AGRINFO

# AGRI-FOOD TRADE WITH THE EU FROM LOW- AND MIDDLE-INCOME COUNTRIES

## A FRAMEWORK FOR IDENTIFYING THE IMPACTS OF REGULATORY CHANGE

Latin America &

The Caribbean

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Funded by
the European Union

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# 1. INTRODUCTION

The AGRINFO programme aims to improve low- and middle-income countries' access to information on policy and regulatory change in the EU. In this way, it supports producers and exporters of agri-food products to keep up with and anticipate new rules, so that agricultural and processing practices can be adjusted to meet new requirements and ensure continued trade with Europe.

The information disseminated by AGRINFO through its website at https://agrinfo.eu is free and open to all stakeholders. In addition, the programme strives to target information to those countries and stakeholder groups for whom this information may be most important. To do so, we need to understand which products in which countries may be most affected by regulatory change in the EU. From the outset, one of the programme's challenges was to identify and prioritise these information needs.

While crucial to the implementation of the programme, evaluating the impacts of regulations and policies on low- and middle-income countries is also central to the goal of 'policy coherence for development' (PCD), a principle that is integral to the EU's decision-making process.[1]As the agricultural sector is crucial to many of the countries that the EU seeks to support, PCD in relation to EU food-related measures is critically important. However, the quantity and diversity of agricultural produce entering Europe can make it complicated for EU decision-makers to identify those countries and agricultural sectors that may be affected by changes in European law. This hinders the process of policy coherence and complicates the development of strategies, such as accompanying measures and technical assistance, that can help low- and middle-income countries adjust to new regulatory demands.

With these programme-oriented goals and broader policy challenges in mind, the AGRINFO programme has developed a Regulatory Impact Assessment methodology to assess the potential sensitivities of countries and value chains to changing market requirements.

Using this methodology, AGRINFO has compiled this series of reports to highlight the countries and agricultural sectors that are most likely to be significantly affected by changes to EU policies and regulations. The overall aim is to provide an additional tool for reflecting on regulatory impact, and to aid the development of communication and accompanying measures for the benefit of low- and middle-income countries.

These reports will be used as a reference point for the AGRINFO team when monitoring and evaluating new EU regulatory initiatives and in the development of communication and outreach strategies. We hope that they may also provide a helpful framework for those involved in the planning and development of technical assistance and accompanying measures in low- and middle-income countries.

This report focuses on Latin America. Similar reports have been developed for the Africa, Asia, and Central Europe and Middle East regions.

[1] Article 208, Treaty on the Functioning of the EU.

# 2. REGULATORY IMPACT ASSESSMENT METHODOLOGY

**How to identify agricultural sectors particularly sensitive to EU regulatory change?**

The simplest way to identify regulatory impact is to focus on those countries with the greatest trade with the EU. If an EU regulatory change has an impact on, for example, bananas, it is likely that the overall implications in terms of trade and number of operators affected (producers, processors, exporters) would be greatest in those countries exporting the highest volume of bananas to the EU. However, such an analysis gives only a limited picture as it does not take into account the relative importance of that trade for an individual country. In many cases, exports of a given product may be comparatively small in volume, but can be of crucial social and economic significance for the country concerned.

To identify trading partners that are most vulnerable to regulatory change, an approach is needed that focuses on the significance of agri-food trade from the perspective of the exporting country.

With this goal in mind, the AGRINFO programme has developed a Regulatory Impact Assessment (RIA) methodology based on two premises.

- **Limited trade diversification indicates economic vulnerability**: Where a country is reliant on a small number of export destination markets, its export revenue is vulnerable to sudden changes in demand and price volatility. Diversifying trade helps to reduce a country's exposure to shocks that can have a negative impact throughout the national economy.[2] Two elements of trade diversification are captured in the RIA methodology:
  - *product export diversification (PED)*: the extent to which a country is dependent on its agri-food trade with the EU (ratio of agri-food exports to the EU/total goods exports to the EU)
  - *geographical export diversification (GED)*: the extent to which a country is dependent on its trade *with the EU* compared to other export destinations (goods exports to the EU/global exports in goods).

  The trade data used in this analysis are drawn from multiple sources, including CEPII BACI, IFPRI, Eurostat, UK Trade Info, and country-level National Statistics Offices.[3] The products considered as "agri-food" are those included in the Harmonised System (HS) 1–23.[4] The products are considered at six-digit level.[5]

  The trade data in this report are based on average exports over a period of 3 years (2020–2022) unless specified otherwise.

- **Countries that are socially and economically vulnerable are less well-equipped to adjust to changing EU rules**: Low- and middle-income countries, and particularly least developed countries, may face difficulties in implementing policy and legal changes due to limited economic and human resources. The World Trade Organization reflects this by allowing longer transition periods for treaty implementation for least developed countries as part of special and differential treatment. The United Nations has developed social and economic indices to reflect these characteristics, which are

[2] WTO, World Trade Report 2021 – Economic Resilience and Trade.

[3] The COLEAD Market Insights data warehouse has been built over the years across multiple programmes managed by COLEAD. Data are continually cross-checked and updated, and have been compiled and triangulated using these various data sources.

[4] These HS chapters also include certain non-food products, e.g. plants and flowers. For simplicity, these are included in the definition of agri-food products, for example when considering a product's share of overall agri-food trade. However, these products are not highlighted in the maps or tables as they are not affected by food policy.

[5] The six-digit classifications evolve over time. In this database, the 2002 HS system is used as a fixed reference point to ensure continuity in the data to allow analysis over time. The conversion table used to convert emerging HS classifications back to the 2002 reference point comes from the United Nations Statistics Division: https://unstats.un.org/unsd/classifications/Econ. For example, the conversion from 2022 to 2002 can be found here [direct download].

commonly used by the European Commission in setting its development priorities (e.g. the European Development Fund):

- The *UN Economic and Environmental Vulnerability Index (EVI)*[6] is a single figure derived from eight indicators[7] that capture the overall economic profile of the country.
- The *UN Human Assets Index (HAI)*[8] is a measure of a country's human capital, compiling six indicators[9] that reflect a country's potential for sustainable development.

The RIA methodology used in this report combines these trade and socio-economic indicators to derive an overall measure of the potential impact of changing rules on a given country. Assuming that the countries most dependent on trade and with the greatest development needs will be the most sensitive to regulatory change, this methodology establishes a Regulatory Impact Indicator (RII) for each country as follows:

$$\text{Country RII} = \text{socio-economic indicator} \times \text{dependence on trade indicator}$$

$$= [\text{EVI} + (1 - \text{HAI})]/2 \times (\text{PED} \times \text{GED} \times 100)$$

High development needs are indicated by a high EVI, but by a low HAI. The HAI is inverted in order to be able to combine these two indicators. The dependence on trade indicator is multiplied by 100 to bring that indicator into the same order of magnitude as the socio-economic indicator, to provide comparable weighting between the two.

An example of this calculation is set out in Annex I.

For individual products, a product RII is constructed by applying the percentage of that product's portion of a country's overall exports – a further indicator of export diversification – to the country RII. So, for example, if a country's banana exports represent 50% of its total agricultural exports:

$$\text{banana RII} = \text{country RII} \times 50\%$$

The tables in section 3 list the products that were found to be most sensitive (most vulnerable to regulatory change) for each region. These show the country; product; product RII; compound annual growth rate (CAGR)[10] in volume from 2013 to 2022 (unless otherwise specified); and indices relating to product and geographical export diversification.

**Limits of the methodology**

Some limitations to this methodological approach are recognised. The evaluation of trade diversification only takes into account existing trade. There may be nascent markets in particular products that have considerable growth potential, but whose recent trade is not yet large enough to be captured in the analysis. This approach treats all product sectors within a country equally, while in practice some agri-food sectors are likely to have been targeted for specific public and private investment that leaves them more adept at adjusting to changing regulatory demands. Finally, the data do not take into account the specific organisational structure of the value chains analysed; for example, the number of smallholders involved in the chain. Such factors may be significant in terms of a value chain's ability to adapt to changing EU regulatory requirements.

Nevertheless, this methodology provides a clear snapshot of the relevant importance (and vulnerability) of agricultural exports to the EU from specific countries and sectors.

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[6] https://www.un.org/development/desa/dpad/least-developed-country-category/evi-indicators-ldc.html

[7] Share of agricultural, forestry and fishing GDP, share of population in low elevated coastal zones, remoteness and whether landlocked, stability of agricultural production, instability of exports of goods and services, victims of disasters.

