

# Coffee: The world's favourite cuppa' caffeine

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Coffee: 'The world's favourite cuppa' caffeine

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## Coffee: The world's favourite cuppa' caffeine

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- Every day, about 3 billion (b) cups of coffee are consumed globally. There are over 66 species of coffee but two of the most common cultivated species are *Arabica* and *Robusta*. In Malaysia, *Robusta* and *Liberica* are varieties commonly grown by coffee planters.
- Malaysia's coffee production is small, 3,369 metric tonnes (MT) in 2018. It is cultivated mostly in Sabah and Johor, and marginally in Sarawak, Kedah, Pahang and Selangor. Between 2010 and 2018, production declined by an average of 16% per year. Coffee planters face challenges such as competition with other cash crops and high production cost.
- In 2017, the world produced 9.2 million (m) MT of coffee, harvested from 11m ha of cultivated land. Top coffee producers were Brazil, Vietnam and Columbia. In comparison, Malaysia's production is merely 0.1% of global production.
- The global coffee supply chain is segmented. Different coffee products are concentrated in different clusters of poor, developing and developed countries. Roasted coffee, which extracts the highest value, is predominantly exported by (typically richer) European countries.
- Malaysia's import of raw coffee bean has been on the rise, alongside expanding exports of coffee by-products, especially coffee extracts (essence/concentrates with coffee or instant coffee). In 2017, Malaysia exports RM2b worth of these products, which is 6.3% of total global export market. Among the country's top export destinations were China, Thailand and Indonesia.

## Introduction

Every day, about 3 billion cups of coffee are consumed globally<sup>1</sup>. Coffee, from the genus *Coffea*, is planted in many countries, usually in the equatorial regions. There are over 66 species of coffee but two of the most common cultivated species are Arabica (*Coffea arabica*) and Robusta (*Coffea canephora*)<sup>2</sup>. In Malaysia, Robusta and Liberica (*Coffea liberica*) are varieties commonly grown by coffee planters. The berries from the coffee plant takes about six to nine months (depending on its variety) weeks to ripen<sup>3</sup>, after which they are handpicked by farmers, washed and dried for six to seven days. They are graded according to their size and where they were grown. At this stage, the raw coffee is green in colour and they are commonly known as green coffee. Roasters then roast these green coffee beans to bring out the aroma and the flavour of coffee, simultaneously turning them brown. Coffee is then further profiled by their flavour through a process called “coffee cupping”, before it reaches consumers<sup>4</sup>.



### **Did you know?**

#### **Different species of coffee**



#### **Arabica**

Arabica coffee accounted for roughly 60% of the world's coffee production. Believed to be the first species of coffee cultivated, it was first found in Yemen and documented by the 12<sup>th</sup> century. It is best cultivated in high altitudes areas with steady rainfall. Brazil is the largest producer of Arabica.

#### **Robusta**

Robusta made up around 40% of the global coffee production. It was originated from central and western sub-Saharan Africa. It is best grown in hot climate where rainfall is irregular. Robusta is less acidic, more bitter, and have almost double the amount of caffeine compared to Arabica. Vietnam is the largest of producer of Robusta.

#### **Liberica**

Liberica coffee constituted around 1% of the world's coffee production. It is not popular due to its low yield. However, it is the most widely cultivated species of coffee in Malaysia. It is also grown in the Philippines. It typically has a fruity and nutty taste with long aftertaste.

**Source:** International Trade Centre (2011), Choong (2018), Hutson (n.d.), Wikipedia (n.d.-a, b, c)

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<sup>1</sup> International Coffee Organization (n.d.-a)

<sup>2</sup> Illy (2002)

<sup>3</sup> Pradeepkumar (2008)

<sup>4</sup> International Coffee Organization (n.d.-b)

In Malaysia, coffee is not an uncommon beverage. On any day at a local stall or *kopitiam*, one could hear at least an order of coffee—“*Kopi-O*”, “*Kopi-gau*”, “*Kopi-i*”, “*Cham*” and others—concocted with different mixes of sugar, condensed milk or evaporated milk<sup>5</sup>. Not only that, Malaysians are big consumers of coffee chains, whose market is estimated to be about USD2.1 million (m) or RM8.7m<sup>6</sup>, serving caffeine-craving consumers different types of coffee drinks—*lattes*, *cappuccino*, *Americano* and others. More recently, there has been a rise of a niche market serving premium and specialty coffee in Malaysia<sup>7</sup>.

This article illustrates some statistics on Malaysia’s coffee production and the global market of this commodity.

### Box Article 1: Coffee culture

Coffee can be considered as a social lubricant—a beverage that helps people feel more comfortable in social occasions<sup>8</sup>. The coffee culture dates back to the 14<sup>th</sup> century Turkey when the first coffeehouse in the Ottoman Empire was opened in 1555<sup>9</sup>. Coffeehouses then become a social domain where people from every walk of life come and talk. Coffee was brought to the Western countries in the 16<sup>th</sup> century and became well known in Europe towards the end of the 17<sup>th</sup> century<sup>10</sup>. Across Europe, coffeehouses became popular meeting places for artists, writers and socialites<sup>11</sup>. The spread of modern coffee culture globally could be attributed to the expansion of coffeehouse chain Starbucks, founded in Seattle, Washington<sup>12</sup>. As of early 2019, the company has more than 30,000 branches worldwide<sup>13</sup>. Starbucks represents the “second wave coffee”, a movement that popularised artisanal coffee, particularly dark roasted coffee<sup>14</sup>.

The “third wave coffee”—associated with the appreciation of specialty coffee, referring to unique coffee bean cultivar, growing and cultivation method, processing method, roasting method and beverage preparation—is also emerging<sup>15</sup>. This could be lucrative new business opportunities for Malaysian coffee entrepreneurs, be it coffee farmers, coffee roasters and/or café owners. For example, a local Malaysian company, My Liberica Coffee, produces a variety of *Liberica* coffee with multiple processing methods and roast profiles<sup>16</sup>.

