated by some form of technical barrier. Quantity and price control measures cover a much smaller, but still significant, share of world trade. Export measures cover a significant part of world trade.

Figure 11
Prevalence of non-tariff measures, by type and broad category (2021)

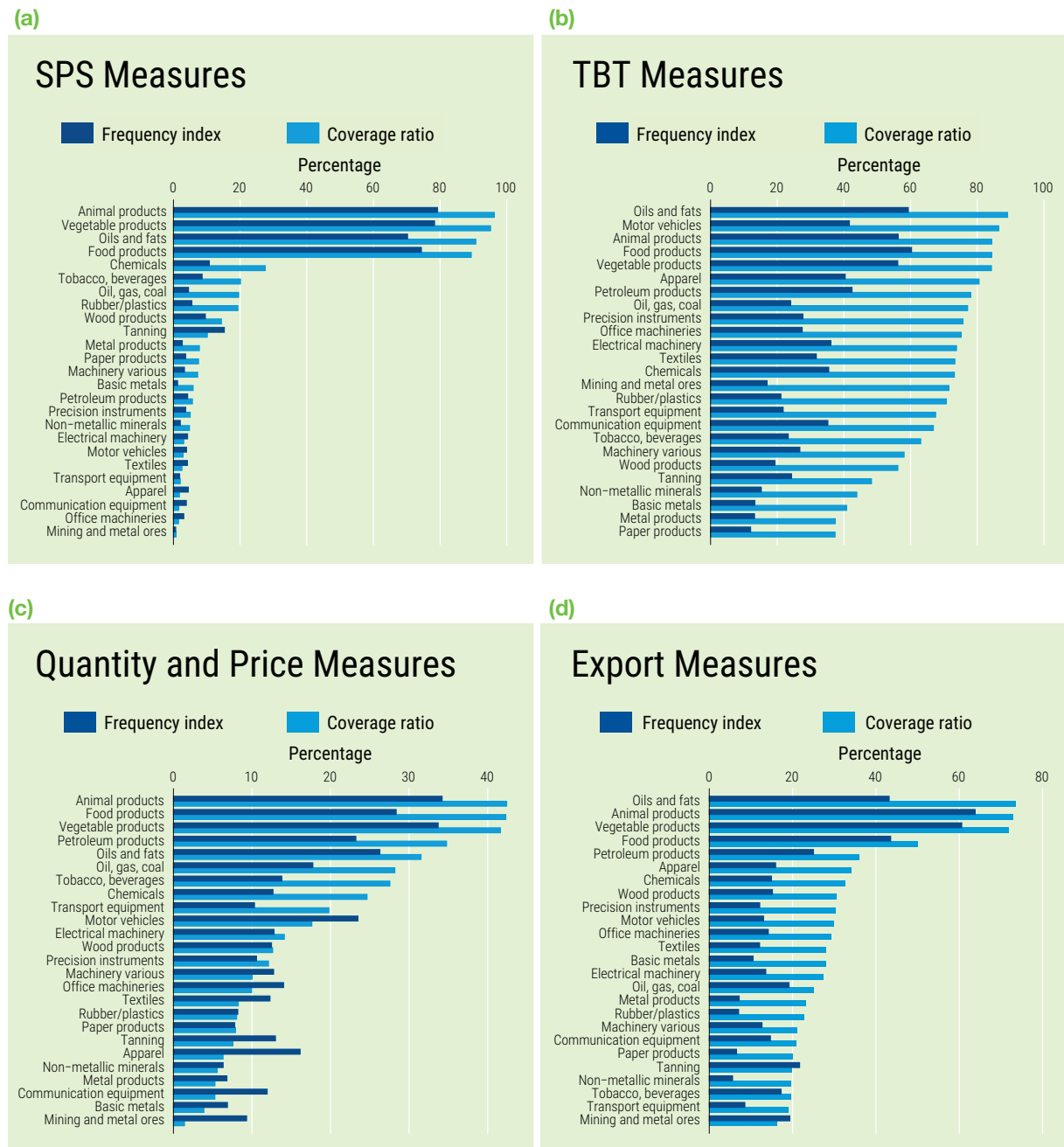


Source: UNCTAD secretariat calculations based on UNCTAD TRAINS data.

