# Market Overview of Coffee & Cocoa

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# 1. Introduction

Coffee and Cocoa each have their own unique history, that is, however, sharing some similarities. As described later in this report, understanding the history of the trade of those commodities helps us understand today's trade. As it still has an impact on today's trade with e.g. the form under which is transported bags of 60kg, the places of production, the trade routes, etc.

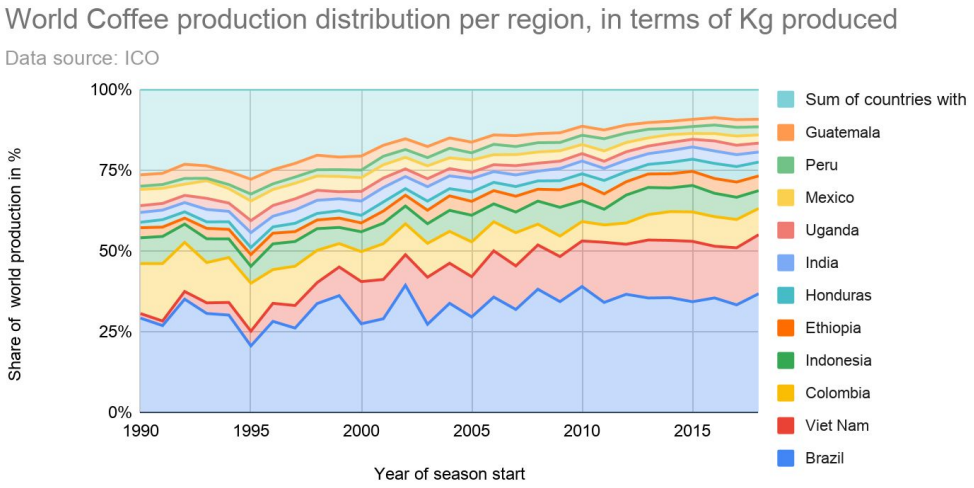
The origins of coffee are relatively uncertain and unverified. Therefore, ignoring myths, surviving documentation attests the origin of coffee consumption around the 15th centuries in Sufi monasteries in Yemen. (Weinberg & Bealer, 2002) Coffee consumption spread swiftly throughout that century, in the Ottoman empire with the emergence of coffeehouses. (ibid.) By the year 1700, in London, there was one coffeehouse per thousand people. The monopolistic supplier side, as well as the Muslim belongingness of the trade route, pushed the occident to find other sources for the now so successful beverage. The colonies offered an ideal climate for the plantations as well as cheap labour and/or slavery. It would largely supplant the commerce of spices in those regions. (ibid.) Coffee consumption saw another meteoric rise with the invention of instant coffee, especially for soldier rations. It was later more largely democratised by Nestle through the brand Nescafe in 1930. ("All you want to know about coffee", 2011) Today, the world coffee market has reached a yearly consumption of over 1 Mio tons for a retail worth of 83Bn USD in 2017. (ICO, 2020, IISD, 2019)

Cocoa trading origins are more ancient. Indeed, it can be traced back to 3000 AC in Mesoamerican culture such as Maya, as it was drunk bitter mixed with spices (Coe & Coe, 2010). It was believed to be a gift of the gods. Its immense value was such as using beans as a mean of money in trades. It even led to wars over it. Including, the invasion, during the 16th century, by Spanish conquistadors and Christian missionaries who were able to spot the lucrative power of trading such goods. (ibid.) By the 1620s, it was massively imported towards Spain as a luxury treat and medicine. (Ibid.) When cheap labour diminished, slavery was used to substitute. As soon as countries started ending slavery, the cocoa plantation would be shifted to West Africa, including Ivory Coast and Ghana. It was only by the end of the 1900th century that swiss chocolatier innovated towards milk chocolate and solid chocolate bars. Pushed by Cadbury and Nestle, chocolate, and hence cocoa, sustained a steep growth until the market that we know today of 4.8 Mio. tons with a retail value of 106Bn USD ("Cocoa Industry", 2020, IISD, 2019)