[8] https://www.un.org/development/desa/dpad/least-developed-country-category/ldc-data-retrieval.html

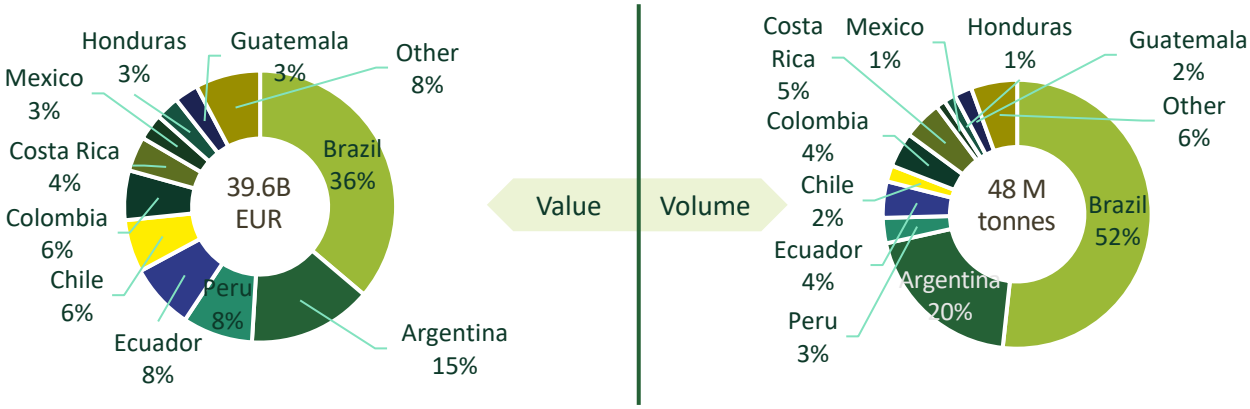
[9] The six indicators are: under-five mortality rate, prevalence of stunting, maternal mortality ratio, secondary school enrolment ratio, adult literacy rate, and gender parity rate index for secondary school enrolment.

[10] CAGR accounts for compounding effect, offering a more accurate reflection of evolution over time, and smoothing out fluctuations. It provides a nuanced understanding of growth trends (Investopedia, 2023).

# 3. LATIN AMERICA: OVERVIEW

Latin America's €40 billion agri-food trade with the EU is dominated by Argentina and Brazil, which together make up 51% of these exports, and 72% in terms of volume. 40 million tonnes (83%) of this total trade is made up of just five products for which the region is renowned: bananas, coffee, maize, soya beans and oil-cakes (for animal feed). The same products represent 68% of the total value of agri-food exports (approximately €27 billion). Brazil alone exceeds €4 billion exports in three of these (coffee, soya beans and oil-cakes), matched only by Argentina's exports of oil-cakes. Colombia's, Peru's and Ecuador's share of trade with the EU are all more significant in value terms than in volume, due to relatively lucrative exports in coffee and fish in particular. Oil-cakes are the most important single sector, representing 33% of the region's total trade, followed by cereals (17%) and oil seeds (16%) (see Table 1).

**Figure 1: Share of agri-food exports from Latin America and the Caribbean to EU27 for 2020–2022, in value (left) and volume (right)**




*Source: COLEAD based on Eurostat*

*Table 1: Top 10 agri-food sectors exported from Africa, Latin America and the Caribbean to the EU27, representing 97% in volume and 87% in value*

| HS Chapter | 2022 volume (tonnes) | Share of total agri-food volume traded (%) | 2022 value (thousand Euros) | Share of total agri-f))ood value traded (%) |
|---|---|---|---|---|
| 23 – Residues and waste from the food industry; prepared animal fodder | 16,771,361 | 33 | 8,356,755 | 17 |
| 10 – Cereals | 8,530,621 | 17 | 2,771,309 | 5.6 |
| 12 – Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder | 7,977,750 | 16 | 5,499,787 | 11 |
| 08 – Fruit and nuts | 7,513,650 | 15 | 8,021,834 | 16 |
| 15 – Animal or vegetable fats and oils and their cleavage products | 1,929,726 | 3.8 | 2,753,412 | 5.6 |
| 20 – Preparations of vegetables, fruit, nuts or other parts of plants | 1,826,623 | 3.6 | 2,024,372 | 4.1 |
| 09 – Coffee, tea, maté and spices | 1,665,221 | 3.3 | 7,451,503 | 15 |
| 17 – Sugars and sugar confectionery | 1,466,545 | 2.9 | 789,232 | 1.6 |
| 22 – Beverages, spirits and vinegar | 974,030 | 1.9 | 1,866,904 | 3.8 |
| 03 – Fish and crustaceans, molluscs and other aquatic invertebrates | 645,203 | 1.3 | 3,391,869 | 6.9 |

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Continued exports of these major commodities clearly remain crucial to the region's overall economic performance. This report draws attention to a number of countries for which these exports are particularly important, and highlights other sectors that may seem insignificant in the broader context of EU–Latin America trade, but are nevertheless of crucial importance to local economies. These are the countries and sectors that may potentially be more affected by changes to EU regulations. The most sensitive country in Latin America in this respect by some margin is Belize, due to its relatively high development needs and significant reliance on its agricultural exports to the EU (93% of the country's total trade in goods). Dependence on trade in agri-food products (88–89% of the total trade in goods) is also the common feature of the four countries – Honduras, Grenada, Ecuador and Guatemala – that follow Belize as sensitive countries using the RI methodology. Looking broadly across the three sub-regions of Latin America – Central America, South America and the Caribbean –the Central American countries are generally most likely to be impacted by EU rules, with a regional average country RII of 145, compared to 91 in South America and 55 in the Caribbean.

**The 10 countries in Latin America and Caribbean likely to be most affected by changes to EU regulations**

| *Country* | *RII*[11] |
|---|---|
| Belize | 420 |
| Honduras | 237 |
| Grenada | 235 |
| Ecuador | 228 |
| Guatemala | 203 |
| Cuba | 179 |
| Argentina | 123 |
| Peru | 119 |
| Costa Rica | 118 |
| Nicaragua | 88 |

Bananas are a sensitive product across the region (see Table 2), but Belize, Ecuador and Costa Rica are identified as countries most likely to be affected by potential regulatory changes. Likewise, rule changes affecting fish exports may have significant implications for multiple countries, but those affecting trade in shrimps are likely to be of particular importance, especially to Venezuela and Ecuador; tuna is another sensitive product for Ecuador. Regulatory changes affecting coffee, such as the EU Deforestation Regulation, will affect all coffee-exporting countries in the region, but particular attention may be needed to its impact on Honduras and Nicaragua.

Within each region there are specific agri-food sectors that stand out due to their economic and social importance and therefore merit particular attention from EU policymakers in terms of the development and implementation of new regulations, and also as targets for possible support and assistance. For example, within the Caribbean region, which is broadly less reliant on trade with the EU, cocoa beans and nutmeg from Grenada and rum and sugar exports from Cuba are identified as particularly sensitive products. Cane sugar and bananas from Belize, Honduran coffee and Guatemalan palm oil emerge as the most sensitive products in Central America, and in South America banana and shrimp exports from Ecuador are significant. The importance of fish exports all across the Latin American region is also highlighted in this report. In the fruit

[11] For further information on the indicators underlying the country RII, see Annex I.

and nut sector, avocados, berries, Brazil nuts and pineapples are identified as sensitive products in addition to bananas. Table 2 provides an overview of the most sensitive agricultural products across Latin America.

Many countries in Latin America rely on trade in a single agri-food product so, for example, a single EU sanitary and phytosanitary measure may have broad impacts on whole communities. This is particularly notable in South America, for example in Guyana, where rice exports make up 73% of the country's total agricultural trade; and in Venezuela, where agricultural trade is dominated by frozen shrimps (67%).

In total, 52 products that may be particularly affected by EU regulatory changes (taking as a reference point those with a product RII > 10) are identified in the Latin America and Caribbean region, and highlighted in the regional maps presented in this report. Table 2**Error! Reference source not found.** provides an overview of those products. For a more complete view of regional agri-food trade, the tables in the sub-regional sections below include information on all products with a product RII >1. The names and definitions of the regions used to organise the report are those developed by the United Nations Statistics Division.

*Table 2: Overview of all sensitive products[12] from the regions analysed with RII >10, HS Chapter, and sensitive countries*

| HS Chapter | Product | Countries |
|---|---|---|
| **03 Fish and crustaceans, molluscs and other aquatic invertebrates** | Freshwater and saltwater fish (other species) | Grenada |
| | Frozen yellowfin tunas (*Thunnus albacares*) | Belize |
| | Frozen skipjack or stripe-bellied bonito | Belize |
| | Frozen rock lobster and other sea crawfish (cooked) | Belize, Cuba |
| | Frozen shrimps/prawns | Argentina, Cuba, Ecuador, Nicaragua, Venezuela |
| **04 Dairy produce; birds' eggs; natural honey; edible products of animal origin not elsewhere specified or included** | Natural honey | Cuba |
| **08 Fruit and nuts** | Brazil nuts | Bolivia |
| | Bananas/plantains | Belize, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, Guatemala, Panama |
| | Pineapples | Costa Rica |
| | Avocados | Peru |
| | Berries (*Vaccinium* spp.) | Peru |
| **09 Coffee, tea, maté and spices** | Coffee (excl. roasted and decaffeinated) | Brazil, Colombia, Guatemala, Honduras, Nicaragua, Peru |
| | Nutmeg | Grenada |
| **10 Cereals** | Rice in the husk, "paddy" or rough | Guyana |
| | Husked or brown rice | Guyana |
| **12 Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder** | Soya beans | Brazil |
| | Shelled groundnuts, unroasted | Argentina |

[12] To be consistent across the continent, and to ensure comparability across regions, all those products with a RII > 10 are highlighted.

| | | |
|---|---|---|
| **15**<br>**Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes** | Crude palm oil | Guatemala, Honduras |
| **16**<br>**Meat, fish or crustaceans; molluscs or other aquatic invertebrates; preparations thereof** | Fish, whole or in pieces (tunas, skipjack and bonito (*Sarda* spp.)) | Ecuador, El Salvador |
| **17**<br>**Sugars and sugar confectionery** | Raw cane sugar (excl. added flavouring or colouring) | Belize, Cuba |
| | Cane/beet sugar and sucrose | Cuba |
| **18**<br>**Cocoa and cocoa preparations** | Cocoa beans, whole or broken, raw or roasted | Dominican Republic, Ecuador, Grenada |
| **22**<br>**Beverages, spirits and vinegar** | Undenatured ethyl alcohol | Guatemala |
| | Rum and tafia | Cuba, Grenada, Jamaica, Venezuela |
| **23**<br>**Food industries, residues and wastes thereof; prepared animal fodder** | Oil-cake and other solid residues resulting from the extraction of soya bean oil | Argentina, Brazil, Paraguay |

Figure 2 highlights the 20 most sensitive agri-food products according to the RI methodology applied in this report (that is those with the highest product RII). However, highlighting these products does not imply that other smaller or less developed value chains are somehow not significant for the countries concerned. The cut-off point used to determine sensitive products (product RII >10 or >1) in the regional maps or tables below is an arbitrary one used as a point of comparison. Stimulating trade diversification across multiple sectors – both those identified as sensitive in this report and others – is crucial to long-term development and economic sustainability. Nevertheless, this snapshot provides a helpful framework for reflecting on agri-food trade from low- and middle-income countries, and a reminder of who may be most affected by the EU's regulatory work.