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<sup>5</sup> Time Out KL (2015)

<sup>6</sup> Corporate Directions Inc. (2016)

<sup>7</sup> Ragavan (n.d.) and Chin (n.d.)

<sup>8</sup> Wikipedia (n.d.-d)

<sup>9</sup> Yilmaz et al. (2017)

<sup>10</sup> Ibid.

<sup>11</sup> Wikipedia (n.d.-d)

<sup>12</sup> Tucker (2017)

<sup>13</sup> Wikipedia (n.d.-f)

<sup>14</sup> Ibid.

<sup>15</sup> Wikipedia (n.d.-g)

<sup>16</sup> Bean Shipper (2019)

The coffee culture in Malaysia, however, pre-dates Starbucks. Local coffee shops, specifically *kopitiam* (*kopi* is Malay for coffee, *tiam* is Hokkien/Hakka for shop), have been around since colonial era<sup>17</sup>. *Kopitiams* started as small stalls in early settlements of plantations, workplaces, villages, streets or neighbourhoods, selling cheap drinks and sometimes meals<sup>18</sup>. Beginning from 1990s, a contemporary version of *kopitiams* such as Old Town White Coffee and Killiney Kopitiam have sprung up, usually with a more modern and hygienic setting<sup>19</sup>.

As a result, in Malaysia, there are two variations of coffee culture, a more traditional local coffee culture and a Western coffee culture. By observation, the latter appeals more to the younger and urban Malaysians.

### Malaysia's coffee production

Malaysia's own coffee production is small, at 3,369 MT in 2018. The crop is planted in less than 2.0% of total harvested area for food industrial crops under the purview of Malaysia's Ministry of Agriculture and Agro-based Industries (MOA)<sup>20</sup> and makes up less than 1.0% of total production in Malaysia. In context, coconut and sago are the main crops under this category in 2018, making up 83% and 13% of total production, respectively. Coffee plantation and production is also less than its substitute, tea, although the share of this crop is not that much higher than coffee at 2.4% of harvested area and 1.8% of total production of industrial crops (Figure 1).

Coffee is cultivated in several states in Malaysia, mostly in Sabah and Johor, and marginally in Sarawak, Kedah, Pahang and Selangor. Although coffee is harvested from an area of 1,400 ha in Sabah compared to 932 ha in Johor, production from Johor (2,263 MT) was double that of Sabah's (1,067 MT) in 2018 (Figure 2).

Between 2010 and 2018, Malaysia's area harvested for coffee contracted by an average of 13% per year, while production declined by an average of 16% per year. While 2010 – 2018 production averaged to 10,000 MT, this is lower than the estimated production in 1998 – 2003, which averaged 25,000 MT (Figure 3 and Figure 4).

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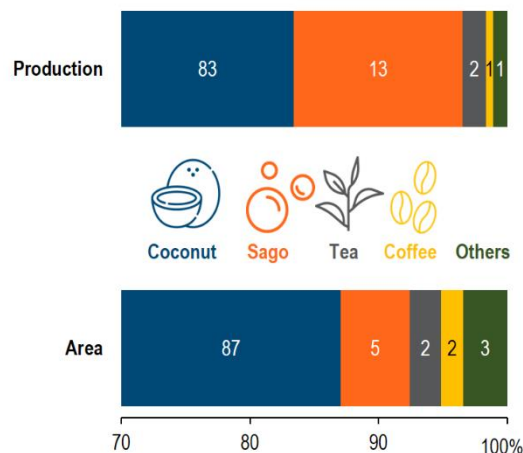
<sup>17</sup> Khoo (2009)

<sup>18</sup> Eng (2013)

<sup>19</sup> Khoo (2009) & Wikipedia (n.d.-e)

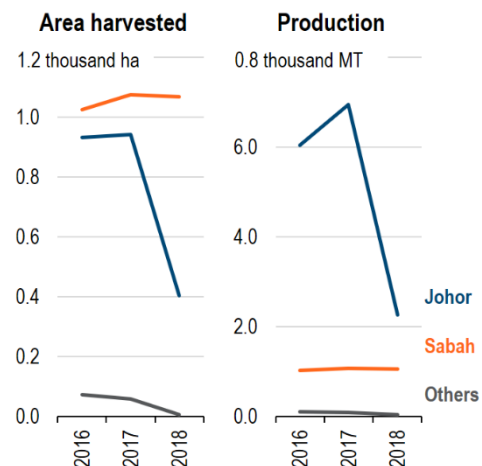
<sup>20</sup> This refers to industrial crops under the purview of the Ministry of Agriculture and Agro-Based Industry, which is a different category of industrial crops that is under the responsibility of Ministry of Primary Industries.

**Figure 1: Share of production and harvested area by industrial crops, Malaysia 2018**

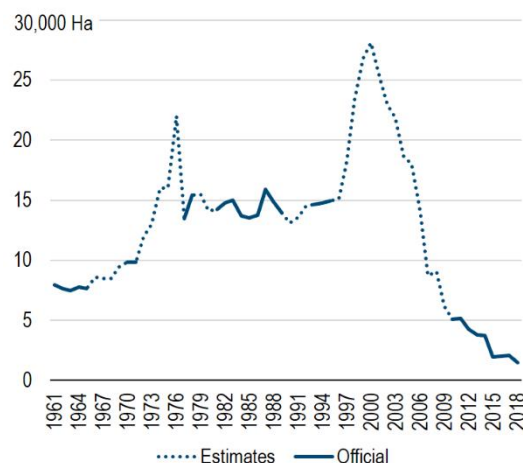


Source: DOA (2016), DOA (2017) and DOA (2018).