# 2. Production

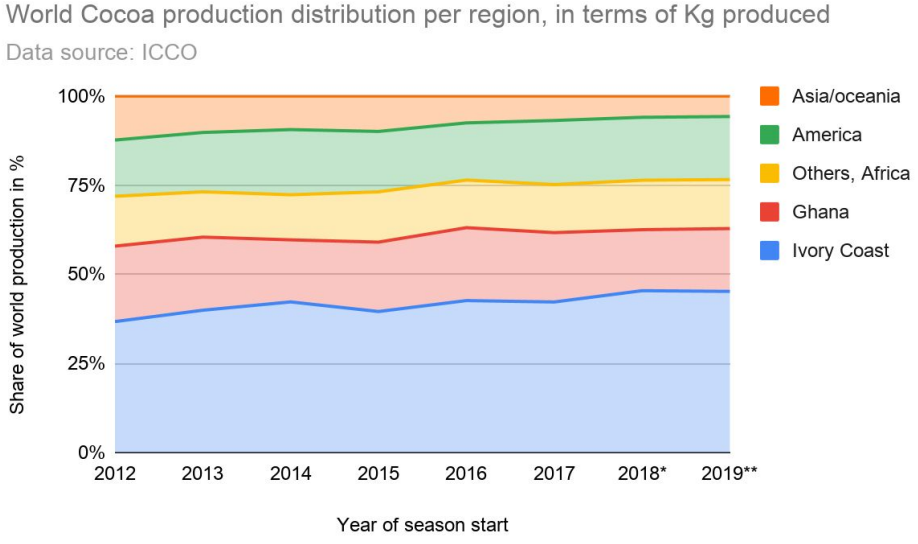
The world production of coffee and cocoa is still taking place in the historicals regions mentioned earlier, due to the climate needed for such plantations. For coffee, Brazil was by far the largest producer and still remains today (2018/2019 season), ahead of the other countries by producing 62'925K of 60kg bags, or 36.8% of world production. ("ICO - Historical Data on the Global Coffee Trade", 2020). Vietnam is taking second place with an increase from less than 2% in the 1990s to 18.2% (31'174K of 60kg bags) in the 2018/2019 season. (ibid.) Other countries such as Columbia, Indonesia and the other mentioned on the graphs below are still playing an important role in having a relative share of the market of 2 to 8%. It is worth mentioning that the sum of producing countries with a relative share of less than 2% only

accounts for 9.2% (approx. 15'830K of 60kg bags) of the world market. It is about half the production of Vietnam and little more than third-ranked country, Colombia with 8.1% (13,858K of 60kg bags). (ibid.) While that sum of the market used to account for more than a quarter, it has shrunk. Therefore, the market is now less diversified and thus, major countries have a higher impact on the world trade of that specific commodity.




The coffee here is described as homogenous. In details, different sorts of coffee are grown in different regions and have different price and quality. It is commonly divided into Robusta and Arabica. Some regions are producing both. The overall production of coffee is exported at a rate of approx. 70% for a value of 19Bn USD. (IISD, 2019)

The production of cocoa is even less diversified. As mentioned previously during the historical introduction, production has shifted after the abolition of slavery towards west Africa, in particular in Ghana and Ivory Coast. These two countries together are producing more than half of the world supply. (ibid) They have highly specified in that specific commodity over the years, up to the point of representing 18% and 35% of their respective GDP. (State of commodity dependence 2019, 2020) The export of cocoa is done under the form of whole or broken, raw or roasted for a combined value of 8.6 Bn USD in 2017. (IISD, 2019)



# 3. Market Structure & Trade flows

Coffee and cocoa market structures are characterized by the implication of very large companies evolving almost in an oligopoly competition at every stage of the value chains. The only exception of this situation is at the production level with millions of local producers. Indeed, coffee is providing in 2017 jobs for more than 125 M people around the globe and 40-50 M for cocoa in 2012 according to IISD (IISD, 2019).