The 20 most sensitive value chains across all Latin and Caribbean countries are shown in Figure 2**Figure *2***.

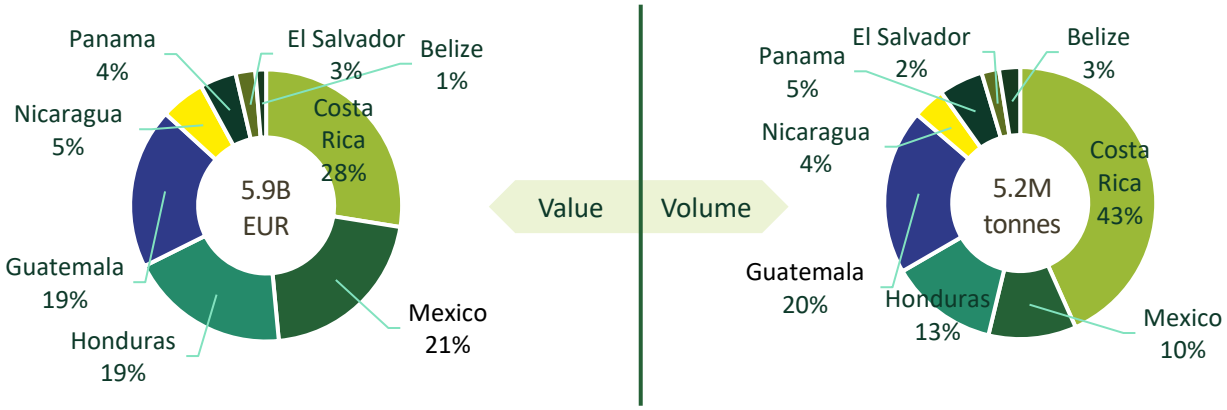
**Figure 2: The 20 agri-food products across Latin America and Caribbean where trade with the EU may be most sensitive to EU regulatory changes**


*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

## 3.1 Central America

In Central America, Costa Rica is by far the largest agri-food exporter by volume, its exports (predominantly bananas and pineapples) making up 43% of the 5 million tonne trade in these products (see Figure 3). Guatemala, with its palm oil-led trade, is the second largest exporter (20% of the region's trade volume). However, in terms of value, Mexico is the second largest exporter, contributing 21% of the region's €6 billion agri-food trade with the EU, compared with Costa Rica's 28% share. This reflects Mexico's significant trade in higher-value products such as alcoholic drinks and fish. Of the region's single sectors, the most economically significant are Honduran coffee (€798 million), palm oil from Guatemala (€735 million) and Costa Rican bananas (€610 million).

**Figure 3: Share of agri-food exports from Central America to EU27 for 2020–2022, in value (left) and volume (right)**




*Source: COLEAD based on Eurostat*

Within the Central America region, Belize is the country most likely to be affected by changes in EU policies due to its high reliance on the EU market (18% of its total global exports are destined for the EU) and its relative economic vulnerability (as reflected in UN development indicators). In addition, agricultural products make up an extremely high proportion (93%) of its total goods exports to the EU, a characteristic it shares with Honduras (89%) and Guatemala (88%). In spite of the overall economic significance of Mexico's agri-food trade to the region, none of its product sectors is considered to be sensitive according to the RI methodology. This reflects the country's relatively advanced development status and goods exports that are considerably more diverse than other countries in the region, in terms of both geographical reliance on the EU (only 5% of global goods trade) and reliance on agricultural produce (5% of total goods trade with the EU).

**Relative sensitivity of countries to changes in EU regulations**

| *Country* | *RII*[13] |
|---|---|
| Belize | 420 |
| Honduras | 237 |
| Guatemala | 203 |
| Costa Rica | 118 |
| Nicaragua | 88 |
| Panama | 54 |
| El Salvador | 36 |
| Mexico | 4 |

[13] For further information on the indicators underlying the country RII, see Annex I.

An overview of the region's agri-food products potentially most sensitive to EU regulatory changes is provided in Figure 4, with the most sensitive products (product RII > 10), highlighted in bold. Belize's exports are dominated by two commodities, raw cane sugar (48% of total agricultural exports) and bananas (26%), although a number of fish products are also highly sensitive. Bananas are a sensitive product for major exporters, not only larger suppliers such as Costa Rica, whose trade meets 21% of Europe's banana needs, but also crucially important for smaller producers: Panama (providing 4% of the EU's banana imports), Guatemala (3%) and Belize (1.4%). With its banana trade, Panama is the Central American country most dependent on trade in a single product (62% of total agricultural exports). Coffee is a significant export across the region, but is identified as particularly sensitive for Honduras, which supplies a significant share of the coffee imported into the EU (5% of total coffee imports). It is also of crucial importance to much smaller suppliers Nicaragua (1.2% of total EU imports) and El Salvador (0.3%). Both Honduras and Nicaragua are notably dependent on their coffee trade, representing 59 and 46%, respectively, of their total agricultural exports. For El Salvador, the region's smallest exporter to the EU in terms of trade volume, tuna (representing 36% of agri-food exports) is identified as a sensitive product.

**Figure 4: Major agri-food exports to the EU and (in bold) those products that may be most sensitive to EU regulatory change**


*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

Palm oil has been a source of notable trade growth across the region, ranging from 13% compound annual growth rate (CAGR) over the past decade in Honduras to 64% in Costa Rica. Nicaragua, recorded its first export of palm oil in 2019 and reached almost 12,000 tonnes in 2022. Trade in coffee, by contrast, has remained steady or declined over the same period in all countries except Nicaragua, which has seen a 5% CAGR over the last decade. Trends in the banana trade have also varied across countries, with 29% CAGR for Guatemala and 4.4% for both Costa Rica and Nicaragua, but a small decline of –1.1% for Belize. Sugar exports have grown substantially in Honduras and Belize (179 and 22% CAGR, respectively), but have declined by around 5% CAGR in both Nicaragua and El Salvador. Other notable growth sectors are rum (Guatemala, Nicaragua and Panama) and various types of frozen fish from Belize.

Table 3 ranks the region's most sensitive agri-food products[14] according to the product RII (including all products with a RII >1). It includes information on the value and volume of those exports and compound annual growth rates.

*Table 3: Sensitive products in Central America. * CAGR calculated on 2016–2022. ** CAGR calculated on 2019–2022.*

| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[15]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Belize** | Raw cane sugar (excl. added flavouring or colouring) – 170111 | **200** | 22.0 | 47.6 | 96,948 | 48,637 |
| **Honduras** | Coffee (excl. roasted and decaffeinated) – 090111 | **134** | –0.3 | 56.8 | 158,494 | 798,185 |
| **Belize** | Bananas/plantains – 080300 | **108** | –1.1 | 25.7 | 29,560 | 15,896 |
| **Guatemala** | Crude palm oil – 151110 | **87** | 21.1 | 43.0 | 564,476 | 734,978 |
| **Honduras** | Crude palm oil – 151110 | **60** | 13.4 | 25.2 | 292,805 | 354,513 |
| **Costa Rica** | Bananas/plantains – 080300 | **45** | 4.4 | 37.8 | 1,048,710 | 609,878 |
| **Nicaragua** | Coffee (excl. roasted and decaffeinated) – 090111 | **41** | 5.1 | 46.2 | 38,186 | 194,489 |
| **Costa Rica** | Pineapples – 080430 | **35** | 1.4 | 29.7 | 672,828 | 532,643 |
| **Belize** | Frozen yellowfin tunas (*Thunnus albacares*) – 030342 | **35** | –4.4 | 8.3 | 1,980 | 5,679 |
| **Panama** | Bananas/plantains – 080300 | **34** | 0.0 | 62.0 | 181,049 | 108,901 |
| **Guatemala** | Coffee (excl. roasted and decaffeinated) – 090111 | **23** | –1.4 | 11.6 | 31,459 | 177,691 |
| **Belize** | Frozen rock lobster and other sea crawfish (cooked) – 030611 | **17** | **30.4 | 4.1 | 4,152 | 4,152 |
| **Belize** | Frozen skipjack or stripe-bellied bonito – 030343 | **16** | 24.3 | 3.7 | 1,771 | 2,555 |
| **Guatemala** | Bananas/plantains – 080300 | **15** | 28.9 | 7.6 | 172,710 | 100,836 |
| **Nicaragua** | Frozen shrimps/prawns – 030613 | **13** | –2.4 | 14.8 | 8,160 | 43,771 |
| **El Salvador** | Fish, whole or in pieces (tunas, skipjack and bonito (*Sarda* spp.)) – 160414 | **13** | –2.1 | 35.6 | 8,931 | 61,837 |
| **Guatemala** | Undenatured ethyl alcohol[16] – 220710 | **12** | –6.3 | 6.1 | 84,211 | 92,972 |
| **Honduras** | Crude palm kernel and babassu oil – 151321 | **9.6** | 17.2 | 4.0 | 37,861 | 60,543 |
| **Honduras** | Frozen shrimps/prawns – 030613 | **8.7** | –1.3 | 3.7 | 4,362 | 44,369 |
| **El Salvador** | Coffee (excl. roasted and decaffeinated) – 090111 | **8.0** | –10.0 | 22.1 | 8,804 | 47,749 |
| **Nicaragua** | Bananas/plantains – 080300 | **7.7** | *4.4 | 8.7 | 43,583 | 23,465 |
| **Nicaragua** | Shelled groundnuts, unroasted – 120220 | **7.3** | 8.6 | 8.3 | 23,310 | 31,998 |
| **Guatemala** | Crude palm kernel and babassu oil – 151321 | **6.8** | 18.1 | 3.4 | 37,035 | 67,388 |
| **Guatemala** | Fish, whole or in pieces (tunas, skipjack and bonito (*Sarda* spp.)) – 160414 | **6.3** | 0.1 | 3.1 | 41,880 | 41,880 |
| **Guatemala** | Rum and tafia – 220840 | **6.0** | 14.4 | 2.9 | 51,732 | 51,732 |
| **Costa Rica** | Pineapple juice, unfermented, Brix value ≤ 20 at 20°C – 200941 | **6.0** | 3.3 | 5.0 | 127,436 | 107,897 |
| **Honduras** | Melons – 080719 | **5.9** | 5.6 | 2.5 | 25,754 | 29,433 |
| **Costa Rica** | Crude palm oil – 151110 | **5.8** | 64.4 | 4.9 | 143,762 | 160,153 |
| **Guatemala** | Cardamoms – 090830 | **5.8** | 14.8 | 2.8 | 25,138 | 25,138 |

[14] HS Chapters 1 to 23

[15] CAGR, compound annual growth rate = $\left(\frac{Volume\ 2022}{Volume\ 2013}\right)^{\frac{1}{2022-2013}} - 1$

[16] Although not a food product, included here as falling within HS Chapters 1–23.

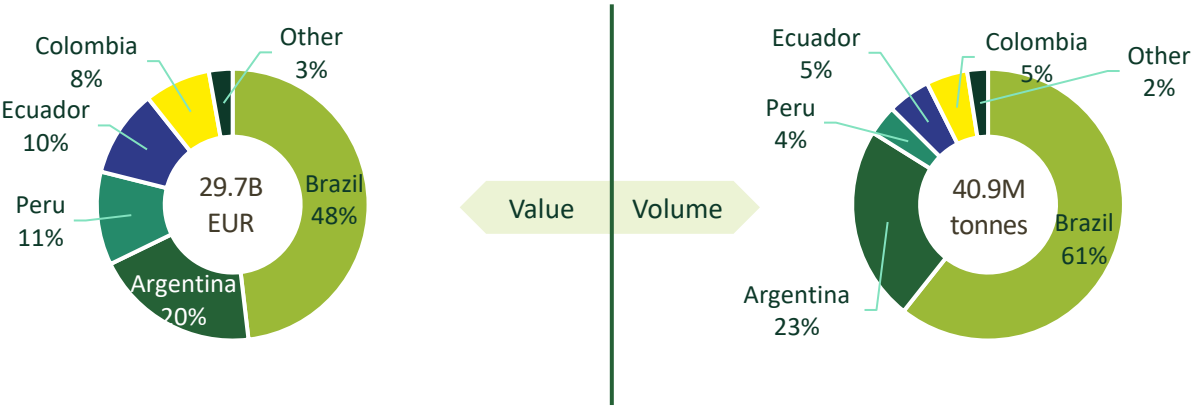
| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[15]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Belize** | Frozen hake (*Merluccius* spp., *Urophycis* spp.) – 030378 | **5.1** | *–38.5 | 1.2 | 229 | 450 |
| **Nicaragua** | Crude palm oil – 151110 | **4.6** | **12.7 | 5.2 | 11,854 | 13,724 |
| **Guatemala** | Cane/beet sugar and sucrose – 170199 | **4.5** | 7.3 | 2.2 | 52,637 | 33,506 |
| **Honduras** | Shrimps/prawns (prepared or preserved) – 160520 | **4.2** | 10.2 | 1.8 | 20,660 | 20,660 |
| **Costa Rica** | Coffee (excl. roasted and decaffeinated) – 090111 | **4.1** | 0.8 | 3.5 | 61,094 | 61,094 |
| **Belize** | Frozen swordfish, dogfish and other sharks and saltwater fish – 030379 | **4.0** | –20.5 | 1.0 | 244 | 244 |
| **Costa Rica** | Fruit and other edible parts of plants, prepared or preserved – 200899 | **3.8** | 15.0 | 3.2 | 99,832 | 60,484 |
| **Panama** | Frozen yellowfin tunas (*Thunnus albacares*) – 030342 | **3.8** | 7.8 | 7.1 | 9,830 | 30,833 |
| **El Salvador** | Frozen yellowfin tunas (*Thunnus albacares*) – 030342 | **3.7** | *–1.8 | 10.3 | 5,830 | 16,562 |
| **Panama** | Rum and tafia – 220840 | **3.5** | 7.7 | 6.4 | 15,338 | 15,338 |
| **Nicaragua** | Crude groundnut oil – 150810 | **3.4** | –8.0 | 3.8 | 4,841 | 8,742 |
| **Honduras** | Ethnic vegetables – 070990 | **3.3** | 24.8 | 1.4 | 15,472 | 15,472 |
| **Belize** | Orange juice, unfermented (excl. containing spirit, frozen, and of a Brix value ≤ 20 at 20°C) – 200919 | **2.8** | –23.9 | 0.7 | 372 | 657 |
| **Nicaragua** | Raw cane sugar (excl. added flavouring or colouring) – 170111 | **2.5** | –5.1 | 2.9 | 24,465 | 10,170 |
| **Belize** | Frozen orange juice – 200911 | **2.5** | –50.6 | 0.6 | 0 | 0 |
| **Honduras** | Live plants and mushroom spawn – 060290 | **2.3** | 4.9 | 1.0 | 7,143 | 11,828 |
| **El Salvador** | Raw cane sugar (excl. added flavouring or colouring) – 170111 | **2.1** | *–5.3 | 5.8 | 18,150 | 9,245 |
| **El Salvador** | Cane molasses resulting from the extraction or refining of sugar – 170310 | **2.1** | –3.5 | 5.8 | 20,163 | 4,206 |
| **Costa Rica** | Watermelons – 080711 | **2.1** | 4.3 | 1.8 | 35,167 | 28,726 |
| **El Salvador** | Frozen skipjack or stripe-bellied bonito – 030343 | **1.9** | *–5.4 | 5.3 | 5,551 | 8,459 |
| **Nicaragua** | Rum and tafia – 220840 | **1.9** | 12.2 | 2.1 | 8,895 | 8,895 |
| **Panama** | Watermelons – 080711 | **1.8** | –4.6 | 3.3 | 10,524 | 8,499 |
| **Panama** | Frozen shrimps/prawns – 030613 | **1.7** | 0.3 | 3.2 | 1,876 | 9,493 |
| **Costa Rica** | Melons – 080719 | **1.7** | –5.5 | 1.4 | 21,175 | 21,533 |
| **Nicaragua** | Cocoa beans, whole or broken, raw or roasted – 180100 | **1.6** | –2.2 | 1.8 | 2,214 | 6,989 |
| **El Salvador** | Cane/beet sugar and sucrose – 170199 | **1.6** | 11.0 | 4.3 | 11,779 | 8,577 |
| **Honduras** | Raw cane sugar (excl. added flavouring or colouring) – 170111 | **1.5** | 179.0 | 0.6 | 20,482 | 8,296 |
| **Panama** | Fats and oils of fish and their fractions – 150420 | **1.4** | –30.9 | 2.6 | 103 | 329 |
| **Honduras** | Sweet potatoes – 071420 | **1.3** | 6.9 | 0.5 | 6,607 | 5,519 |
| **Belize** | Grapefruit juice – 200929 | **1.2** | –53.0 | 0.3 | 1 | 2 |
| **Panama** | Pineapples – 080430 | **1.2** | –12.3 | 2.2 | 8,914 | 8,024 |
| **El Salvador** | Frozen bigeye tunas (*Thunnus obesus*) – 030344 | **1.1** | *4.6 | 3.2 | 2,446 | 4,991 |

*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

## 3.2 South America

South America's 41 million tonne agri-food trade with the EU represents 85% of Latin America's total trade by volume, dominated by Brazil's trade in coffee, oil-cakes, soya beans and maize. Argentina's oil-cake exports are South America's only other sector that is comparable in size to Brazil's major exports. The value of this sub-region's trade, close to €28 billion, is less significant, but still constitutes 70% of Latin America's total agri-food trade in value terms. Peru (11% of trade value), Ecuador (10%) and Colombia (8%) are the more significant trading partners for the EU, this relatively higher value coming primarily from exports of avocados, fish and coffee (see Figure 5). Beyond Brazil and Argentina, South America's most important agri-food sectors in value terms are bananas from Ecuador (€986 million) and Colombia (€759 million), and Colombian coffee (€754 million).

