



Coffee producer country profile: Colombia

An overview of the economic model of Colombian coffee farms

REPORT

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1. Relevant context regarding economic viability

1.1. Production and export profile

Colombia is the world's third-largest coffee producing country, having produced approximately 14.1 million 60 kg bags, i.e. 846,000 tonnes, for the years 2019, 2020 and 2021.¹ Of these, approximately 12.4 million bags, i.e. 744,000 tonnes, were exported.² All Colombian production is Arabica.³

Colombia has succeeded in imposing itself as one of the leaders of quality Arabica coffee, and in organizing Colombian value chains with the aim of producing a coffee whose organoleptic qualities are widely recognized.⁴ As a result of this strategy, the export price of Colombian coffee has been on average 10% higher than the price of all other milds since the 1990s.⁵ In 2021, the country differential even rose to + 52 US\$/lb, i.e. + 0.97 USD/kg,⁶ and in September 2022 it soared to + 75 US\$/lb, i.e., 1.56 euros/kg, out of a C-market price of 2.23 USD/lb.⁷ This means that in September 2022, the country differential of Colombia was equivalent to approximately a quarter of the Colombian coffee price.

Production in Colombia has fluctuated in the last twenty years, with a pronounced dip between 2008 and 2014 due to coffee rust epidemics, among other factors.⁸ Since then, yield and production have mostly recovered, but there was another dramatic dip in yields in 2021 (see Figure 1 below), due mainly to climatic conditions but also in the context of a national strike in Colombia in 2021 that delayed exports while also affecting the delivery of fertilizers.⁹ Fluctuations in productivity are also due to the fact that in coffee renovations there have been losses of sites that have not been replaced, and this has seriously affected productivity. Where yields have improved, it has been mainly thanks to “replanting of coffee rust resistant varieties, which also boosted crop productivity by reducing the average age of coffee trees and increasing plant density.”¹⁰

¹ ICO, “Coffee production series: Table 1a - Total production,” 2022.

² FNC, cited in Global Coffee Report, “Why Environmental Sustainability Is Key to Colombian Coffee Production,” 15 June 2022.

³ Sustainable Coffee Challenge, “Colombia: Country Profile,” 2 March 2019.

⁴ Global Coffee Report, “Why Environmental Sustainability Is Key to Colombian Coffee Production,” 15 June 2022.

⁵ ICO, “Historical Data on the Global Coffee Trade, Table 3c: ICO Composite & Group Indicator Prices,” 2023.

⁶ FNC, “Informe de Gestión 2021: Executive Summary,” May 2022.

⁷ FNC, “Informe del gerente 2022,” 30 November 2022.

⁸ https://publications.cirad.fr/une_notice.php?dk=575723 accessed on 12 March 2024

⁹ Federación Nacional de Cafeteros, “Producción de café de Colombia cierra 2021 en 12,6 millones de sacos,” 12 January 2022.

¹⁰ Global Coffee Report, “Why Environmental Sustainability Is Key to Colombian Coffee Production,” 15 June 2022.