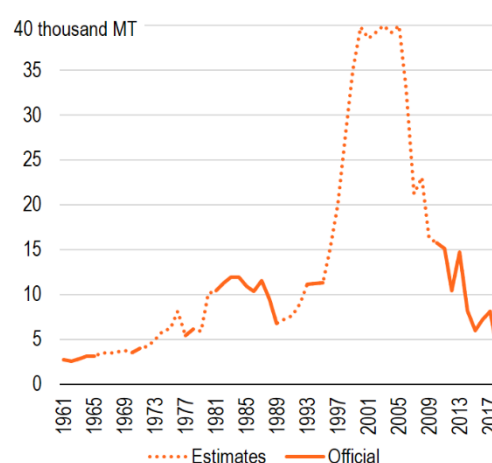
**Figure 2: Coffee's total area harvested and production, by states, 2016 – 2018**



**Figure 3: Coffee area harvested, Malaysia, 1961 – 2018**



**Figure 4: Coffee production, Malaysia, 1961 – 2018**



Source: FAOSTAT, FAO (n.d.)

There are various factors that could be associated with the decline of coffee production in Malaysia. For example, the crop has to compete with other cash crops such as oil palm. Moreover, there are persistent challenges such as poor field management, incidences of diseases and high cost of labour. Moreover, Malaysia mostly cultivates the *Liberica* variety, which is less favoured, and therefore, priced lower in the world market<sup>21</sup>.

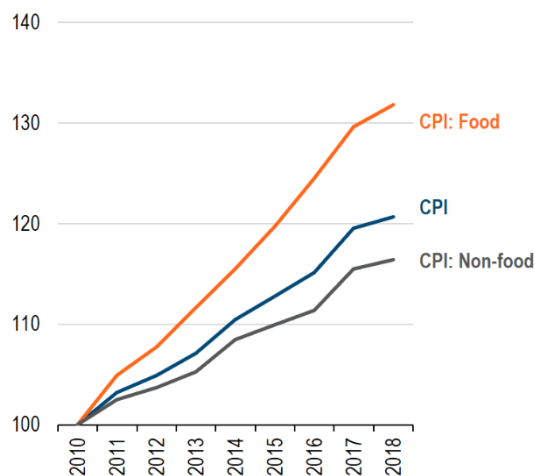
<sup>21</sup> Nor Amna A'liah and Mukimn (2016)



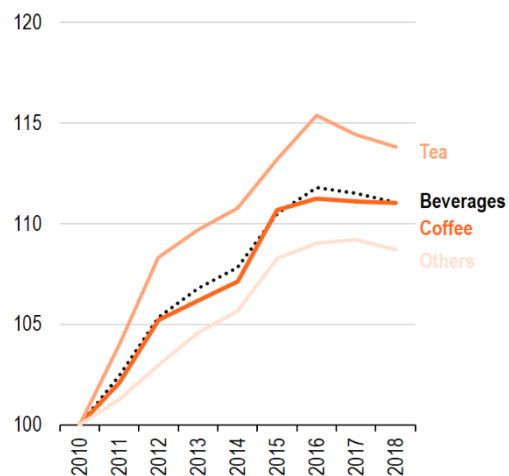
## How much are Malaysians spending on coffee?

A common way to measure price changes is through the consumer price index (CPI). This index provides the changing cost of purchasing a basket of goods, consisting of food and non-food items. Since 2010, Malaysia's CPI has risen by an average of 2.6% per year and food prices were found to increase much faster than non-food items, by 3.9% per year versus 2.0% per year, respectively (Figure 5)<sup>22</sup>. Prices of non-alcoholic beverages, specifically, have only risen marginally by about 1.4% annually. Coffee prices grows at the same rate. Essentially, in comparison to its substitutes and the general food prices, the price of coffee did not rise as fast (Figure 6).

**Figure 5: Consumer Price Index (CPI), 2010 – 2018**



**Figure 6: CPI, selected non-alcoholic beverages, 2010 – 2018**



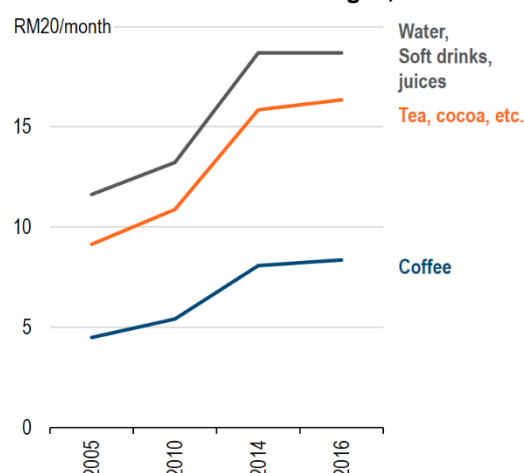
**Source:** DOS (various years-a). **Note:** Others refer to mineral water, soft drink and juice.

In 2016, households were estimated to spend RM726 per month on food and beverages (F&B), and only 1% of it was spent on coffee, at about RM8 per month (Figure 7). Urban households spent RM8.20 per month, while rural households spent slightly higher at about RM9.00 per month. Expenditure actually has been rising from 2005 (Figure 8). This could reflect coffee's higher consumption by household or higher coffee prices, or even both. Nestlé, a major player in Malaysia's beverage industry, noted that while coffee is not typically household's top beverage (compared to soft drinks), demand is certainly growing<sup>23</sup>.