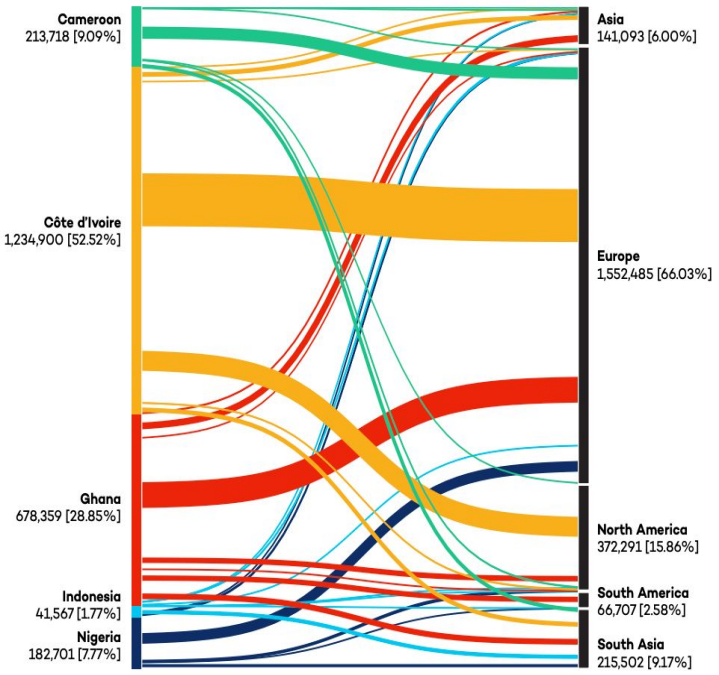
**Producers**

As explained earlier in this document, coffee is mainly produced in South America and South-East Asia. Brazil (USD 4,6 Bn) and Vietnam (USD 3.5 Bn) are by far the biggest country producers of this commodity (IISD, 2019). A vast majority of the harvests are held by familial farms in rural regions. 12,5 M farms around the world ensure the culture of this commodity.
For cocoa, also according to the IISD report, Global Market Report: Coffee (2019), Africa is essentially where the production is carried out. Ivory Coast, Ghana, Cameroon and Nigeria represented together in 2016 more than 98% of the world production.

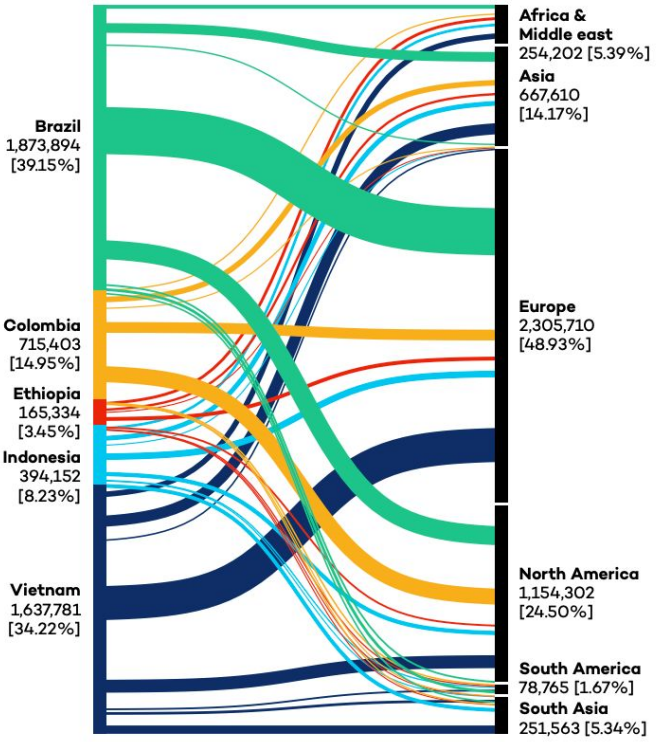
**Exports & Imports**

Naturally, for both commodities, their respective leading production countries are also their leading exporters. The importers have generally developed economies. The USA and the European nations are massively importing coffee and cocoa. Essentially because of the large food and beverage companies based in those regions. Together, Ferrero Group (IT), Hershey Co (US), Mars Company (US) Mandelēz International (US) and Nestlé (CH) purchased 1,629 M metric tonnes of cocoa in 2017 (IISD, 2019). In the same given year, world production was about 4,5 M metric tonnes. However, according to the OEC (Observatory of Economic Complexity), the growing cocoa beans demand from Malaysia and Indonesia allowed Asia to overtake North America consumption in 2013. A large portion of the production is dedicated to the chocolate industry (43% in 2017). The rest of the conception is mainly spread out among other types of food and cosmetics.

The situation is relatively similar for coffee where 8 out of the top 10 roasting companies in the world are European or North American. By cumulating their coffee consumption, they acquired 35% of 2016-year production (9,48 M metric tonnes). Asia is third but the constant growth of its middle class could lead the continent to replace North America as the world number two market in the next 5-10 years (IISD, 2019).