**Figure 5: Share of agri-food exports from South America to EU27 for 2020–2022, in value (left) and volume (right)**




*Source: COLEAD based on Eurostat*

The dominant trading partner, Brazil, is not identified as being most likely to be affected by changes to EU regulations, due to its relatively high ranking from the perspective of the UN's development indicators and its lower reliance on agricultural exports than other countries in the region. However, its largest imports (coffee, oil-cakes, soya beans) are considered sensitive products.

Ecuador is identified as the country in South America most vulnerable to regulatory changes. Like Brazil, Ecuador exports 12% of its goods to the EU, but 89% of those products are agricultural compared with Brazil's 40%. Guyana and Suriname are the most economically vulnerable countries in the region, but agricultural products make up a relatively small portion of their exports to the EU (6 and 22%, respectively). By contrast, both Paraguay (76% of total exports) and Argentina (69%) are highly dependent on agricultural exports as a portion of their trade with the EU, although Paraguay's overall trade dependence on EU market is the lowest in the region (4% of global goods trade destined for the EU market).

**Relative sensitivity of countries to changes in EU regulations**

| *Country* | *RII*[17] |
|---|---|
| Ecuador | 228 |
| Argentina | 123 |
| Peru | 119 |
| Colombia | 83 |
| Venezuela | 82 |
| Paraguay | 74 |
| Brazil | 69 |
| Guyana | 63 |
| Bolivia | 37 |
| Suriname | 29 |

An overview of the region's agri-food products potentially most sensitive to EU regulatory changes is provided in Figure 6, with the most sensitive products (product RII >10), highlighted in bold. To a larger extent than in Central America, South American agricultural trade is characterised by limited trade diversification, trade with the EU being highly concentrated in single sectors. Most striking is rice from Guyana, which makes up 73% of the country's total agri-food trade, followed by Venezuelan frozen shrimps representing 67% of its agri-food commerce. Trade in soya beans and derived products dominates both Argentinian and Paraguayan agricultural commerce, contributing 48 and 63%, respectively, of overall agricultural trade. Brazil nuts from Bolivia also exceed 50% of the total agricultural exports.

Frozen shrimps are identified as sensitive products for two major exporters to the EU: Ecuador (which supplies 18% of the EU's imports) and Argentina (12%), but also for Venezuela, whose major export product represents only 2% of the EU import market. Bananas are identified as sensitive products for Ecuador and Colombia, which may be expected from the two largest exporters to the EU market (delivering 28 and 24% of total imports, respectively). Likewise, Peru is the largest exporter of avocados to the EU, supplying 32% of the EU's import demands, and Bolivia dominates the Brazil nut market (86% of supplies to the EU). Other sectors that are less significant from an EU import perspective, but nevertheless are critical to the countries of origin, include Venezuelan rum (amounting to 7% of EU imports) and cocoa beans from Ecuador (5%).

[17] For further information on the indicators underlying the country RII, see Annex I.

**Figure 6: Major agri-food exports to the EU and (in bold) those products that may be most sensitive to EU regulatory change**


*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

Brazil has seen growth in all its largest export products: soyabeans (5% CAGR), maize (12.5%) and coffee (3%). However, the greatest growth over the past decade across the region has not been seen in the region's predominant export sectors. Peruvian berries have experienced the greatest growth of around 68%, followed by avocados from Colombia (59% CAGR) and Paraguay's oil seeds (38%). Suriname has largely seen a decline in in its most significant export sectors: frozen shrimps, ethnic vegetables and husked/brown rice, with the latter experiencing the steepest decline of –20% CAGR. This contrasts with both Guyana and Paraguay, which

have both seen increases in exports of rice (12 and 25% CAGR, respectively). Guyanese rum is another product that has seen a notable decline in the same period (–20% CAGR).

Table 4 ranks the region's most sensitive agri-food products according to the product RII (including all products with RII >1). It includes information on the value and volume of those exports, and compound annual growth rates.

*Table 4: Sensitive products in South America*
** CAGR calculated on 2016–2022. ** CAGR calculated on 2017–2022.*

| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[18]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Ecuador** | Bananas/plantains – 080300 | **71** | 1.9 | 31.2 | 1,464,570 | 986,358 |
| **Ecuador** | Frozen shrimps/prawns – 030613 | **61** | 7.4 | 26.5 | 159,198 | 993,414 |
| **Argentina** | Oil-cake and other solid residues resulting from the extraction of soya bean oil – 230400 | **56** | 0.9 | 45.4 | 6,589,127 | 3,380,009 |
| **Venezuela** | Frozen shrimps/prawns – 030613 | **55** | 12.3 | 66.8 | 27,726 | 158,378 |
| **Ecuador** | Fish, whole or in pieces (tunas, skipjack and bonito (*Sarda* spp.)) – 160414 | **41** | 1.5 | 18.1 | 124,484 | 635,577 |
| **Paraguay** | Oil-cake and other solid residues resulting from the extraction of soya bean oil – 230400 | **41** | 6.8 | 55.7 | 404,872 | 212,835 |
| **Guyana** | Husked or brown rice – 100620 | **32** | 11.5 | 50.2 | 88,092 | 45,460 |
| **Colombia** | Bananas/plantains – 080300 | **26** | 3.0 | 31.0 | 1,246,354 | 758,884 |
| **Colombia** | Coffee (excl. roasted and decaffeinated) – 090111 | **21** | 0.9 | 25.1 | 124,320 | 754,021 |
| **Peru** | Avocados – 080440 | **21** | 13.8 | 17.5 | 294,054 | 675,096 |
| **Bolivia** | Brazil nuts – 080122 | **20** | 5.1 | 52.6 | 11,641 | 96,243 |
| **Venezuela** | Rum and tafia – 220840 | **19** | 4.8 | 22.6 | 8,821 | 59,545 |
| **Brazil** | Soya beans – 120100 | **17** | 4.8 | 24.5 | 7,122,827 | 4,152,458 |
| **Brazil** | Oil-cake and other solid residues resulting from the extraction of soya bean oil – 230400 | **15** | 0.1 | 21.7 | 8,009,588 | 4,031,374 |
| **Peru** | Coffee (excl. roasted and decaffeinated) – 090111 | **15** | –1.0 | 12.5 | 130,311 | 665,985 |
| **Brazil** | Coffee (excl. roasted and decaffeinated) – 090111 | **14** | 3.0 | 20.0 | 1,042,141 | 4,339,308 |
| **Ecuador** | Cocoa beans, whole or broken, raw or roasted – 180100 | **13** | 7.7 | 5.8 | 78,607 | 202,284 |
| **Argentina** | Shelled groundnuts, unroasted – 120220 | **12** | 5.5 | 9.4 | 454,533 | 631,158 |
| **Peru** | Berries (*Vaccinium* spp) – 081040 | **11** | 68.5 | 9.1 | 72,666 | 381,108 |
| **Argentina** | Frozen shrimps/prawns – 030613 | **10** | 1.1 | 8.3 | 65,289 | 478,019 |
| **Guyana** | Rice in the husk, "paddy" or rough – 100610 | **10** | –16.8 | 15.9 | 37,439 | 16,905 |
| **Colombia** | Crude palm oil – 151110 | **9.6** | 11.7 | 11.6 | 251,583 | 361,154 |
| **Argentina** | Fresh or chilled bovine meat, boneless – 020130 | **8.6** | 3.4 | 7.0 | 44,898 | 528,963 |
| **Suriname** | Frozen shrimps/prawns – 030613 | **7.7** | –8.3 | 26.1 | 1,051 | 7,325 |
| **Peru** | Grapes – 080610 | **7.6** | 9.7 | 6.4 | 95,934 | 181,720 |