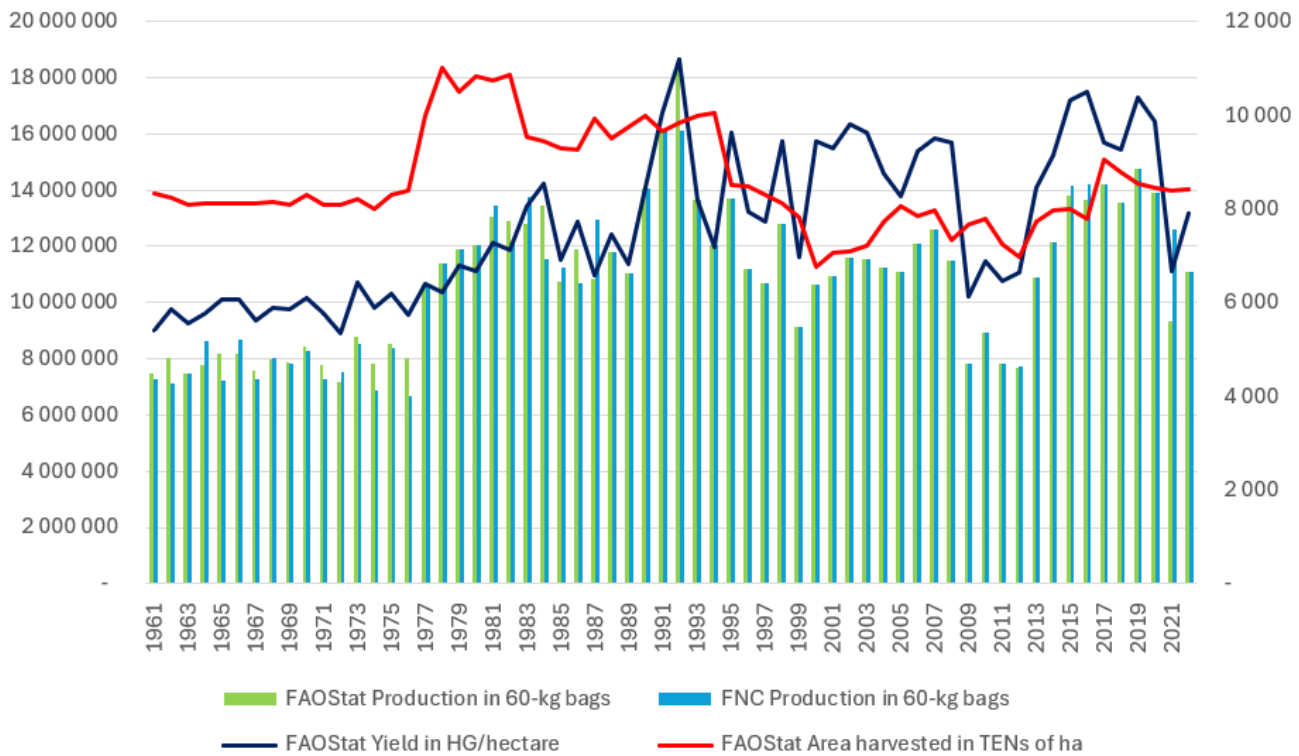


Figure 1. Colombia production (left axis), area harvested (right axis) and yield (right axis), 1961-2022

Source: BASIC, based on FAOStat (production, area harvested, yield), and based on FNC (production)¹¹

Remark: the decision was made to represent area harvested as *tens* of hectares, and yields in *hectograms* (the default FAOStat parameter) so as to make it easier to see the trends in both variables, as well as their relative contribution to Colombia's production.

In 2022, the main trading partner for green coffee was the United States, to which 44% of Colombia's coffee was exported (in volume), followed by Canada (7%), Germany (7%), Japan (7%), and Belgium (also 7%). Twenty-six percent (26%) of exports go to Europe.¹²

1.2. Overall farming context

Colombia is known for its dense network of smallholder farmers specialized in coffee. About 540,362 coffee producers were registered in 2020, living in 483,389 households, contributing 0.9% of total GDP (11% of total agricultural GDP).¹³ The vast majority of farms are just a few hectares in size. This stems in particular from the progressive decrease of the average coffee farm size at the national level which

¹¹ While we relied on just FAOStat data for other countries, in this graph we have an additional, highly reliable source which is the FNC. In the end, in terms of coffee production, the FNC and the FAOStat databases have most often have identical numbers, as can be seen in the Figure (this is since the FNC is the official FAOStat source). FNC link: <https://federaciondefeferos.org/wp/estadisticas-cafeferas/> and FAOStat link: <https://www.fao.org/faostat/en/#data/OCL>.

¹² FNC, "Exportaciones de Café Colombiano: Volumen de Las Exportaciones Colombianas de Café Según Destino - Anual," 2023. <https://federaciondefeferos.org/wp/estadisticas-cafeferas/>.

¹³ Suárez et al., "Contribution of Livelihoods to the Well-Being of Coffee-Growing Households in Southern Colombia: A Structural Equation Modeling Approach." 2022

has taken place since the 1950s¹⁴ and up to the mid-1990s¹⁵ which was initially driven by restrictive labour regulations¹⁶ to incentivize small, family-operated farms.