*Trade flows of the largest cocoa producer countries in 2016, in metric tonnes (IISD, 2019)*




*Trade flows of the largest producer countries in 2016, in metric tonnes. Coffee not roasted, not decaffeinated. (IISD, 2019)*

**Transport**

Just like for the manufacturers of these two commodities, the transport is largely handled by a few big companies. For cocoa, eight of them evolve in an oligopoly market. In 2017 they

assured the caring of 3,497 M metric tonnes of this good which is 74% of the world production (IISD, 2019). Barry Callebaut, Olam and Cargill are the podium leaders for this commodity. The market competition is similar concerning the coffee with Neumann Kaffee Gruppe, Ecom agroindustrial, ED&F Man, Louis Dreyfus, Sucafina and Mercon Coffee controlling a large portion of the market (Imperium CS, 2020).

The challenges of transporting cocoa beans and coffee are several. They are both sensitives to external factors like humidity, heat or insects. The use of multilayered bags or equivalent packaging is mandatory to maintain the quality of the goods. Each bag contains 60kg of torrefied coffee beans or 60-65kg of dried cocoa beans. Generally, the bags are made in jute or sisal. Raw products are transported by containers equipped to allow natural ventilation. In addition, special papers are placed in the containers to absorb potential liquid and avoid moistures (AsstrA, 2020).

Most of the time, the containers are carried by traditional vehicles such as trains, vessels, planes or trucks. Nevertheless, these transports have to maintain an adapted environment to keep the commodities dry, ventilated and stored at the regulated temperature (AsstrA, 2020).

**The VSS revolution**

One of the major changes in the last decade was the emergence of the VSS (Voluntary Sustainability Standards) production. In 2008, VSS coffee production was representing only a fraction of the global market. However, in 2016 this new category stands for 34,5% in 2016 of the production. In addition, potentially 21,4 extra per cent of the coffee produced in that given year is possibly VSS compliant. A similar phenomenon also occurred for cocoa with 29% VSS-compliant product and 18% possibly compliant cocoa of the total market trades. These categories were insignificant in 2008 (IISD, 2019).

# 4. Key Drivers

Like all items openly traded, coffee and cocoa also fall under the law of supply and demand. As basic economics explains, if the supply increases the price falls. In the case of Coffee, Brazil has pushed for mechanisation and automation of the processes (UNCTAD,2020). Giving them a low break-even of 0.90 USD/lb and allowing them to flood the market. Low producer price raises real issues of sustainability of supply. (ibid.) Independently, being an agricultural commodity, it is fully impacted by weather and to a certain extent climate change. (ibid.) The UNCTAD also lists as key drivers for agricultural commodities the increased demand from emerging countries (e.g. China), macro policies, speculative activities, trade policy and political unrest. (ibid.) Lastly, it was mentioned earlier that cocoa and coffee are produced by numerous small-sized farms and impact directly the incomes of those farmers. Any changes have a direct human impact on the livelihood of the farmers. Such an impact triggers a cycle of investment and consumption that impacts coffee and cocoa. (ibid.)

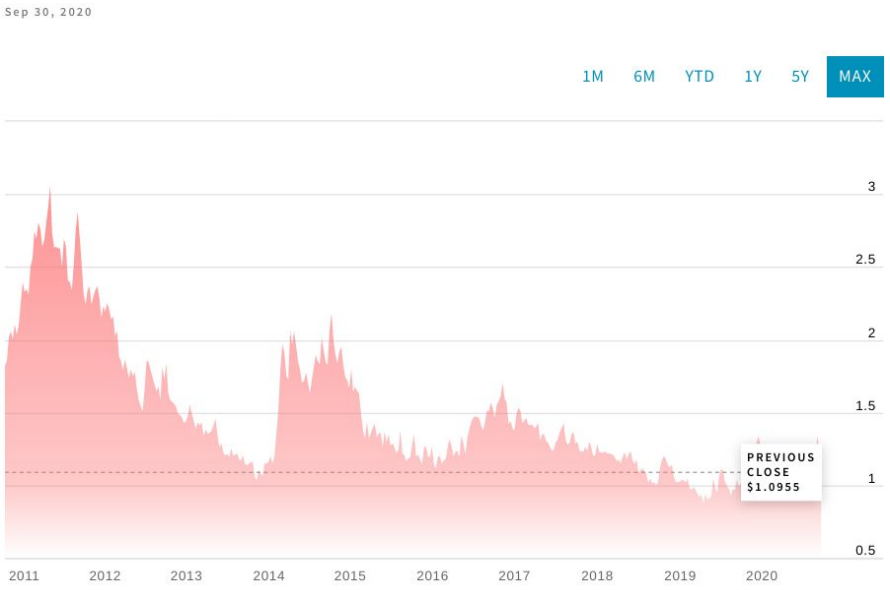
Also, the large varieties of beans for each commodity can influence the market depending on their respective demand. The coffee beans are essentially either Arabica (57% of the global production) and Robusta (42%) (Foreign Agricultural Service, 2018). Relatively to Robusta, Arabica is more expensive due to its quality.