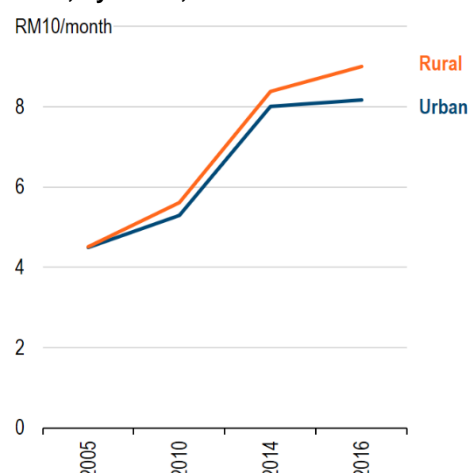
<sup>22</sup> Growth rates for CPI are average annual growth rates

<sup>23</sup> Lee (2014)

**Figure 7: Monthly household expenditure, selected non-alcoholic beverages, 2005 – 2016**



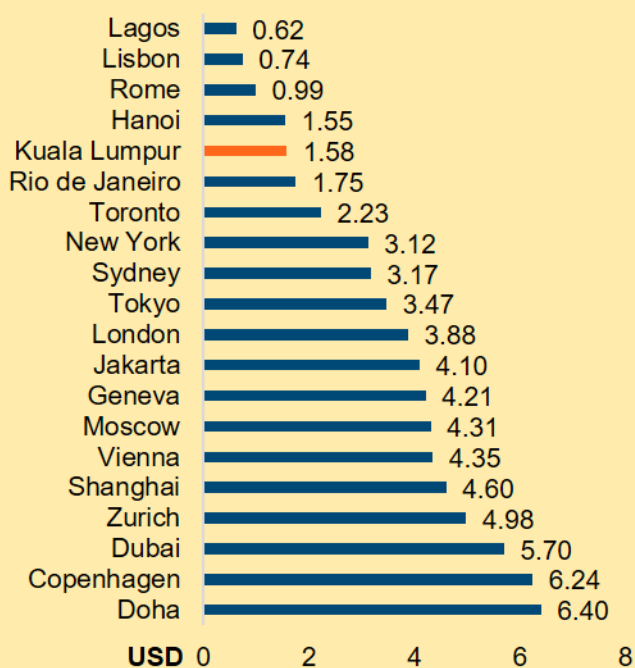
**Figure 8: Monthly household expenditure on coffee, by strata, 2005 – 2016**



**Source:** DOS (various years-b). **Note:** Coffee expenditure only available up to disaggregation by strata.

### ? Did you know?

#### How much does a cup of Americano cost in different countries?



For millions of people around the world, their day starts with a cup of coffee. Caffeine in coffee is a natural stimulant that helps improve alertness and prevents the onset of drowsiness.

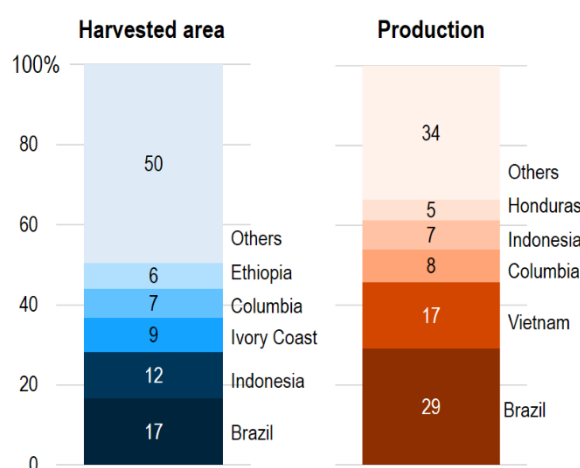
UBS conducted a survey on the price of a cup of Americano (excluding sugar and milk) in typical coffee shops. A cup of the beverage in Doha, Copenhagen and Dubai were found to be the most expensive, whereas Lagos, Lisbon and Rome had the cheapest cup of coffee. The price difference between Lagos and Doha was more than 10 times!

**Source:** Nehlig et al. (1992) & UBS (2018)

## Global coffee market

This section illustrates some trends on the global coffee market, in which Malaysia is also a player. In 2017, the world produced 9.2m metric tonnes (MT) of coffee, harvested from 11m ha of cultivated land. Top coffee producers were Brazil (29.1% global production), Vietnam (16.7%) and Columbia (8.2%) (Figure 9). By comparison, Malaysia's production is merely 0.1% of global production. This is not unsurprising, given the challenges of the coffee industry for Malaysian planters, as mentioned in the earlier section.

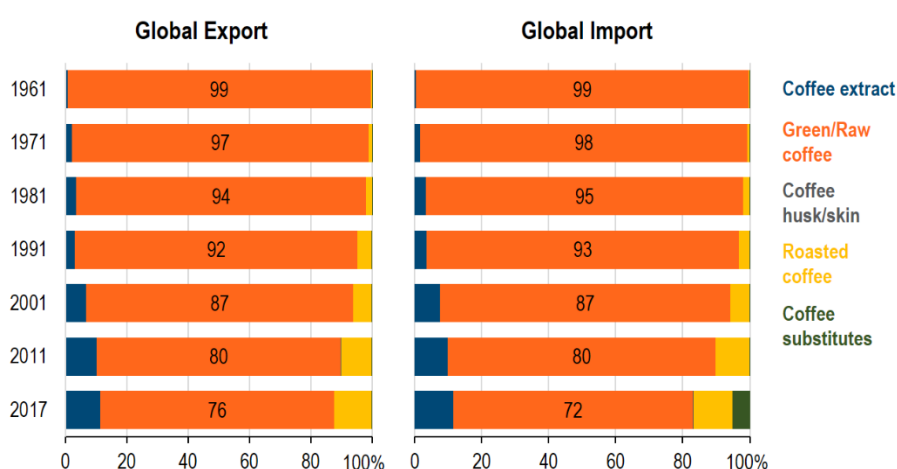
**Figure 9: Coffee harvested area and production, by countries, 2017**



**Source:** FAOSTAT, FAO (n.d.). **Note:** 2017 is latest year with available data.

The global coffee trade can be segmented to several different coffee products, namely the **green coffee** (raw coffee beans), **roasted coffee**, **coffee extracts** (essence/concentrates with coffee or instant coffee), **coffee substitutes** containing coffee and **coffee skin or husks**. In the earlier decades, the global coffee market exclusively trades raw coffee beans, but this has slightly diversified to other coffee-related products. However, the export and import of coffee beans is still more than 70% of the global coffee trade (Figure 10).