[18] CAGR, compound annual growth rate = $\left(\frac{Volume\ 2022}{Volume\ 2013}\right)^{\frac{1}{2022-2013}} - 1$

| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[18]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Peru** | Cuttle fish and squid; scallops (frozen) – 030799 | **7.0** | 4.0 | 5.9 | 70,161 | 264,557 |
| **Peru** | Mangoes/guavas/mangosteens – 080450 | **6.7** | 7.9 | 5.6 | 123,314 | 189,248 |
| **Brazil** | Maize (excl. seed) – 100590 | **5.8** | 12.5 | 8.4 | 7,695,284 | 2,287,960 |
| **Colombia** | Avocados – 080440 | **5.7** | 59.0 | 6.9 | 58,040 | 136,451 |
| **Suriname** | Husked or brown rice – 100620 | **5.4** | –19.6 | 18.3 | 1,150 | 640 |
| **Guyana** | Semi-milled or wholly milled rice – 100630 | **5.2** | *35.0 | 8.2 | 15,476 | 10,915 |
| **Suriname** | Frozen freshwater and saltwater fish (other) – 030379 | **5.1** | –0.3 | 17.4 | 2,071 | 5,109 |
| **Guyana** | Frozen shrimps/prawns – 030613 | **5.0** | –3.2 | 7.8 | 1,754 | 11,979 |
| **Bolivia** | Undenatured ethyl alcohol – 220710[19] | **4.7** | –2.8 | 12.6 | 30,527 | 29,708 |
| **Guyana** | Rum and tafia – 220840 | **4.7** | –22.1 | 7.3 | 1,128 | 10,277 |
| **Bolivia** | Cereals (other) – 100890 | **4.5** | 0.6 | 12.0 | 6,327 | 13,658 |
| **Argentina** | Acorns, horse–chestnuts, marc and other vegetable materials and vegetable waste used in animal feeding – 230800 | **4.2** | –1.5 | 3.4 | 854,277 | 283,370 |
| **Paraguay** | Oil seeds and oleaginous fruits for sowing (other) – 120799 | **4.2** | 38.2 | 5.7 | 12,144 | 37,394 |
| **Peru** | Asparagus – 070920 | **3.8** | 0.4 | 3.2 | 22,526 | 114,618 |
| **Paraguay** | Husked or brown rice – 100620 | **3.3** | 24.7 | 4.5 | 23,655 | 11,621 |
| **Venezuela** | Cocoa beans, whole or broken, raw or roasted – 180100 | **3.3** | 2.7 | 4.0 | 2,608 | 7,345 |
| **Peru** | Vegetables and mixtures of vegetables, prepared or preserved (excl. vinegar or frozen) – 200590 | **3.2** | 2.5 | 2.7 | 44,186 | 104,163 |
| **Peru** | Fats and oils of fish and their fractions – 150420 | **3.0** | –2.6 | 2.5 | 29,251 | 97,106 |
| **Argentina** | Oil–cake and other solid residues, from sunflower seeds – 230630 | **2.9** | 11.2 | 2.3 | 663,557 | 211,999 |
| **Paraguay** | Crude –soya bean oil – 150710 | **2.8** | –100.0 | 3.8 | 0 | 0 |
| **Paraguay** | Fresh or chilled bovine meat, boneless – 020130 | **2.8** | *–4.9 | 3.7 | 1,871 | 19,500 |
| **Colombia** | Other fruits (passion fruit, lychees, tamarinds,…) – 081090 | **2.8** | 8.9 | 3.3 | 20,485 | 88,302 |
| **Brazil** | Orange juice, unfermented (excl. containing spirit, frozen, and of a Brix value ≤ 20 at 20°C) – 200919 | **2.7** | –3.2 | 3.9 | 348,078 | 598,972 |
| **Argentina** | Kidney beans (dried) – 071333 | **2.6** | 14.1 | 2.1 | 127,574 | 144,057 |
| **Peru** | Asparagus, prepared or preserved (excl. vinegar or frozen) – 200560 | **2.5** | –3.7 | 2.1 | 23,946 | 77,144 |
| **Peru** | Bananas/plantains – 080300 | **2.5** | –3.1 | 2.1 | 79,707 | 61,195 |
| **Guyana** | Broken rice – 100640 | **2.5** | –28.6 | 3.9 | 622 | 296 |
| **Paraguay** | Soya beans – 120100 | **2.4** | –73.7 | 3.3 | 3 | 3 |
| **Argentina** | Lemons/limes – 080550 | **2.4** | –3.9 | 1.9 | 119,904 | 122,134 |
| **Peru** | Cocoa beans, whole or broken, raw or roasted – 180100 | **2.4** | 1.6 | 2.0 | 26,022 | 70,129 |

[19] Although not a food product, included here as falling within HS Chapters 1–23.

| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[18]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Paraguay** | Frozen, boneless meat of bovine animals – 020230 | **2.4** | *7.0 | 3.2 | 2,285 | 16,079 |
| **Ecuador** | Extracts, essences and concentrates of coffee – 210111 | **2.3** | –9.1 | 1.0 | 5,525 | 47,570 |
| **Ecuador** | Fruit and other edible parts of plants, prepared or preserved – 200899 | **2.2** | –0.3 | 1.0 | 39,736 | 36,904 |
| **Paraguay** | Animal guts, bladders and stomachs – 050400 | **2.2** | *6.0 | 2.9 | 1,976 | 8,987 |
| **Ecuador** | Juice of fruit or vegetables, unfermented (excl. containing spirit, mixtures, citrus, pineapples, tomatoes, grapes) – 200980 | **2.1** | 2.0 | 0.9 | 13,081 | 41,323 |
| **Suriname** | Semi-milled or wholly milled rice – 100630 | **2.1** | 2.7 | 7.0 | 3,598 | 2,711 |
| **Peru** | Flours, meals and pellets of fish and aquatic invertebrates, unfit for human consumption – 230120[20] | **2.0** | –8.1 | 1.7 | 43,216 | 74,010 |
| **Argentina** | Wine of fresh grapes in containers of ≤ 2 l – 220421 | **1.9** | –3.0 | 1.6 | 22,169 | 101,591 |
| **Colombia** | Crude palm kernel and babassu oil – 151321 | **1.9** | 4.8 | 2.3 | 42,340 | 80,257 |
| **Bolivia** | Oil-cake and other solid residues resulting from the extraction of soya bean oil – 230400 | **1.9** | 3.2 | 5.1 | 29,942 | 16,065 |
| **Guyana** | Palm hearts, prepared or preserved – 200891 | **1.8** | 2.9 | 2.8 | 539 | 2,544 |
| **Guyana** | Frozen fish- 030379 | **1.7** | **23.7 | 2.7 | 396 | 2,778 |
| **Ecuador** | Ethnic vegetables (frozen) – 071080 | **1.7** | 0.0 | 0.7 | 15,793 | 25,314 |
| **Colombia** | Fish, whole or in pieces (tunas, skipjack and bonito (*Sarda* spp.)) – 160414 | **1.6** | –2.0 | 1.9 | 10,626 | 57,086 |
| **Venezuela** | Freshwater and saltwater fish (other) – 030269 | **1.6** | –5.2 | 2.0 | 1,059 | 4,479 |
| **Brazil** | Orange juice, unfermented, Brix value ≤ 20 at 20°C (excl. containing spirit and frozen) – 200912 | **1.6** | –1.8 | 2.3 | 765,426 | 348,332 |
| **Argentina** | Frozen fillets of hake – 030420 | **1.5** | –2.6 | 1.2 | 25,423 | 90,167 |
| **Colombia** | Cane/beet sugar and sucrose – 170199 | **1.5** | 1.9 | 1.8 | 45,974 | 42,318 |
| **Colombia** | Extracts, essences and concentrates, of coffee – 210111 | **1.5** | 4.1 | 1.8 | 3,935 | 51,961 |
| **Paraguay** | Cane/beet sugar and sucrose – 170199 | **1.5** | 2.2 | 2.0 | 10,241 | 8,702 |
| **Ecuador** | Palm hearts, prepared or preserved – 200891 | **1.4** | –3.4 | 0.6 | 7,835 | 23,381 |
| **Suriname** | Ethnic vegetables – 070990 | **1.2** | –9.3 | 3.9 | 356 | 1,144 |
| **Brazil** | Meat and edible offal, salted, in brine, dried or smoked – 021099 | **1.2** | –0.8 | 1.7 | 128,473 | 353,274 |
| **Brazil** | Frozen, boneless meat of bovine animals – 020230 | **1.1** | 0.6 | 1.7 | 40,343 | 297,369 |

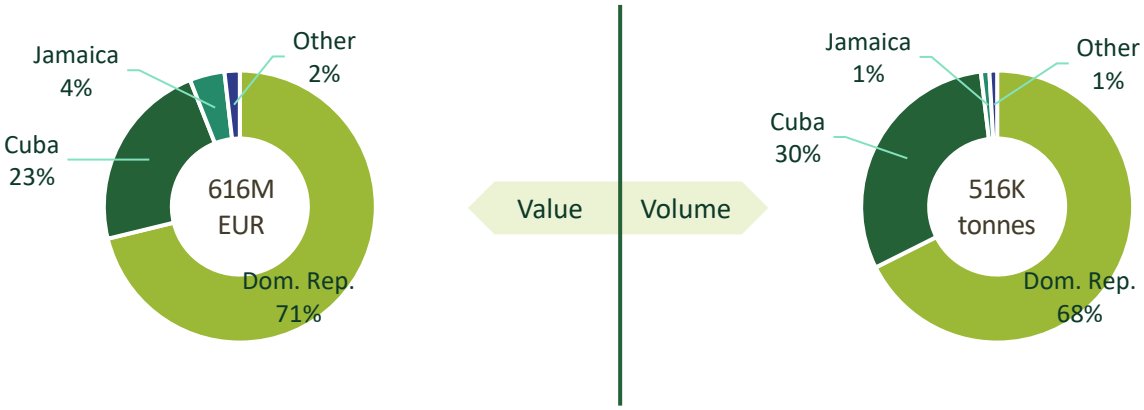
*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

[20] Although not a food product, included here as falling within HS Chapters 1–23.

## 3.3 Caribbean

The Caribbean's €600 million trade with the EU represents 1.5% of the total value of trade between South America and the EU. This trade is dominated by the Dominican Republic (73% share) and Cuba (23%), with Jamaica the only other significant exporter (4%) in the region (see Figure 7).