Data on non-tariff measures (NTMs) is still fragmentary and therefore does not allow computation of comparative statistics across countries. Although the data may also not be fully representative of world trade, some preliminary statistics can be derived from the available data. Figure 11a illustrates the distribution of NTMs across broad categories. For each category, both the frequency index (i.e., the percentage of HS 6-digit lines covered) and coverage ratio (i.e. the percentage of trade affected) are reported. International trade is highly regulated through the imposition of technical barriers to Trade (TBT) with more than 30 per cent of product lines and almost 70 per cent of world trade affected. Price control measures affect about 15 per cent of world trade. SPS affect almost 20 per cent of world trade. Export measures are also frequently applied to international trade; still their use is largely related to agriculture. Coverage of NTMs by broad category (Figure 11b), shows that agriculture is the most affected, with most of world agricultural trade subject to forms of SPS and TBT.

The prevalence of various types of non-tariff measures differs by economic sectors. Sectors related to agriculture tend to be regulated by SPS and export measures. TBT are used to regulate most economic sectors. Quantity and price measures although used in many sectors cover only much smaller percentage of trade.

Figure 12
Non-tariff measures, by sector (2021)



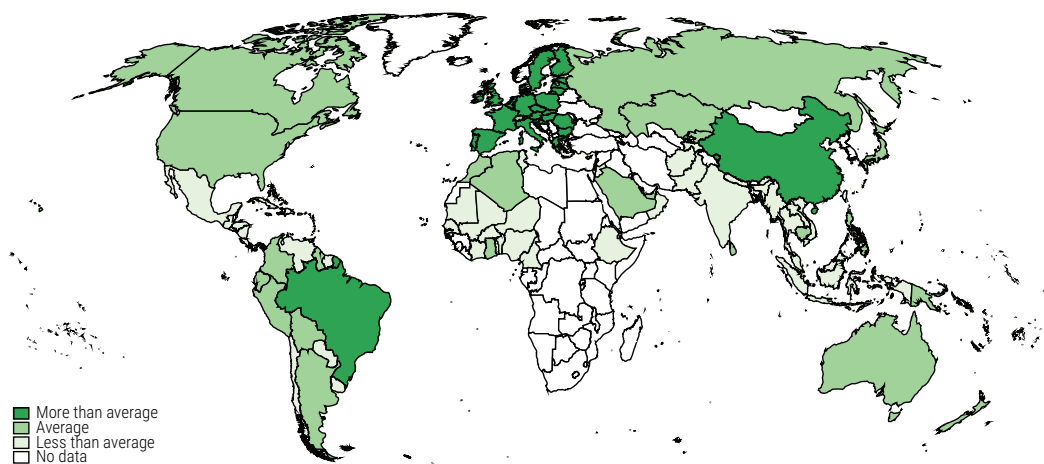
Source: UNCTAD secretariat calculations based on UNCTAD TRAINS data.

SPS measures are typically applied to agricultural products, and to other products that may have inherent health hazards due to contaminants (Figure 12a). TBT are widely used to regulate international trade in most sectors and concern the vast majority of world trade flows (Figure 12b). Quantity and price control measures are widely applied to many sectors. They cover a large share of world trade in regard to agricultural related products. (Figure 12c). Finally, agricultural sectors as well as petroleum products and chemicals are generally affected by export measures (Figure 12d).

The use of technical measures tends to be more pervasive in the European Union, China, Brazil and Australia, and less so across low-income countries. Developed countries' use of technical non-tariff measures tends to be more targeted to specific products. This applies also to China and Brazil. Other developing countries tend to use technical non-tariff measures in a more homogenous manner.

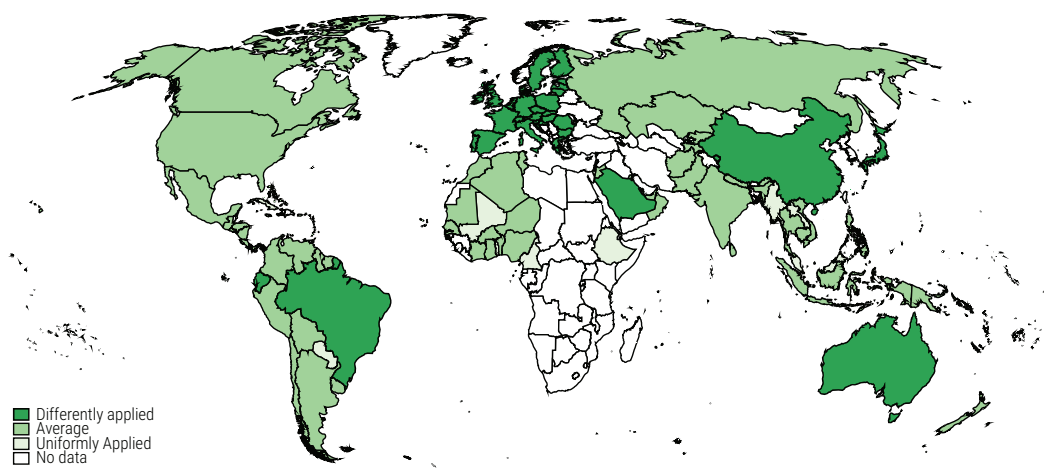
Figure 13
Technical non-tariff measures, by country

(a) Technical non-tariff measures, relative intensity across countries (2021)



Source: UNCTAD secretariat calculations based on UNCTAD TRAINS data.