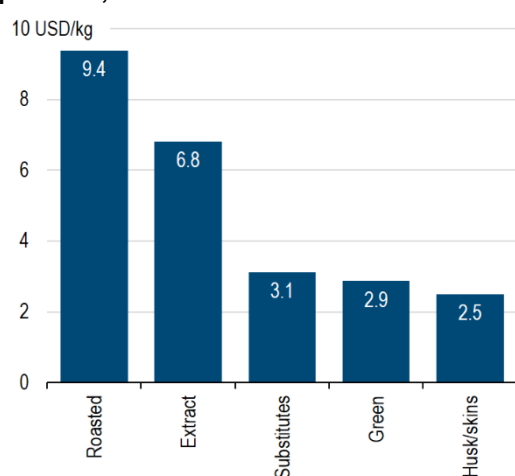
**Figure 10: Share of global export and import, by different coffee products, selected years**



**Source:** FAOSTAT, FAO (n.d.). **Note:** 2017 is latest year with available data.

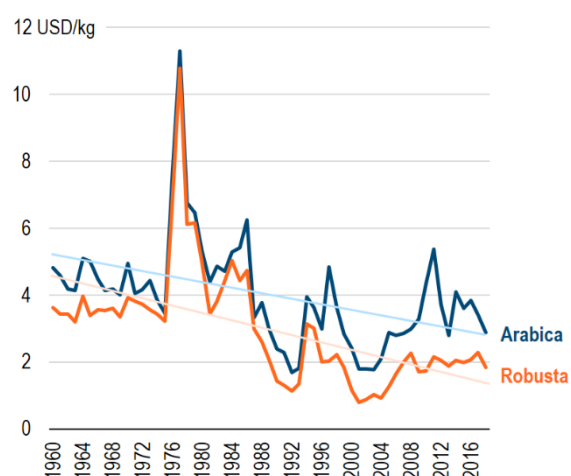
One of the pressing issues in the global coffee market is the concentration of different coffee products by cluster of poor, developing and developed countries, and consequently, the value extraction along the coffee supply chain. Roasted coffee fetches the highest export price of more than USD9,000/MT, while raw coffee beans is one third of the export price of roasted coffee (Figure 11). Yet, the higher priced roasted coffee is exported by typically richer European nations, while the lower priced raw coffee bean is exported by developing and even poor nations (Figure 13). Countries intensively exporting coffee beans also face the risks of volatile coffee prices. Indeed, since 2015, lower prices of coffee beans due to surplus in the world market has affected almost 12 million farming smallholders around the world (Figure 12)<sup>24</sup>.

**Figure 11: Global export price for different coffee products, 2017**



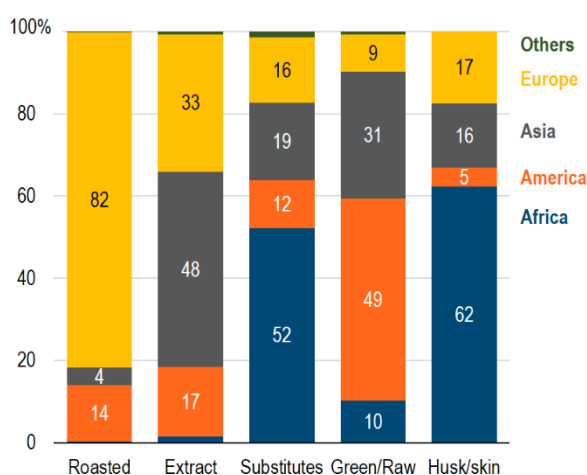
**Source:** FAO (n.d.) **Note:** 2017 is latest year with available data. Calculations by the author.

**Figure 12: Global coffee prices, by variety, 1960 – 2018**



**Source:** World Bank (2019)

**Figure 13: Export share of different coffee products, by region, 2017**



**Source:** FAO (n.d.) **Note:** 2017 is latest year with available data.

<sup>24</sup> International Coffee Organization (2019)

The coffee industry, alongside other agriculture-based industries, also struggles with various criticisms of unfair trade. In a global supply chain, farmers and producers typically receive the smallest share of the final price paid by consumers. This has led to the emergence of movements that promote fair trade, as explored in Box Article below.

### **Box Article 2: Fair trade**

Free trade creates winners and losers, and in the case of agriculture, these losers are often poor farmers in developing and low-income countries. The Fair Trade movement is an initiative to correct this. The basic tenets of Fair Trade include:

- (i) Payment of at least minimum price to producers, reducing risks of price volatility faced by growers;
- (ii) Payment of fair trade premium for community development
- (iii) Stability and access to credit through long-term contracts
- (iv) Workers employed must have freedom of association, safe working conditions, be paid at least the legal minimum wage and prohibition of child labour
- (v) Farmers are encouraged to organise as cooperatives or associations and decisions are made democratically and transparently
- (vi) Protection of the environment by prohibiting the use of certain harmful chemicals, replacement of agrochemicals with natural biological methods and adopting practices to ensure the health and safety of workers, farm families and communities.

The Fair Trade movement covers the trade of various products. Coffee was the first product to be part of this movement and presently has the largest share of Fair Trade products. To ensure products abide by the principles of Fair Trade, products are labelled with a Fair Trade mark. The dominant entity in the Fair Trade movement is the Fairtrade International (FLO), which sets and maintain Fair Trade standards. To use the Fairtrade mark, producers will be inspected and certified by FLO-CERT, and independent certification company. Producer organisations must pay for this certification. Aside from Fairtrade, there are also other certification standards such as Organic, the [Rainforest Alliance](#) and [UTZ Certified](#).