In addition and as previously mentioned in this report, the rise of sustainable commodities has massively modified the market in the last 10 years. According to Kimberly Ann Ellio (CGD Policy Paper 129, 2018), this success is directly linked to the weight final consumers allow to buy sustainable and fair trade products. Thus, the manufacturers are responding to this new demand by increasing their VSS compliant product purchases to satisfy their customers' needs. Generally, this category of products is sold at a premium price to the consumer because the cost of production is higher. Indeed, the local cocoa farmers normally retrieve only 3 to 6% on a bar of chocolate. But, thanks to the VSS the same people can now expect a much higher percentage. It can go up to 70%. However, the production surplus in 2019 (39 000 metric tonnes) maintains the prices relatively low (IISD, 2019). Major players, like Nestlé, forward the client expectations, in terms of sustainability, through the entire supply chain, which ultimately could impact it entirely.

# 5. Pricing

Under the influence of the key drivers mentioned above, there is still a discrepancy between the product as coffee and cocoa are not fungible goods per se. Coffee has different types which impact the price, most commonly Arabica and Robusta, it can be roasted or not. Most often, the producing region, as a branding factor, can have an impact on price. Cocoa is more homogenous than coffee but is still subject to factors like origin, quality and at which step of the value chain it is. Both commodities are exchanged firstly on their country of production at the local market structure or collecting companies. The price at this stage can fluctuate a lot. (UNCTAD, 2020)
In order to simplify trade, multiple futures have been set up to standardized some of the trades. For example, the CC:NMX future, standardized 10metrics tons of raw cocoa, with a price of USD/metric tons, with a standard series of March, May, July, September and December. Currently amounting 2587 USD, as of 30 Sep. 2020, for 1 metric ton. ("All Futures, Options, OTC Products & Physicals | ICE", 2020) The graph below depicts the historical prices of that future.


Historical data of Cocoa future CJ:NMX, as of 30 Sep. 2020 (ICE, 2020)
Year over price in USD per metric tons




Historical data of Coffee future CJ:NMX, as of 30 Sep. 2020 (ICE, 2020)

Year over price in USD thousand

Both commodities show large volatility over the past years. Coffee has sustained a major decline in the last decade due, partially due to overproduction. (UNCTAD, 2020) Cocoa on its side has recovered some of the loss and now is worth about the same as 10 years ago. It is not possible to directly compare the price of the future as the contract sizes are different, i.e. 10 metric tons for cocoa and 37’500 pounds for coffee.

The retail price of coffee and cocoa have barely any relation with the commodity or the future price. As an example, the Ethiopian coffee value distribution shows that only 2.8% of the price of production ultimately impacts the retail price. (Appendix 1) Therefore, the inherent volatility is most likely absorbed along the supply chain. (UNCTAD, 2020)

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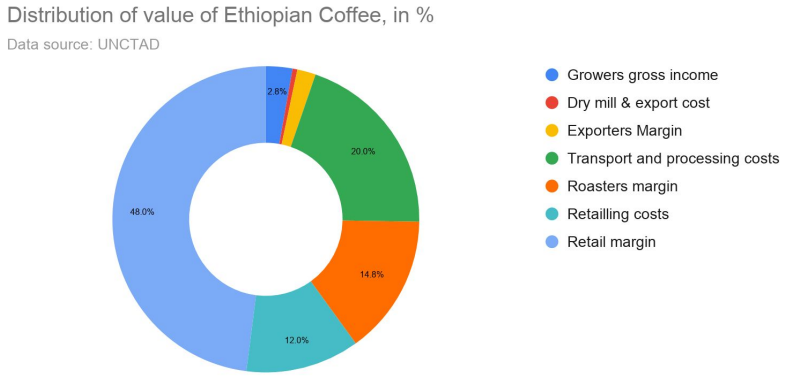
# 7. Appendix

Appendix 1:




Appendix 2: