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1. In accordance with Article 34 of the International Coffee Agreement 2007 and the Programme of Activities for coffee year 2017/18, the International Coffee Organization is required to provide Members with studies and reports on relevant aspects of the coffee sector. This document contains a study on the Development of Coffee Trade Flows comparing the periods 1992-1996 and 2012-2016 and using export data collected by the ICO.

2. The main findings of the study show that during a 20-year period, coffee production increased by 61% and domestic consumption in producing countries doubled. With 72% of green coffee production exported and an average growth of 57% in total exports, coffee remains a primary commodity. The exporting side of the market has experienced a trend towards higher concentration, while the importing side has diversified with 22 countries gaining ground as trade partners. Arabica remains the dominant coffee variety in the global trade, comprising two thirds of total exports. However, Robusta exports have grown faster over the past twenty years. In terms of coffee by form, 91% of exports continue to be in green form but the share of processed coffee exported

1. The aim of this study is to present a comprehensive picture of the development of global coffee trade flows in a 20-year period. Comparing the periods 1992-1996 and 2012-2016, the study focuses on: (i) tracking the evolution of imports and exports by volume and market, (ii) the analysis of the changes in the share of Arabica and Robusta in total exports, and (iii) the assessment of the role of processed coffee in overall traded volumes.

2. Coffee is a growth market and provides economic benefits at each step of the global value chain, from growers to consumers. Over the past two decades, global production of coffee has increasedt erowf

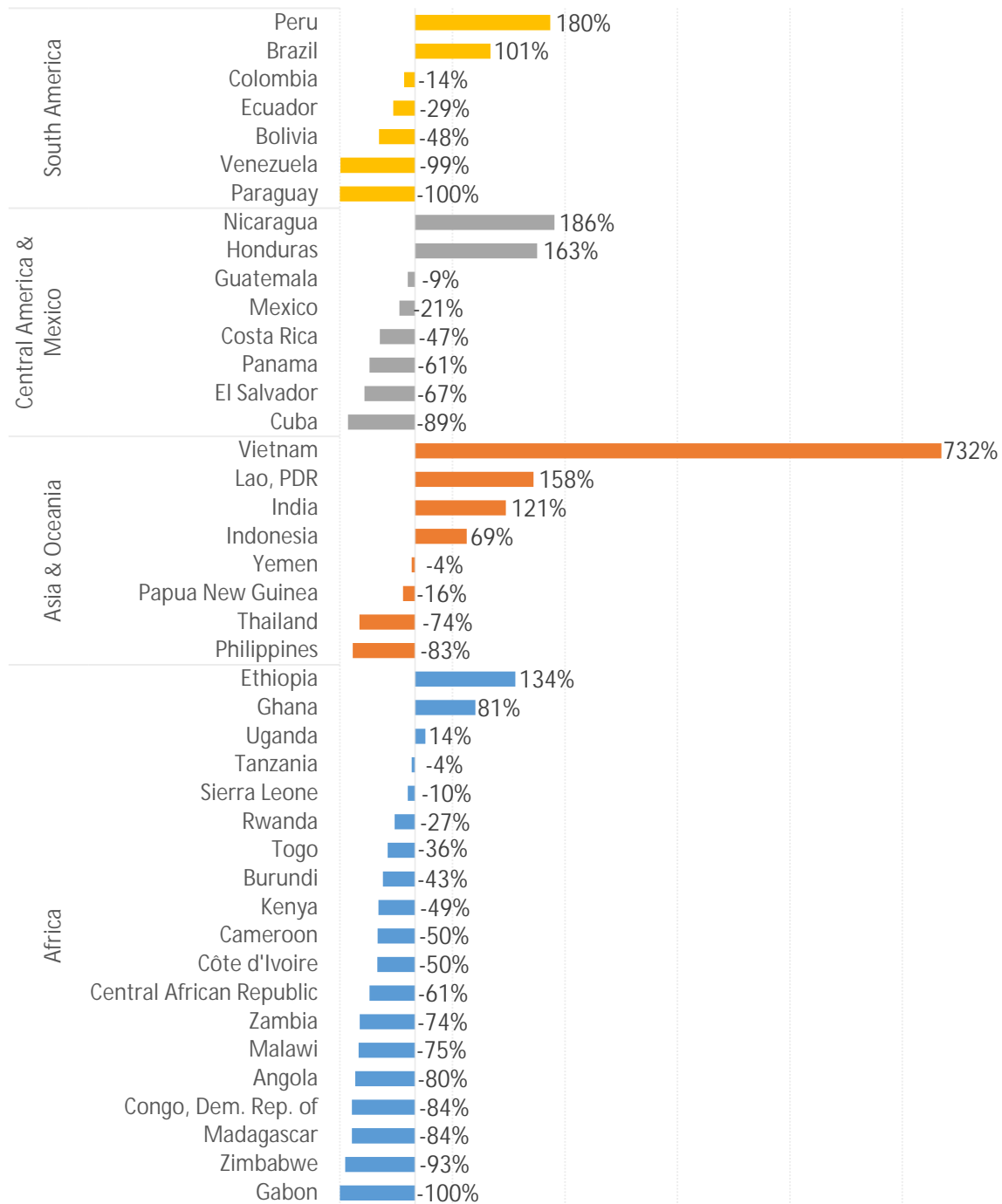
3. The global coffee industry contributes to the economies of both exporting and importing countries

1,694,710 jobs and 76% of adults reporting they drink coffee . In a faster growing market, such as the United Kingdom, consumers spent US\$12.1 billion in coffee shops in 2015, which represented a 0.4% contribution to GDP in that year.

5. Between the two five-year periods 1992-1996 and 2002-2006, the number of jobs in the coffee shop industry increased by 2.2 million (76)10 (15)2TJ0 Tc

7. In Asia and Oceania, Vietnam, India and Indonesia experienced gains in their coffee exports, with average growth rates of 732%, 121% and 69%, respectively.

8. In contrast, African exports suffered a significant decrease (-18%) due to an average 50% reduction in coffee production in most African countries, although Ugandan exports increased by 14% and Ethiopian exports stand out with a high growth of 134%.



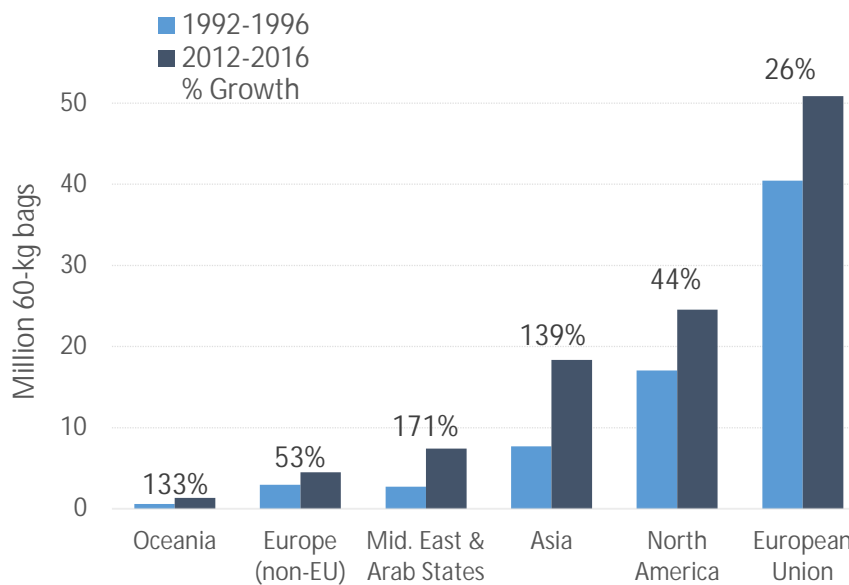
Source: ICO

9. As a result of changes in export volumes across countries, fewer origins represent a larger share of exports today. Plotting exports by country reveals that the ten main coffee exporting countries covered 75% of global exports (Figure 5) in the 1992-1996 period. Twenty years later, the ten main coffee exporting countries cover 86% of the global trade, which is an indication of higher market concentration on the exporting side. The ranking of producers has also changed, Vietnam climbed to second place while India moved up to the fifth place. Honduras, Peru and Ethiopia entered the list of the ten largest exporters, while Mexico, Côte d'Ivoire and Costa Rica dropped out.

No concentration	$\leq 0.1$	$\leq 0.1$		
[Moderate] Concentration	$0.1 > \text{HHI} < 0.2$	$0.1 > \text{HHI} < 0.18$	0.102	0.149
High concentration	$\geq 0.2$	$\geq 0.18$		

Thresholds source: CMA (2010) and FTC (2015).  
 HHI calculations: ICO

11. Turning to the importing side of global trade in coffee, the emergence of new markets becomes apparent. Since the early nineties, North America and the European Union (EU) have increased their coffee imports in volume by 44% and 26%, respectively (Figure 6). However, their combined global market share has fallen to 65%, compared to 79% two decades ago. This is the result of growing imports by Asia, the Middle East and Arab states and the rest of Europe (non-EU), which increased their shares in the market to 15%, 7% and 5%, respectively. Among these ‘non-traditional markets’, the highest growth in the volume of coffee imports was in the Middle East and Arab States (171%) followed by Oceania (133%) and Asia (131%).