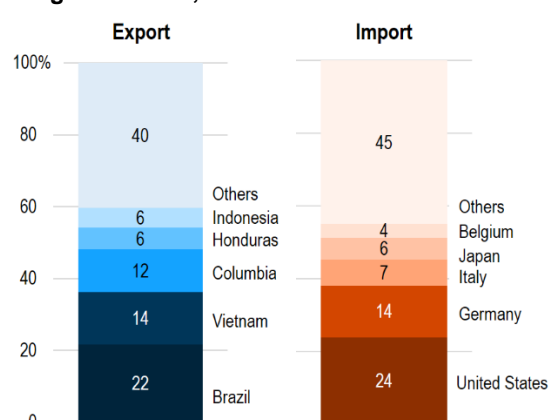
The main role of Fair Trade certification is to provide credible information to consumers, but consumers might or might not care whether the products they buy is produced in a socially responsible manner, especially if it is at the cost of higher prices. The effects of Fair Trade on producers are also mixed. Generally, producers (farm owners) receive higher prices, have greater access to credit, achieve income stability and engage in farming practices that are environmentally-friendly. However, the distribution of these gains might not be equal. In some studies, workers hired by farm owners were found to not benefit or only benefit marginally from their labour. Sometimes, hired workers also had to work longer hours but received few benefits.

**Adapted from Dragusanu et al. (2014).**

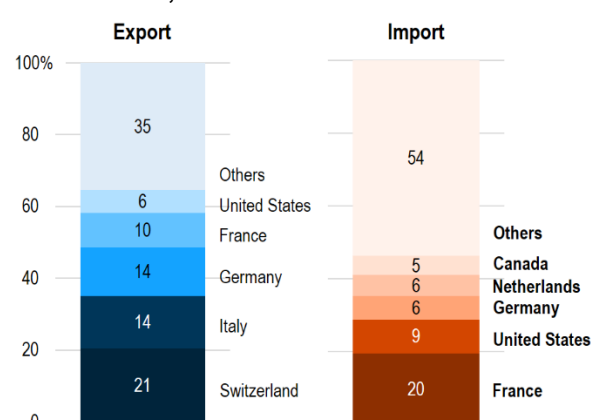
## Malaysia in the global coffee market

Malaysia is a small player in the global trade of raw coffee beans. In 2017, the total export value of coffee-related products was close to USD40b (RM172b), half of which was the export of green coffee (USD21b or RM91b). The top exporters of green coffee in this year was Brazil (22% of global export value), Vietnam (14%) and Columbia (12%) (Figure 14). Brazil has always been a major player in the international coffee bean market (Brazil's average export value between 1961 and 2017 is 25% of total global export value). The rise of Vietnam in the coffee bean market is a force to be reckoned with. Between 1990 and 2017, export of Vietnam's green beans grew by an average of 10% per annum, compared to Brazil's 2%. Malaysia's export of green coffee bean is only USD2.6m (RM11m), marginal to total global export of USD21.2b (RM91b)<sup>25</sup>.

**Figure 14: Export and import share by countries, raw/green coffee, 2017**



**Figure 15: Export and import share by countries, roasted coffee, 2017**



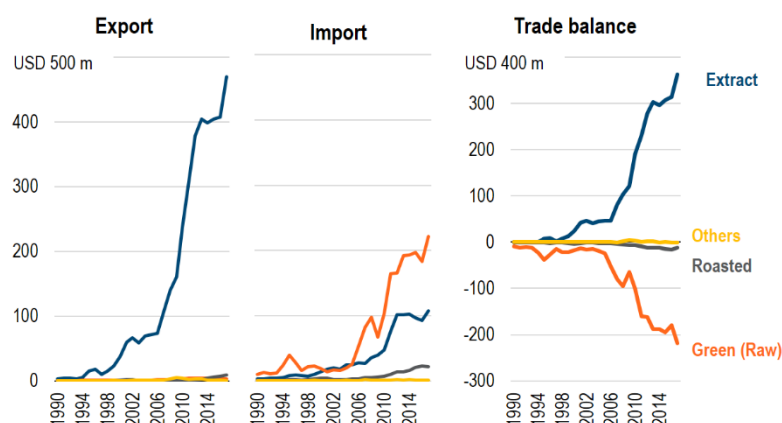
Source: FAO (n.d.). Note: 2017 is latest year with available data.

The top importers of green coffee in 2017 were the United States (24% of global export value), Germany (14.2%) and Italy (7.1%) (Figure 14). These countries are also among top exporters of roasted coffee (Figure 15). Malaysia's import of green coffee is also rising fast. In 1990, import values stood at USD10m (RM27m) and in 2017, this increased to USD222m (RM955m), growing at an average of 11.7% per year. It is likely that these green coffee beans are further processed to higher value-added coffee products through Malaysia's growing F&B manufacturing industry. In addition to raw coffee beans, Malaysia also increasingly imports coffee extracts and roasted coffee, expanding by an average of 13.7% per annum and 11.7% per annum, respectively (Figure 16).

Malaysia's advantage arguably is in the coffee extract market. In 2017, Malaysia exports USD470m (RM2b) worth of coffee extract products, which is 6.3% of total export market for this product (Figure 17). Export grew by about 19.9% per year between 1990 and 2017. China, Thailand and Indonesia are among the top export destinations, importing 13.3%, 11.6% and 7.8% of Malaysia's total coffee extract export in 2017, respectively (Figure 18).