**Figure 7: Share of agri-food exports from the Caribbean to EU27 for 2020–2022, in value (left) and volume (right).**




*Source: COLEAD based on Eurostat*

Although its total volume of trade is extremely small, Grenada is the country in the region potentially most sensitive to regulatory change as its dependence on agricultural trade (89% of total goods trade) is significantly higher than the other countries in the region. For example, its cocoa exports, which contribute less than 0.1% of the EU's total cocoa demand, represent around 5% of the country's *global* total goods exports. Cuba is also particularly reliant on the EU market (27% of its global goods trade is with the EU) and highly dependent on agricultural exports (43% of its total goods trade). Haiti is identified by the UN as the Caribbean country with the greatest development needs, but is less dependent on trade with the EU than its neighbours. No sensitive product sectors are highlighted for Saint Lucia or Montserrat using the RI methodology, as there is minimal current agricultural trade with the EU.

**Relative sensitivity of countries to changes in EU regulations**

| *Country* | *RII*[21] |
|---|---|
| Grenada | 235 |
| Cuba | 179 |
| Dominican Republic | 50 |
| Dominica | 36 |
| Jamaica | 34 |
| Haiti | 10 |
| Antigua and Barbuda | 7 |
| Saint Vincent and the Grenadines | 3 |
| Saint Lucia | 1 |
| Montserrat | 0 |

[21] For further information on the indicators underlying the country RII, see Annex I.

An overview of the region's agri-food products potentially most sensitive to EU rule changes is provided in Figure 8, with the most sensitive products (product RII >10) highlighted in bold. In addition to cocoa, Grenada's major export product, its most important in value terms in 2022, is nutmeg. Although the quantities are relatively small, Grenada's 234 tonnes of nutmeg exports represents 40% of its overall agri-food trade and 5% of the EU's nutmeg imports. Trade across the region is generally more diverse than in South America, with Haiti's and Saint Vincent and the Grenadines' cocoa trade being the only sectors to exceed 50% of those countries' total agricultural trade. Rum, another dominant sector traded right across the region, is identified as particularly sensitive for Cuba, the third largest exporter to the EU (16% of total EU rum imports). Rum is also significant for much smaller exporters: Jamaica (representing 49% of its overall agri-food trade, and 5% of EU rum imports) and Grenada (0.02% of EU imports). The region's largest trade in both volume and value terms is bananas from the Dominican Republic, representing 45% of the country's overall agri-food trade with the EU.

**Figure 8: Major agri-food exports to the EU and (in bold) those products that may be most sensitive to EU regulatory change**


*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

With the exception of cocoa beans, the Dominican Republic has seen significant growth in all its major agricultural exports, with 8% compound annual growth rate (CAGR) over the past decade in bananas, its largest export sector, and notable growth in both avocados (18% CAGR) and vegetable extracts (106% CAGR). Cuba's major exports have largely declined over the past decade, most notably in the sugar sector (–15% CAGR). In contrast to this overall trend, Cuba saw an increase in exports of natural honey (2.7% CAGR). With the exception of Cuba (–1% CAGR), exports of rum have grown right across the region, up between 3 and 5% for the Dominican Republic and Jamaica as larger exporters, and between 15 and 62% CAGR for the region's smaller producers (Antigua and Barbuda, Dominica, Grenada, and Haiti). Haiti saw a slight decline (–1.4%) in its largest agricultural export sector, coffee, but a growth of 3% CAGR in trade of citrus fruit peel.

Table 5 ranks the region's most sensitive agri-food products according to the product RII (including all products with an RII >1). It includes information on the value and volume of those exports and compound annual growth rates.

*Table 5: Sensitive products in the Caribbean*
** CAGR calculated on 2018–2022.*

| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[22]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Grenada** | Cocoa beans, whole or broken, raw or roasted – 180100 | **97** | 2.7 | 41.1 | 421 | 1,479 |
| **Grenada** | Nutmeg – 090810 | **94** | –7.4 | 40.2 | 234 | 1,939 |
| **Cuba** | Rum and tafia – 220840 | **60** | –1.0 | 33.8 | 19,885 | 49,459 |
| **Cuba** | Raw cane sugar (excl. added flavouring or colouring) – 170111 | **40** | –15.0 | 22.4 | 60,565 | 26,178 |
| **Cuba** | Frozen rock lobster and other sea crawfish (cooked) – 030611 | **23** | –0.4 | 12.9 | 980 | 27,566 |
| **Grenada** | Rum and tafia – 220840 | **23** | 19.0 | 9.6 | 20 | 317 |
| **Dominican Republic** | Bananas/plantains – 080300 | **22** | 7.9 | 44.5 | 261,080 | 228,242 |
| **Cuba** | Natural honey – 040900 | **19** | 2.7 | 10.6 | 6,571 | 17,468 |
| **Jamaica** | Rum and tafia – 220840 | **17** | 3.5 | 49.3 | 3,593 | 17,250 |
| **Dominica** | Bananas/plantains – 080300 | **14** | –25.4 | 38.9 | 17 | 5 |
| **Cuba** | Frozen shrimps/prawns – 030613 | **11** | 0.0 | 6.4 | 1,135 | 4,557 |
| **Dominican Republic** | Cocoa beans, whole or broken, raw or roasted – 180100 | **11** | –1.5 | 21.4 | 30,099 | 92,110 |
| **Grenada** | Fresh or chilled saltwater fish (other) – 030269 | **10** | –12.6 | 4.4 | 26 | 144 |
| **Cuba** | Cane/beet sugar and sucrose – 170199 | **10** | –1.0 | 5.6 | 5,392 | 3,240 |
| **Dominican Republic** | Rum and tafia – 220840 | **8.1** | 5.3 | 16.1 | 22,848 | 94,662 |
| **Grenada** | Ethnic roots and tubers – 071490 | **7.3** | *10.1 | 3.1 | 79 | 155 |
| **Jamaica** | Frozen rock lobster and other sea crawfish (cooked) – 030611 | **6.6** | 7.5 | 19.8 | 159 | 6,101 |
| **Dominica** | Rum and tafia – 220840 | **6.4** | 61.6 | 17.5 | 8 | 71 |
| **Cuba** | Liqueurs and cordials – 220870 | **6.3** | –0.8 | 3.5 | 2,371 | 7,027 |
| **Jamaica** | Frozen stromboid conchs – 030799 | **5.5** | –3.0 | 16.4 | 273 | 4,663 |

[22] CAGR, compound annual growth rate = $\left(\frac{Volume\ 2022}{Volume\ 2013}\right)^{\frac{1}{2022-2013}} - 1$

| Country | Product – HS Code | Product Regulatory Impact Indicator (RII) | Compound annual growth rate (CAGR[22]) 2013*–22, volume (%) | Single product's share of country's agri-food exports to EU27, avg. value 2020–2022 (%) | Volume exported to EU27 in 2022 (tonnes) | Value exported to EU27 in 2022 (thousand Euros) |
|---|---|---|---|---|---|---|
| **Haiti** | Cocoa beans, whole or broken, raw or roasted – 180100 | **5.2** | –1.4 | 51.4 | 737 | 2,228 |
| **Dominica** | Ethnic roots and tubers – 071490 | **4.9** | –3.9 | 13.4 | 194 | 71 |
| **Cuba** | Coffee (excl. roasted and decaffeinated) – 090111 | **3.5** | 8.3 | 1.9 | 660 | 3,163 |
| **Dominica** | Ginger – 091010 | **2.9** | 9.1 | 8.0 | 102 | 46 |
| **Dominica** | Non-alcoholic beverages (excl. water, fruit or vegetable juices and milk) – 220290 | **2.6** | 15.8 | 7.0 | 18 | 57 |
| **Dominican Republic** | Avocados – 080440 | **2.5** | 17.9 | 5.0 | 10,158 | 23,180 |
| **Dominican Republic** | Mangoes/guavas/mangosteens – 080450 | **2.0** | 6.3 | 4.0 | 11,995 | 18,347 |
| **Antigua and Barbuda** | Sugar beet–pulp – 230320 | **1.9** | *–100.0 | 25.7 | – | – |
| **Grenada** | Mace – 090820 | **1.8** | –17.2 | 0.8 | 1 | 15 |
| **Dominican Republic** | Vegetable saps and extracts – 130219 | **1.7** | 106.0 | 3.5 | 7,437 | 14,479 |
| **Jamaica** | Coffee (excl. roasted and decaffeinated) – 090111 | **1.7** | –25.9 | 5.1 | 23 | 951 |
| **Haiti** | Rum and tafia – 220840 | **1.7** | 21.8 | 16.7 | 68 | 735 |
| **Haiti** | Peel of citrus fruit or melons – 081400 | **1.6** | 3.1 | 16.0 | 358 | 1,033 |
| **Saint Vincent and the Grenadines** | Cocoa beans, whole or broken, raw or roasted – 180100 | **1.6** | *27.8 | 51.9 | 27 | 82 |
| **Jamaica** | Plants, parts of plants – 121190 | **1.2** | 7.2 | 3.6 | 283 | 1,101 |
| **Antigua and Barbuda** | Rock lobster and other sea crawfish – 030621 | **1.2** | 23.0 | 16.2 | 19 | 214 |
| **Antigua and Barbuda** | Rum and tafia – 220840 | **1.1** | 15.0 | 15.4 | 12 | 147 |
| **Grenada** | Chocolate and other preparations containing cocoa in ≤ 2 kg – 180632 | **1.1** | –1.5 | 0.5 | 1 | 23 |

*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

# ANNEX I – INDICATORS PER REGION

## I. Example of Regulatory Impact Indicator calculation

Country RII = socio–economic indicator x dependence on trade indicator
= [EVI + (1 – HAI)/2] x (PED x GED x 100)

**Belize**

| UN Economic Vulnerability Index | UN Human Assets Index Adjusted (1 – HAI) | Product Export Diversification (Agri-food Exports to EU27 / Total Exports to EU27) | Geographic Export Diversification (Total Exports to EU27 / Total Exports to the World) |
|---|---|---|---|
| EVI = 39.8 | 1 – HAI = 10.7 | PED = 93.12% | GED = 17.85% |

= (39.8 + 10.7)/2 x (93.12% x 17.85% x 100) = 25.3 x 16.6
= 420

## II. Indicators per region

The following tables include details of the various indicators used to calculate the country Regulatory Impact Indicators (RII) by region.