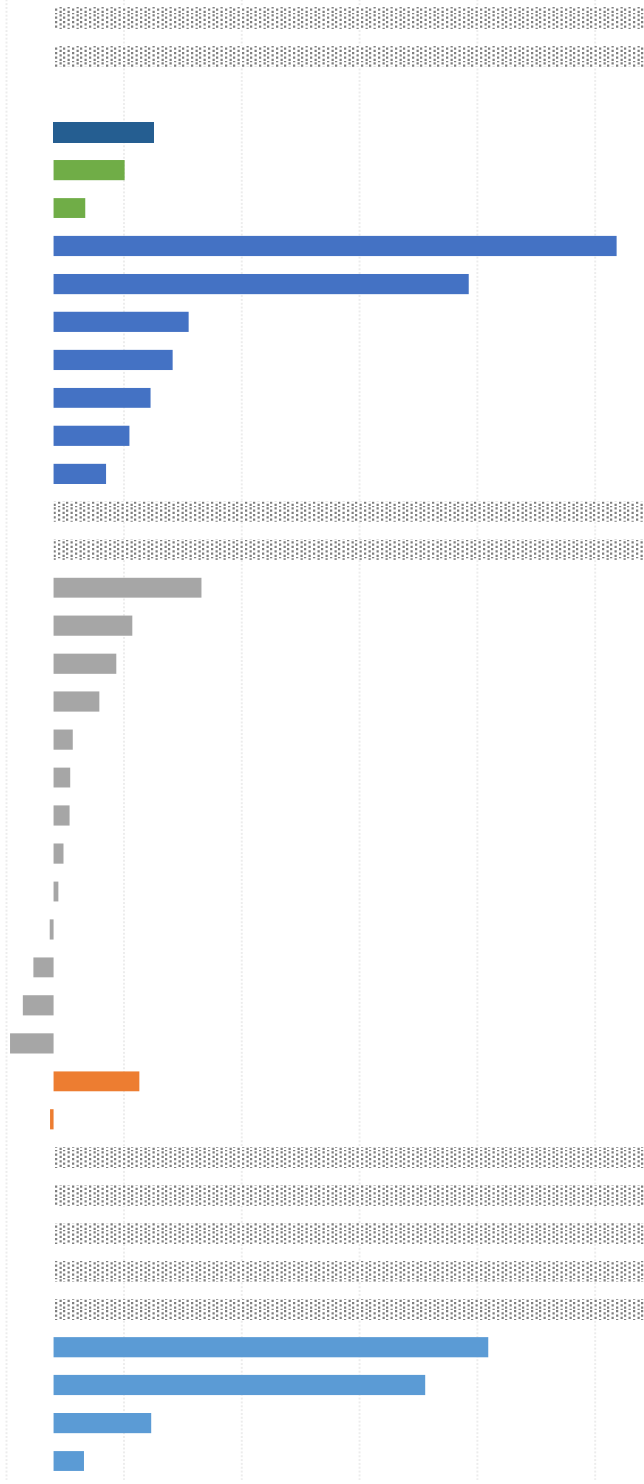


Source: ICO

12. Imports by producing countries have also greatly increased over the past 20 years, albeit from a low base (Figure 7). Some countries, such as Ecuador, began to import green coffee for their emerging soluble industry when demand started to exceed supply of locally grown coffee. On balance, the role of coffee-producing countries as importers remains marginal with none of the producing regions exceeding a share of on average 2.5% in total imports in the period 2012-2016.

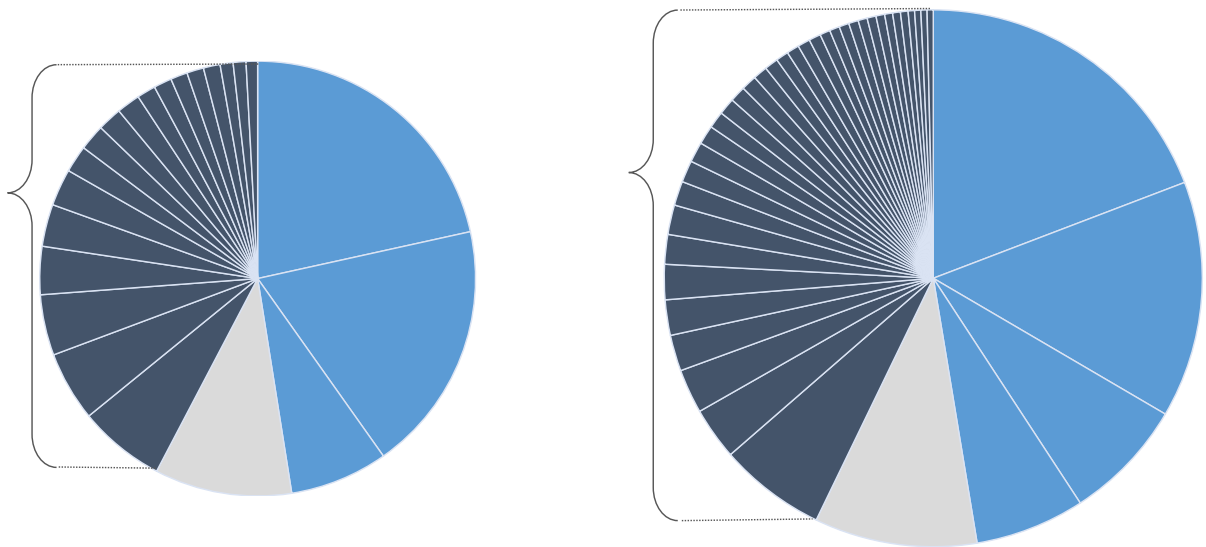






\* Increase of more than ten-fold  
Oc: Oceania, NA: North America, CA & C: Central America & Caribbean.  
Source: ICO

15. While a concentration on the exporter side of the market can be observed, there is a reverse trend on the side of importers. The number of countries that imported 90% of the coffee trade in 2012-2016, almost doubled from 21 to 40 since 1992-1996 (Figure 9).



Source: ICO

16. The group of 40 countries includes 22 additional countries where imports grew by an average of 386% between 1992-1996 and 2012-2016. Three countries (Singapore, Switzerland and Denmark) dropped out of the initial group of 21 countries that accounted for 90% of imports in 1992-1996.

17. Analogous to the export side, the HHI is calculated for the importing side of the global coffee market, using the market share of all importers in both periods. The HHI values are 0.101 for 1992-1996 and 0.077 for 2012-2016 (Table 2). This validates the results from plotting the data and indicates that the importing coffee market has moved from 'moderate concentration' to a 'non-concentrated' market in 20 years, in terms of destination countries.