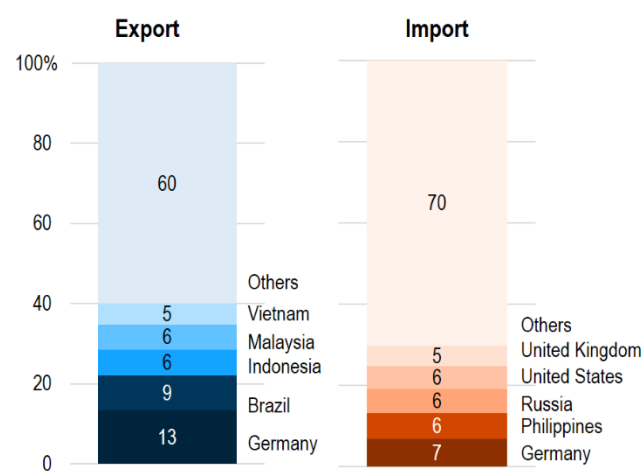
<sup>25</sup> FAOSTAT, FAO (n.d.). Calculations by the authors.

**Figure 16: Export, import and trade balance values, Malaysia, 1990 – 2017**



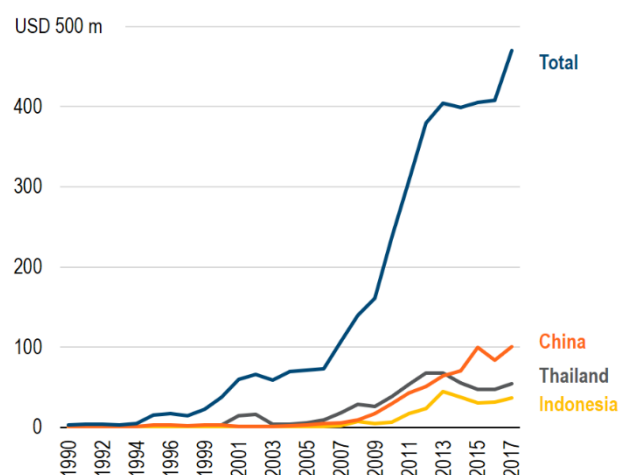
**Source:** FAO (n.d.). **Note:** 2017 is latest year with available data.

**Figure 17: Export and import share by countries, coffee extract, 2017**



**Source:** FAOSTAT, FAO (n.d.). **Notes:** Based on export and import value. 2017 is latest year with available data.

**Figure 18: Malaysia's export of coffee extract to selected countries, 1990 – 2017**



**Source:** FAOSTAT, FAO (n.d.). **Notes:** Based on export and import value. 2017 is latest year with available data.

## Concluding remarks

Coffee is a popular beverage in Malaysia despite the country producing only 0.1% of the global production. Brazil, Vietnam and Columbia are the top coffee producers in the world, collectively taking up more than 50% share. However, Malaysia is the fourth largest exporter of coffee extract (essence/concentrates with coffee or instant coffee). In 2017, Malaysia exports USD470m (RM2b) worth of coffee extract products, mainly to China, Thailand and Indonesia.

One of the issues in the global coffee market is the regional concentration of different coffee products, and consequently, the value extraction along the coffee supply chain. While raw coffee beans are mostly produced in Latin America and Africa, more than 80% of roasted coffee—priced at three-times that of raw coffee beans—are produced in Europe. To ensure fair remuneration to coffee farmers, coffee was one of the commodities (in fact, the first) to be part of the Fair Trade movement.

While production of coffee as a crop remains limited in Malaysia, it could be said that domestic demand for coffee as a beverage remains robust, be it for household consumption at home or when they eat out. The proliferation of café-goers as well as more specialised demand for premium specialty coffee could be a lucrative opportunity for Malaysian entrepreneurs. Further research to identify challenges and policy solutions in the higher value-added activities of the coffee industry could be valuable to further support and enhance the industry.



## References

- Bean Shipper. 2019. "My Liberica." <https://beanshipper.com/collections/my-liberica>.
- Chin, Mervin. n.d. "Malaysian Coffee Pros Explain the Third Wave." Accessed 1 November 2019. <https://www.perfectdailygrind.com/2017/05/malaysian-coffee-pros-explain-third-wave/>.
- Choong, Kim. 2018. "Malaysia Is Growing That Rare Coffee Beans That Comprises the 1% of World Production." thirstmag.com. <https://thirstmag.com/drinks/My-Liberica-Coffee-Farm-in-Johor>.
- Corporate Directions Inc. 2016. The Cafe Market among 5 Asean Countries. [http://cdiasiabusiness.com/wpglobal/wp-content/uploads/2016/03/CDI\\_ASEAN-Coffee-Shop\\_Feb2016-EN.pdf](http://cdiasiabusiness.com/wpglobal/wp-content/uploads/2016/03/CDI_ASEAN-Coffee-Shop_Feb2016-EN.pdf).
- DOA. 2016. Industrial Crops Statistics 2016. Department of Agriculture. [http://www.doa.gov.my/index/resources/aktiviti\\_sumber/sumber\\_awam/maklumat\\_pertanian/perangkaan\\_tanaman/perangkaan\\_tnmn\\_industri\\_2016.pdf](http://www.doa.gov.my/index/resources/aktiviti_sumber/sumber_awam/maklumat_pertanian/perangkaan_tanaman/perangkaan_tnmn_industri_2016.pdf).
- DOA. 2017. Industrial Crops Statistics 2017. Malaysia Department of Agriculture. [http://www.doa.gov.my/index/resources/aktiviti\\_sumber/sumber\\_awam/maklumat\\_pertanian/perangkaan\\_tanaman/perangkaan\\_tnmn\\_industri\\_2018.pdf](http://www.doa.gov.my/index/resources/aktiviti_sumber/sumber_awam/maklumat_pertanian/perangkaan_tanaman/perangkaan_tnmn_industri_2018.pdf).
- DOA. 2018. Industrial Crops Statistics 2018. Malaysia Department of Agriculture. [http://www.doa.gov.my/index/resources/aktiviti\\_sumber/sumber\\_awam/maklumat\\_pertanian/perangkaan\\_tanaman/perangkaan\\_tnmn\\_industri\\_2018.pdf](http://www.doa.gov.my/index/resources/aktiviti_sumber/sumber_awam/maklumat_pertanian/perangkaan_tanaman/perangkaan_tnmn_industri_2018.pdf).
- DOS. various years-a. Consumer Price Index. Malaysia Department of Statistics: CEIC.
- DOS. various years-b. Household Income Survey 2005, 2010, 2014, 2016. Malaysia Department of Statistics: CEIC.
- Dragusanu, Raluca, Daniele Giovannucci, et al. 2014. "The Economics of Fair Trade." *Journal of economic perspectives* 28 (3):217-236.
- Eng, LAI Ah. 2013. "The Kopitiam in Singapore an Evolving Story About." *Migration and Diversity in Asian Contexts*:209.
- FAO. n.d. Faostat. <http://www.fao.org/faostat/en/#home>.
- Hutson, Caitlyn. n.d. "A Definitive Guide to the 4 Main Types of Coffee Beans." <https://club.atlascoffeeclub.com/4-main-types-of-coffee-beans/>.
- Illy, Ernesto. 2002. "The Complexity of Coffee." <http://poplab.stanford.edu/pdfs/Illy-ComplexityCoffee-siam02.pdf>.
- International Coffee Organization. 2019. "Coffee's Future Needs You." <https://www.internationalcoffeeday.org/>.
- International Coffee Organization. n.d.-a. "International Coffee Day." <https://www.internationalcoffeeday.org/>.
- International Coffee Organization. n.d.-b. "What Does It Take to Make a Cup of Coffee?". <https://www.internationalcoffeeday.org/copy-of-stories>.