(b) Technical non-tariff measures, intensity across products (2021)

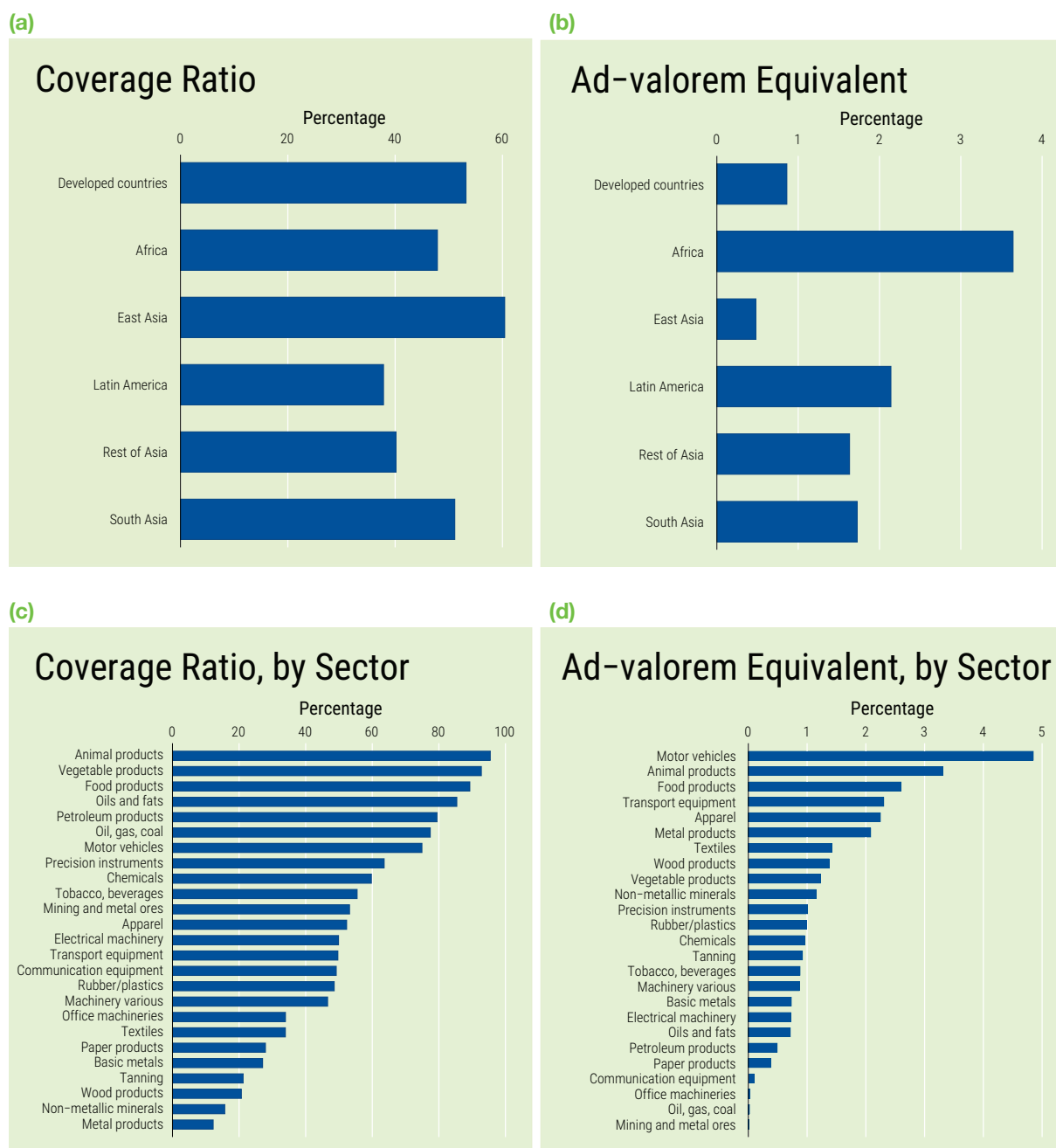


Source: UNCTAD secretariat calculations based on UNCTAD TRAINS data.

Figure 13a reports the difference between the number of non-technical measures applied by a given country in each product and the average number of measures applied to that product. Then, country averages are computed by weighing each product by its importance in world trade. Figure 13b reports the standard deviation of product level differences within each country. This illustrates whether non-technical measures tend to be uniformly applied across products or are applied with different intensity across products.

Border non-tariff measures, such as inspection and certification requirements, quarantines, quotas and other border formalities are widespread. They cover more than 50 per cent of world trade. High coverage does not imply high costs. The costs of such measures vary both across countries and across sectors. Costs tend to be higher in Africa and in Latin America. Across sectors, higher costs are estimated for the automotive industry and for agricultural sectors.

Figure 14
Border measures: coverage and ad-valorem equivalents (2021)



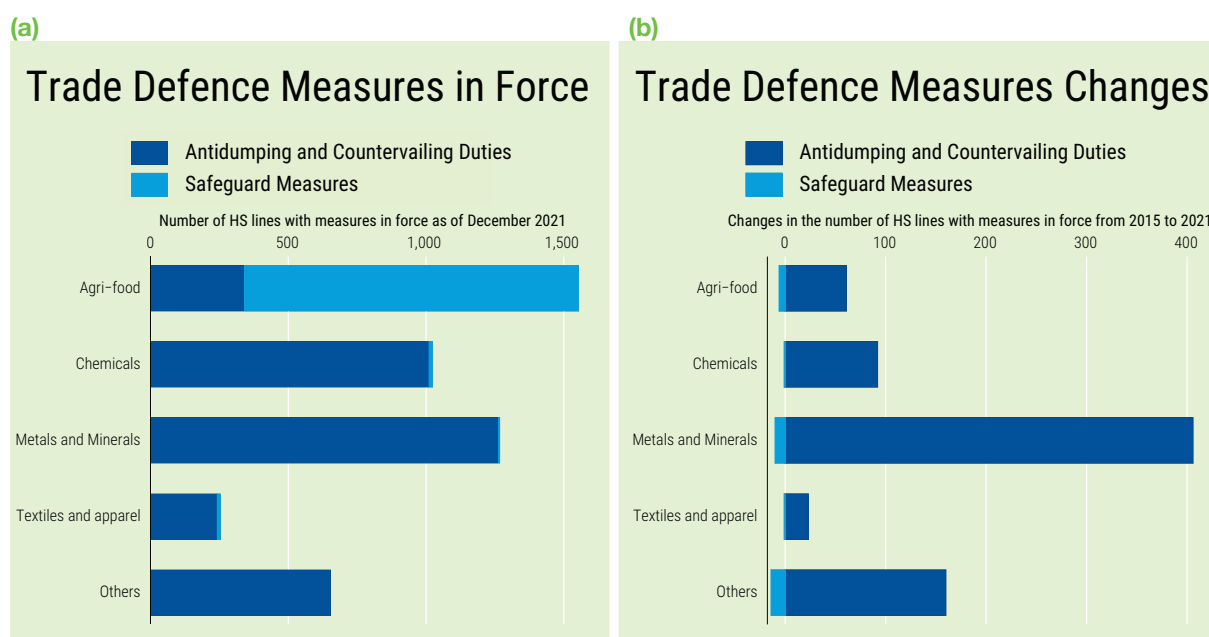
Source: UNCTAD secretariat estimates based on UNCTAD TRAINS data.

Border measures include documentation requirements such as certification, inspection, and quarantine, as well as quotas and any other measures that are expected to generate costs at entry. While the use of such measures is not very different across regions (Figure 14a), the costs they generate is different (Figure 14b). They vary across sectors and are typically applied relatively more to agricultural products (Figure 14c). Their compliance costs (ad-valorem equivalents) vary across sectors (Figure 14d).

4. TRADE DEFENCE MEASURES

In 2021 there were about 2200 antidumping measures and countervailing duties in force, and about 70 safeguards measures in place. Most of the antidumping measures were in base metals and chemicals. Safeguards measures are concentrated in the agri-food sectors, where they cover a large number of HS lines. Since 2015 the number of antidumping measures has increased, while the product coverage of safeguards has declined.

Figure 15
Trade defence measures, 2015-2021



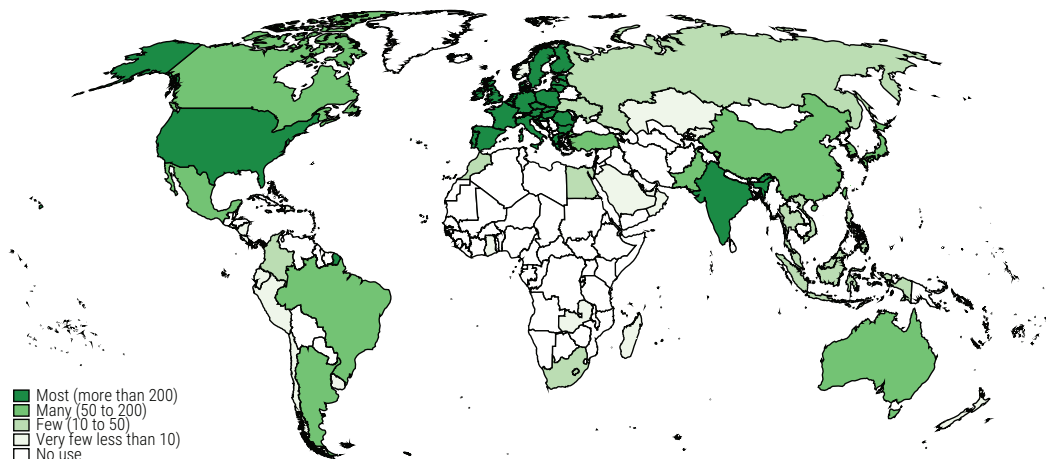
Source: UNCTAD secretariat calculations based on WTO I-TIP data.

Trade defence measures in the form of antidumping and safeguards allow countries to actively respond to import-related concerns within an established WTO mechanism. A single trade defence measure can affect different sectors. In 2021 there were about 2200 trade defence measures, mostly in the form of antidumping measures. The use of safeguards measures is much more limited (about 70 measures are in force), but they tend to cover a large number of HS lines, especially in the agri-food sector. Almost 40 per cent of the measures related to base metals (largely steel products), and another 25 per cent to chemicals and plastic products. The rest relates to other manufacturing products (Figure 15a). While measures should terminate within five years, trade defence measures often remain in effect longer. Since 2015 the number of measures in force has increased by about 600, with many more products covered. Most of the new measures were related to products in base metals. The number of products covered by trade defence measures in other sectors increased to a smaller extent (Figure 15b).

The use of trade defence mechanisms vary greatly across countries. As 2021 most of trade defence measures in force have been initiated by major economies. The countries with most measures in force were the United States and India. Since 2015, the United States was the country for which the number of trade defence measures increased the most.

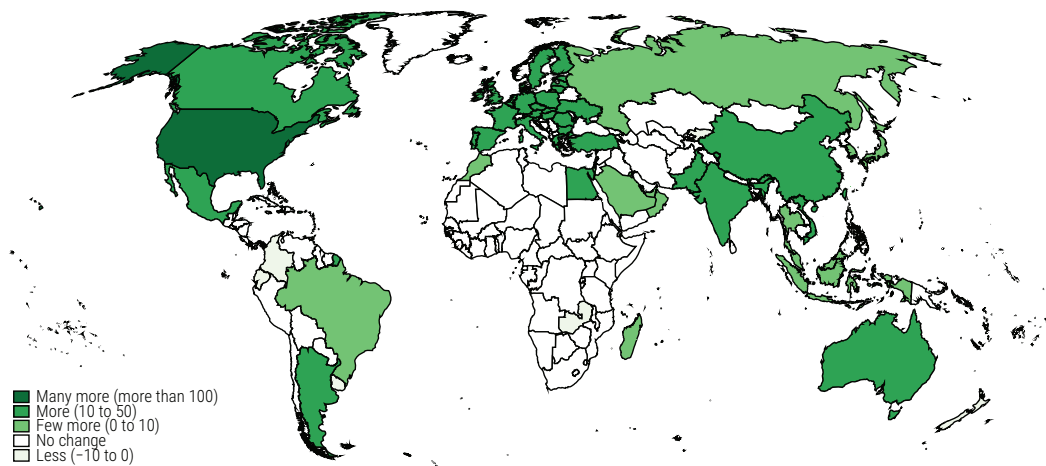
Figure 16
Trade defence measures, by country

(a) Trade defence measures in force, by initiating country (2021)



Source: UNCTAD secretariat calculations based on WTO I-TIP data.

(b) Trade defence measures in force, by initiating country (change between 2015 and 2021)



Source: UNCTAD secretariat calculations based on WTO I-TIP data.

The users of trade defence measures are many of the major economies, but also India (Figure 16a). The use of trade defence measure is largely absent in Africa. Since 2015, the measures in force decreased only for a very few countries (Figure 16b).

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