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No concentration	$\leq 0.1$	$\leq 0.1$		0.077
[Moderate] Concentration	$0.1 > \text{HHI} < 0.2$	$0.1 > \text{HHI} < 0.18$	0.101	
High concentration	$\geq 0.2$	$\geq 0.18$		

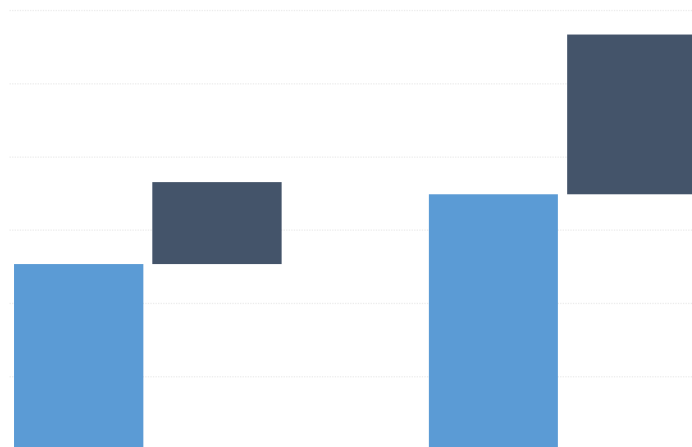
Thresholds source: CMA (2010) and FTC (2015).  
HHI calculations: ICO.

18. While the destination of trade flows is becoming more diversified, as mentioned above, the coffee industry is also undergoing a process of consolidation. For example, a series of company transactions have resulted in a combined market share of 39% on global coffee sales by the two biggest coffee companies in the USA and Europe.

19. Highlighting the trade flows from the ten largest exporters, Figures A1a and A1b in the Annex provide an additional more detailed visualization of the global coffee trade flows from exporting countries to importing regions in the last 20 years. The data is plotted using Sankey diagrams, in which the width of the arrows shows the magnitude of the flow.

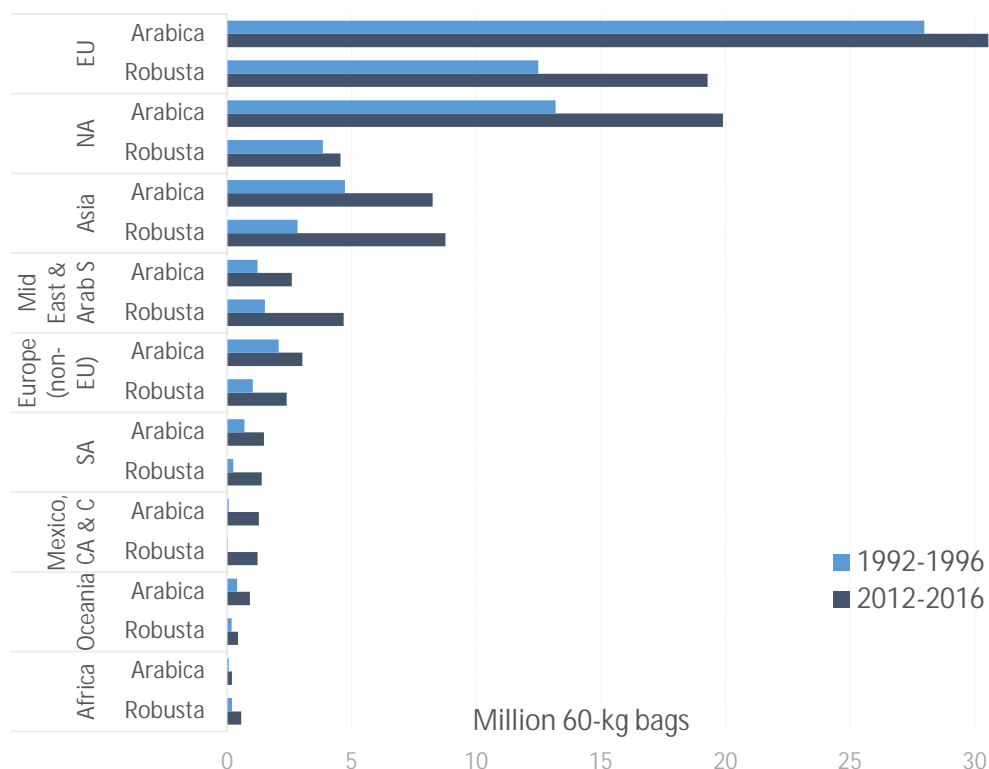
20. Figures A2a and A2b in the Annex depict the global coffee trade flows from exporting countries to countries that absorb 90% of the total global exports, in the periods 1992-1996 and 2012-2016, highlighting the trade flows from the top five exporters.

21. Over the past twenty years, the global coffee market has also seen a shift in the importance of Robusta compared to Arabica coffee. In terms of global coffee exports, Arabica coffee represented 62% in 2012-2016, seven percentage points lower than in 1992-1996 (Figure 10). The change in market share is the result of a 95% increase in Robusta coffee exports in the last two decades, while the increase in the volume of Arabica coffee exports during the same period was only 38%.



Source: ICO

22. The strong growth in exports of Robusta coffee is mainly due to a 238% increase in



NA: North America, SA: South America, CA & C: Central America & Caribbean.  
Source: ICO

24. Between the period 1992-1996 and 2012-2016, a wider set of countries has become importers of Arabica coffee. The number of countries that absorbed 90% of exports increased from 18 to 29, with greater participation from 'non-traditional markets'. Figures A3a and A3b in the Annex show a visualization of the trade flows to the group of countries that imported 90% of Arabica coffee in 1992-1996 and 2012-2016.

25. Similar to the Arabica segment, the importer base in the global Robusta market increased. The set of countries absorbing 90% of exports increased from 21 to 37. Annex figures A4a and A4b visualize the trade to the group of countries that imported 90% of Robusta in 1992-1996 and 2012-2016.

26. In this section we turn to coffee exports by form, i.e. green, roasted and soluble. The overall picture has not changed significantly over the past 20 years, as the vast majority of coffee is still traded in green form. Hence, most of the value addition in the coffee industry occurs in importing countries. As depicted in Figure 13, green coffee exports represented 94% of total exports in 1992-1996 and still made up 91% in 2012-2016. Exports of other forms of

coffee have increased only slightly. Exports of roasted coffee have increased by 342% in the last two decades, albeit from a low base. Exports of soluble coffee more than doubled but remain small in volume terms.

Source: ICO

27. The breakdown by region, presented in Figure 14, reveals that the majority of green and soluble coffee exported globally consistently stems from South America. Between 1992-1996 and 2012-2016, annual green coffee exports of this region increased on average by 51% to 43.8 million bags, while annual soluble shipments rose by almost 47% to 5.1 million bags Green Bean Equivalent (GBE).

28. Exports of soluble coffee also experienced high growth rates in Asia, Central America and Mexico, regions that now ship up to eight times the volume of soluble coffee exported in the early nineties.

29. Central America and Mexico, on the other hand, accounted for the lion's share of global roasted coffee exports. The shipments increased from 24,000 bags GBE per annum on average in 1992-1996 to 146,000 bags GBE in 2012-2016. The largest increase in roasted coffee exports was recorded in Africa, growing almost seven-fold in twenty years. However, as the overall volume of roasted coffee exports from Africa remains marginal, the positive development in the roasted coffee segment does not offset the significant decline in the green coffee segment.

CA: Central America.  
Source: ICO

30. On the importing side, the Oceania

31. This study analyses the evolution of global coffee trade flows by origin, export destination, variety and type between 1992-1996 and 2012-2016.

32. There are five main findings:

(a)

. While an increasing share of total production is consumed domestically, creating new markets for coffee growers, 72% of green coffee production is exported, thus coffee remains a primary commodity.

(b)

. In the early nineties, the ten largest exporters shipped 75% of the coffee traded internationally, while twenty years later the share increased to 86%. This trend can be explained, among other factors, by differences in production costs that led to a shift of coffee production towards a smaller number of producers. As a result, higher concentration could increase the supply risk as production becomes less regionally diversified and hence more vulnerable to weather-induced shocks.

(c)

. Over the past twenty years, the group of countries that imported significant amounts of coffee has increased. With overall growing demand, the pool of countries absorbing 90% of exports has increased from 21 to 40. The spread of coffee consumption in low- and middle-income countries provides coffee-exporting countries with new markets. At the same time, mergers and acquisitions are causing further consolidation in the coffee industry and increasing the influence of leading buyers.

(d)

. The rise of Vietnam to become the second largest producer worldwide increased the availability of Robusta coffee while growing demand in emerging markets, where coffee is predominantly consumed in soluble form, has boosted the demand for Robusta. Looking ahead,



Arabica coffee, cooling the demand for Robusta. On the other hand, the impact of climate change on coffee production may be more severe for Arabica, increasing the cost of production, making Robusta more competitive.

(e)

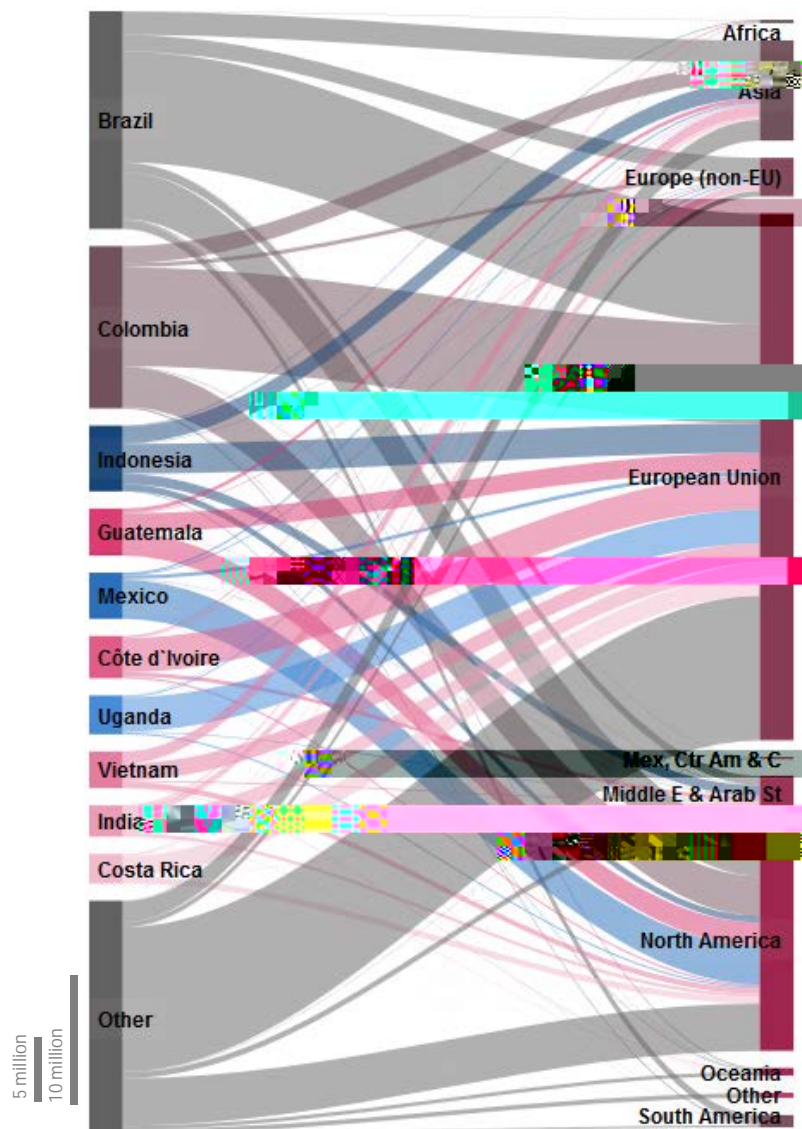
. The value addition in the coffee supply chain still occurs mainly in importing countries. While there is scope for further growth in the soluble segment, roasted coffee remains largely sold domestically due to limitations related to logistics and competition with well established brands in traditional markets even if the niche segment of specialty coffee is opening new market opportunities.