- International Trade Centre. 2011. *The Coffee Exporter's Guide* (Third Edition). <http://www.intracen.org/The-Coffee-Exporters-Guide---Third-Edition/>.
- Khoo, Gaik Cheng. 2009. "Kopitiam: Discursive Cosmopolitan Spaces and National Identity in Malaysian Culture and Media." In *Everyday Multiculturalism*, 87-104. Springer.
- Lee, Joy. 2014. "Booming Coffee Culture". *The Star*. Accessed 1 November 2019. <https://www.thestar.com.my/news/community/2014/04/10/booming-coffee-culture>.
- Nehlig, Astrid, Jean-Luc Daval, et al. 1992. "Caffeine and the Central Nervous System: Mechanisms of Action, Biochemical, Metabolic and Psychostimulant Effects." *Brain Research Reviews* 17 (2):139-170.
- Nor Amna A'liah and Mohd Amirul Mukimn. 2016. "Exploring the Potentials of Coffee Industry in Malaysia." [http://ap.fftc.agnet.org/ap\\_db.php?id=574](http://ap.fftc.agnet.org/ap_db.php?id=574).
- Pradeepkumar, T. 2008. *Management of Horticultural Crops*. Vol. 11: New India Publishing. [https://books.google.com.my/books?id=VHmokNZXbHUC&pg=PA601&redir\\_esc=y#v=onepage&q&f=false](https://books.google.com.my/books?id=VHmokNZXbHUC&pg=PA601&redir_esc=y#v=onepage&q&f=false).
- Ragavan, Surekha. n.d. "KL's Third Wave Coffee: The Trends and the Cafés." TimeOut: Kuala Lumpur. Accessed 1 November 2019. <https://www.timeout.com/kuala-lumpur/food-and-drink/kl-s-third-wave-coffee-the-trends-and-the-cafes>.
- Time Out KL. 2015. "The 10 Types of Coffee You'll Find at Kopitiam." Accessed 1 November 2019. <https://www.timeout.com/kuala-lumpur/food-and-drink/the-10-types-of-coffee-youll-find-at-kopitiam>.
- Tucker, Catherine M. 2017. *Coffee Culture: Local Experiences, Global Connections*. Routledge.
- UBS. 2018. "Bucks for Beans: Coffee Prices from São Paulo to Shanghai." <https://www.ubs.com/microsites/prices-earnings/en/stories/9-bucks-for-beans-coffee-prices-from-sao-paulo-to-shanghai/>.
- Wikipedia. n.d.-a. "Coffea Arabica." [https://en.wikipedia.org/wiki/Coffea\\_arabica](https://en.wikipedia.org/wiki/Coffea_arabica).
- Wikipedia. n.d.-b. "Coffea Canephora." [https://en.wikipedia.org/wiki/Coffea\\_canephora](https://en.wikipedia.org/wiki/Coffea_canephora).
- Wikipedia. n.d.-c. "Coffea Liberica." [https://en.wikipedia.org/wiki/Coffea\\_liberica](https://en.wikipedia.org/wiki/Coffea_liberica).
- Wikipedia. n.d.-d. "Coffee Culture." [https://en.wikipedia.org/wiki/Coffee\\_culture#cite\\_note-3](https://en.wikipedia.org/wiki/Coffee_culture#cite_note-3).
- Wikipedia. n.d.-e. "Kopi Tiam." [https://en.wikipedia.org/wiki/Kopi\\_tiam](https://en.wikipedia.org/wiki/Kopi_tiam).
- Wikipedia. n.d.-f. "Starbucks." [https://en.wikipedia.org/wiki/Starbucks#cite\\_note-5](https://en.wikipedia.org/wiki/Starbucks#cite_note-5).
- Wikipedia. n.d.-g. "Third Wave of Coffee." [https://en.wikipedia.org/wiki/Third\\_wave\\_of\\_coffee](https://en.wikipedia.org/wiki/Third_wave_of_coffee).
- World Bank. 2019. "Pink Sheet" Data: Commodity Annual Prices, October 2019. World Bank. <https://www.worldbank.org/en/research/commodity-markets>.
- Yılmaz, Birsen, Nilüfer Acar-Tek, et al. 2017. "Turkish Cultural Heritage: A Cup of Coffee." *Journal of Ethnic Foods* 4 (4):213-220.