### Central America

*Table 6: Details of the agri-trade Regulatory Impact Indicator (RII) for each country in Central America*

| Country | Agri-trade RII | Agri-food exports to EU27 / Total exports to EU27 (%) | Total exports to EU27 / Total exports to the world (%) | Economic UN Economic Vulnerability Index (EVI) | UN Human Assets Index (HAI; adjusted 100 – HAI) |
|---|---|---|---|---|---|
| **Belize** | 420 | 93 | 18 | 39.8 | 10.7 |
| **Honduras** | 237 | 89 | 12 | 26.5 | 16.6 |
| **Guatemala** | 203 | 88 | 9 | 23.1 | 30.7 |
| **Costa Rica** | 118 | 51 | 19 | 22.2 | 2.7 |
| **Nicaragua** | 88 | 77 | 6 | 26.4 | 14.7 |
| **Panama** | 54 | 25 | 14 | 20.6 | 10.9 |
| **El Salvador** | 36 | 70 | 3 | 24.7 | 11.8 |
| **Mexico** | 4 | 5 | 5 | 26.0 | 5.1 |

*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

## South America

*Table 7: Details of the agri-trade Regulatory Impact Indicator (RII) for each country in South America*

| Country | Agri-trade RII | Agri-food exports to EU27 / Total exports to EU27 (%) | Total exports to EU27 / Total exports to the world (%) | Economic UN Economic Vulnerability Index (EVI) | UN Human Assets Index (HAI; adjusted 100 – HAI) |
|---|---|---|---|---|---|
| **Ecuador** | 228 | 89 | 12 | 31.3 | 9.7 |
| **Argentina** | 123 | 69 | 12 | 27.3 | 2.4 |
| **Peru** | 119 | 53 | 11 | 32.7 | 7.3 |
| **Colombia** | 83 | 40 | 14 | 24.1 | 6.1 |
| **Venezuela** | 82 | 24 | 19 | 27.0 | 8.7 |
| **Paraguay** | 74 | 76 | 4 | 35.2 | 9.3 |
| **Brazil** | 69 | 40 | 12 | 23.6 | 4.1 |
| **Guyana** | 63 | 6 | 36 | 48.0 | 10.2 |
| **Bolivia** | 37 | 20 | 7 | 39.3 | 11.5 |
| **Suriname** | 29 | 22 | 5 | 44.5 | 8.8 |

*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

## Caribbean

*Table 8: Details of the agri-trade Regulatory Impact Indicator (RII) for each country in the Caribbean*

| Country | Agri-trade Regulatory Impact Indicator | Agri-food exports to EU27 / Total exports to EU27 (%) | Total exports to EU27 / Total exports to the world (%) | Economic UN Economic Vulnerability Index (EVI) | UN Human Assets Index (HAI; adjusted 100-HAI) |
|---|---|---|---|---|---|
| **Grenada** | 235 | 89 | 13 | 37.6 | 3.5 |
| **Cuba** | 179 | 43 | 27 | 28.0 | 2.0 |
| **Dominican Republic** | 50 | 39 | 8 | 21.7 | 9.1 |
| **Dominica** | 36 | 21 | 8 | 35.0 | 6.5 |
| **Jamaica** | 34 | 22 | 8 | 29.7 | 8.7 |
| **Haiti** | 10 | 14 | 2 | 33.5 | 33.8 |
| **Antigua and Barbuda** | 7 | 1 | 33 | 31.3 | 3.6 |
| **Saint Vincent and the Grenadines** | 3 | 1 | 23 | 29.7 | 5.9 |
| **Saint Lucia** | 1 | 15 | <1 | 27.6 | 6.7 |
| **Montserrat** | 0 | <1 | 19 | 28.0 | 2.0 |

*Source: COLEAD based on Eurostat, CEPII BACI, IFPRI and UK Trade Data, and the United Nations. Refer to the methodology for more details.*

# ANNEX II – OVERVIEW OF COUNTRY RII PER REGION

*Table 9: Overview of country Regulatory Impact Indicator (RII) per region in decreasing order*

| Africa | Latin America & Caribbean | Asia | Europe and Central Asia |
|---|---|---|---|
| Average RII 182 | Average RII 94 | Average RII 52 | Average RII 40 |
| Cabo Verde – 1453 | Belize – 420 | Maldives – 579 | Moldova – 201 |
| Côte d'Ivoire – 823 | Honduras – 237 | Solomon Islands – 473 | Ukraine – 123 |
| Sao Tome and Principe – 802 | Grenada – 235 | Papua New Guinea – 239 | Syrian Arab Republic – 128 |
| Madagascar – 593 | Ecuador – 228 | Pakistan – 83 | Serbia – 78 |
| Ethiopia – 474 | Guatemala – 203 | Fiji – 60 | Albania – 77 |
| Cameroon – 436 | Cuba – 179 | Iran – 58 | Kosovo – 47 |
| Burundi – 412 | Argentina – 123 | Sri Lanka – 54 | Georgia – 41 |
| Kenya – 384 | Peru – 119 | Afghanistan – 39 | Yemen – 37 |
| Uganda – 377 | Costa Rica – 118 | Timor-Leste – 37 | Lebanon – 37 |
| Mauritania – 359 | Nicaragua – 88 | Indonesia – 33 | North Macedonia – 31 |
| Comoros – 339 | Colombia – 83 | Myanmar – 32 | Bosnia and Herzegovina – 26 |
| Sierra Leone – 323 | Venezuela – 82 | Philippines – 25 | Türkiye – 24 |
| Morocco – 296 | Paraguay – 74 | India – 24 | Kyrgyzstan – 12 |
| Somalia – 294 | Brazil – 69 | Viet Nam – 20 | Kazakhstan – 12 |
| Gambia – 230 | Guyana – 63 | Laos – 19 | Belarus – 11 |
| Senegal – 223 | Panama – 54 | Cambodia – 16 | Armenia – 10 |
| Ghana – 219 | Dominican Republic – 50 | Bangladesh – 14 | Montenegro – 9 |
| Mauritius – 186 | Bolivia – 37 | Thailand – 11 | Azerbaijan – 6 |
| Namibia – 185 | El Salvador – 36 | Malaysia – 10 | Uzbekistan – 6 |
| Liberia – 176 | Dominica – 36 | Tonga – 10 | Jordan – 5 |
| Malawi – 144 | Jamaica – 34 | Kiribati – 8 | Tajikistan – 3 |
| Tunisia – 100 | Suriname – 29 | Nepal – 6 | Turkmenistan – 1 |
| Togo – 95 | Haiti – 10 | Vanuatu – 6 | Iraq – 0.3 |
| Tanzania – 87 | Antigua and Barbuda – 7 | Samoa – 5 | |
| Rwanda – 87 | Mexico – 4 | China – 3 | |
| Guinea-Bissau – 72 | Saint Vincent and the Grenadines – 3 | Mongolia – 3 | |
| Sudan – 69 | Saint Lucia – 0.8 | Tokelau – 1.3 | |
| Eswatini – 63 | Montserrat – 0 | Bhutan – 0.6 | |
| Nigeria – 53 | | Marshall Islands – 0.5 | |
| Egypt – 46 | | Wallis and Futuna – 0.5 | |
| Djibouti – 46 | | Micronesia – 0.3 | |
| South Africa – 44 | | Nauru – 0.1 | |
| Mozambique – 43 | | Niue – 0 | |
| Zimbabwe – 39 | | Tuvalu – 0 | |
| Benin – 36 | | Korea (North) – 0 | |
| Chad – 36 | | Palau – 0 | |
| Saint Helena – 33 | | | |
| Burkina Faso – 32 | | | |
| Central African Republic – 17 | | | |
| Guinea – 15 | | | |
| Gabon – 14 | | | |
| Lesotho – 12 | | | |
| Algeria – 11 | | | |
| Mali – 10 | | | |

| Africa | Latin America & Caribbean | Asia | Europe and Central Asia |
|---|---|---|---|
| Average RII<br>182 | Average RII<br>94 | Average RII<br>52 | Average RII<br>40 |
| DRC – 10 | | | |
| Zambia – 7 | | | |
| Congo – 6 | | | |
| Angola – 5 | | | |
| Niger – 4 | | | |
| Libya – 2 | | | |
| Botswana – 2 | | | |
| Equatorial Guinea – 0.9 | | | |
| South Sudan – 0.7 | | | |
| Eritrea – 0.6 | | | |

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