33. It is likely that the trends identified as part of this study will continue to shape the global coffee market in the future. Against the prevailing backdrop of low coffee prices and dwindling farm profits in many producing regions<sup>7</sup>, additional research should help to identify ways to further the sustainable expansion of the coffee sector. For example, a better understanding is required of the potential and constraints of value addition in coffee and the reduction and utilization of waste, the impact of climate change on both Arabica and Robusta producing regions, and how exporters can position themselves either in the expanding specialty coffee segment in traditional markets, or the volume segment in emerging economies.

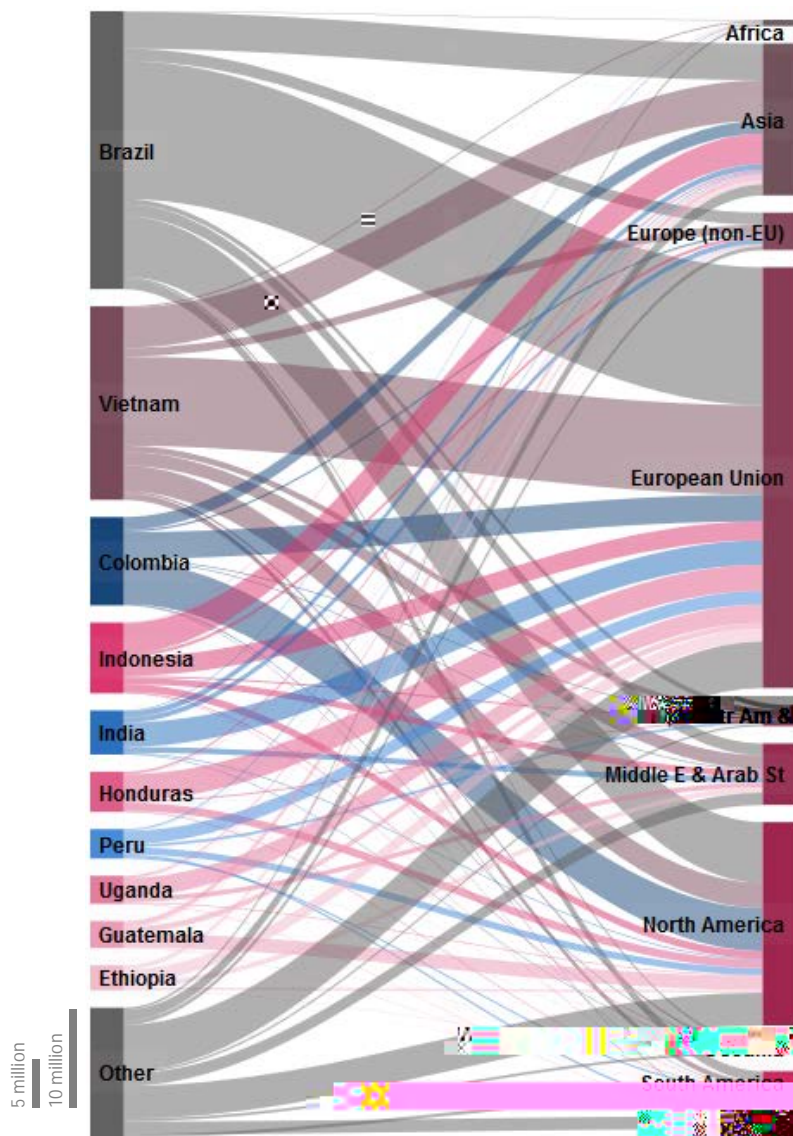
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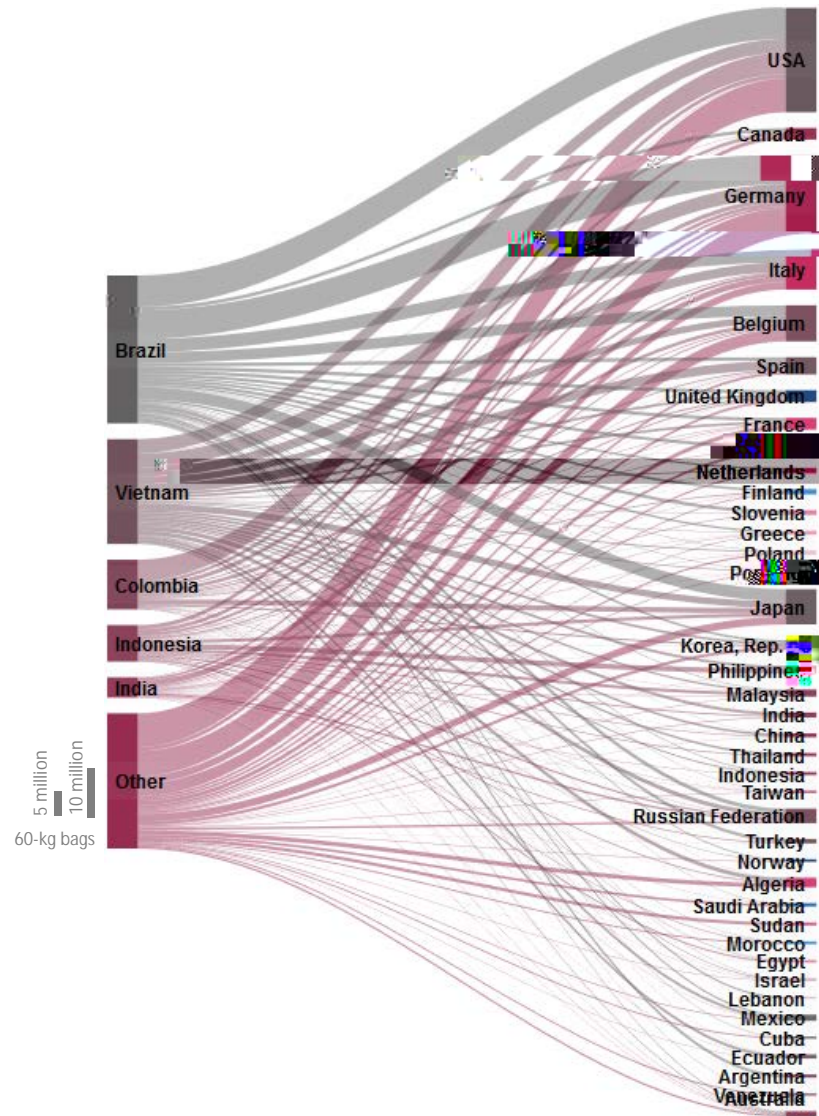
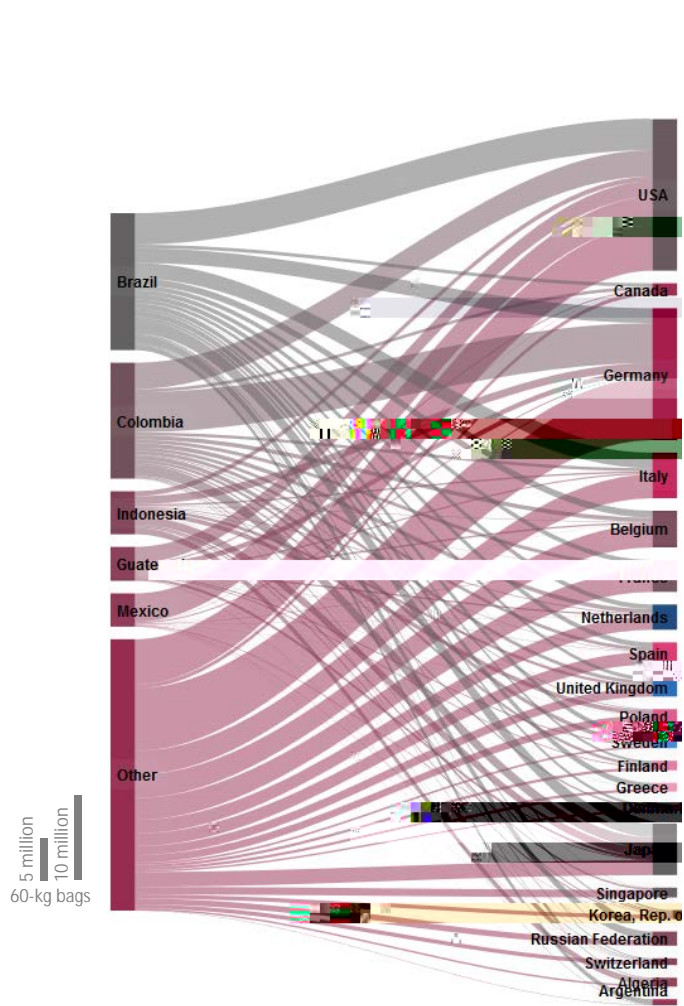
<sup>7</sup> ICO (2016). Assessing the economic sustainability of coffee growing. International Coffee Council. 117th Session. <http://www.icao.org/documents/cy2016/icc-117-6e-economiesustainability.pdf>



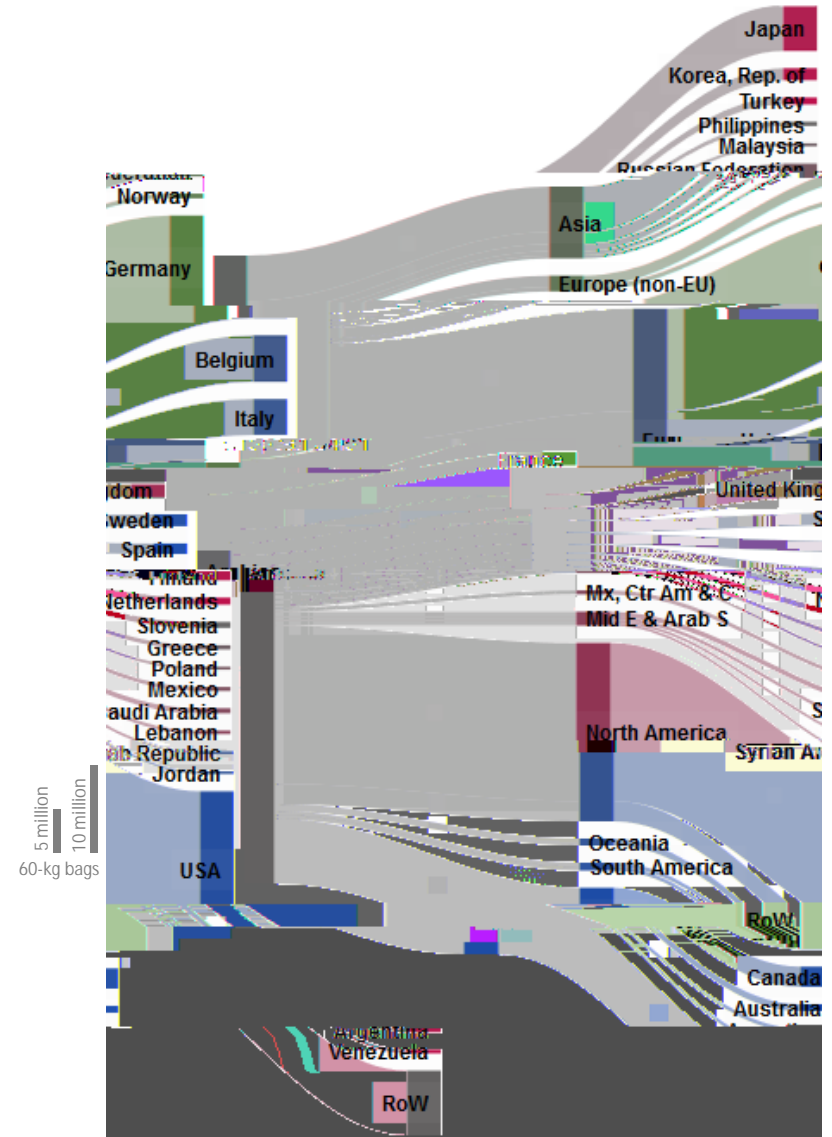
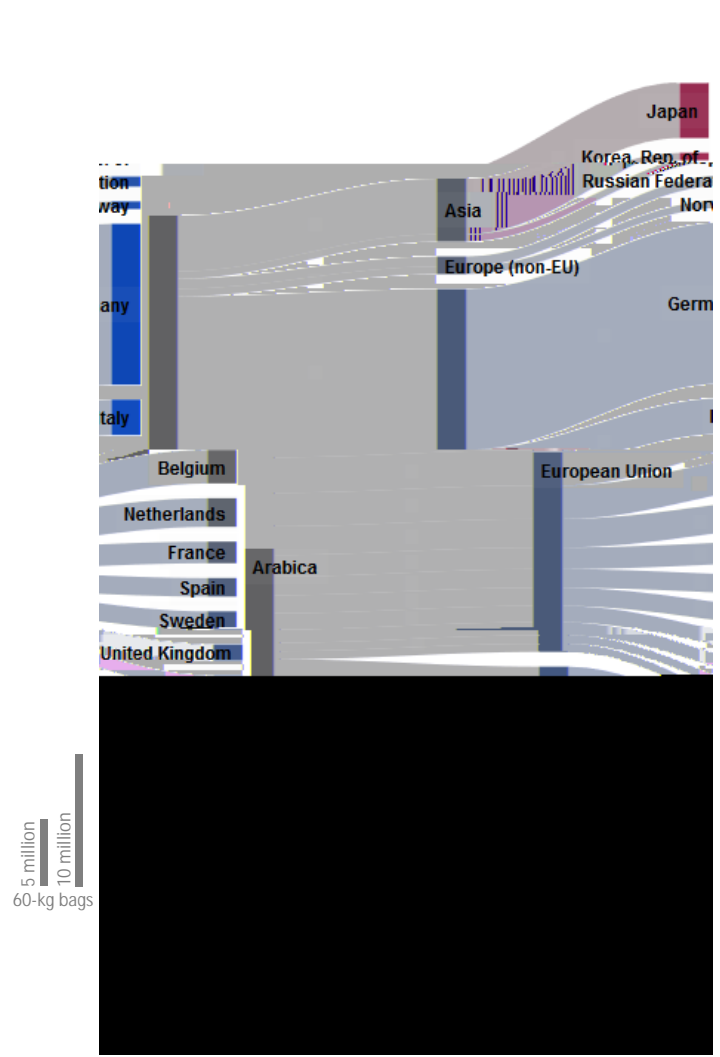


Source: ICO





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