Colombia's coffee-growing regions are characterized by hilly terrain where Brazil-style mechanization is almost impossible. Some technologies can be used to make the harvest more efficient. For instance, where coffee is planted in rows and when the ground is flat, it is possible to use tarpaulins under the tree instead of baskets around one's waist (*coco* in Spanish) as the receptacle for the picked cherry: this simple innovation reportedly increases the harvest efficiency by 40%. There are also hand-held harvesters which shake the tree branch and cause the ripest cherries to fall to the ground, but these have mixed results.¹⁷

A more structural and long-term trend has been the development of on-farm wet processing as the dominant form of processing coffee in Colombia.¹⁸ Thanks to this on-farm integration of the first level of wet treatment, farmers get better value for their coffee, selling parchment coffee instead of cherry coffee.¹⁹ This trend is still underway today, with the replacement of hand-cranked machines by machines running on electricity or generators. After depulping, the coffee is left to ferment for 12 to 36 hours, depending on the weather and the elevation.²⁰ It is subsequently washed, then left to dry until it reaches optimal humidity. Due to frequent rain, some farms are equipped with blow-dryers to accelerate the drying process or sliding roofs to cover the drying patios.²¹

In terms of organizational structure, the history of Colombian coffee is inseparable from the role and activities undertaken by the FNC, or National Federation of Coffee Growers (Federación Nacional de Cafeteros). Founded in 1927, this parastatal body is in charge of designing sectoral policies and implementing them through the affiliated regional cooperatives.

The FNC represents Colombia's coffee growers, particularly smallholders. It oversees extension services as well as agronomic research through Cenicafé (the National Coffee Research Centre), and

¹⁴ This evolution started in Colombia before spreading to most of the producing countries in the second half of the 20th century (Daviron, "The Coffee Paradox," 2007).

¹⁵ During the 1970s and 1980s, larger plots of land continued to be subdivided to make small farms. This can be seen in statistics comparing the percentage of smaller farms in 1970 vs mid-1990s: there is a vast increase in the proportion of small farms during this period as well as a decrease in the area of the farm where coffee is grown. García, Julián. "Evolución de la distribución de las fincas cafeteras," 2001.

¹⁶ At the beginning of the 1950s, Colombian coffee production was transformed: the right to work was regulated in the large coffee operations. Larger plantations eventually lost their profitability as the costs of the workforce increased.

¹⁷ There are two main problems: First, even these require some manual labour to lay out and collect tarpaulins under the row of coffee trees; and later to manually pick the last of the ripe cherries off the branch, to avoid the spread of coffee cherry borer. Second, the hand-held harvesters are reported to be heavy and unwieldy on the steep terrain, and even tarpaulins may be difficult to deploy due to the sloped land (Colombia's humid and rainy climate makes it difficult to terrace the land). Barista Hustle 2023, op. cit. and BASIC Interview with Colombia coffee sector expert, 23 August 2023.

¹⁸ In some areas, depulping machines – a byproduct of the remoteness of Colombian farms – were widespread well before the 1950s. For example, "in 1922, 97% of Antioquia's coffee growers had their own depulper." Mejía et al. 2017, cited in Barista Hustle 2023, op. cit.

¹⁹ Daviron, "The Coffee Paradox," 2007.

²⁰ Except if it is "fully washed" in a demucilaginator, i.e., a machine for processing coffee that uses friction instead of fermentation to remove mucilage. Barista Hustle 2023, op. cit.

²¹ Barista Hustle 2023, op. cit.

access to FNC credit is conditional on adoption of improved varieties from Cenicafé.²² (The result of this policy is that the majority of Colombia's coffee trees are rust-resistant.)²³ In recent decades, the FNC has made use of various mechanisms to support the coffee sector: purchase guarantees funded by taxation on export, coffee storage/warehousing, funding of social infrastructures within the communities, and control of exports for private dealers.²⁴

The FNC collects the national coffee contribution of 6 USD¢ per lb., i.e. 0.11 euros/kg on all coffee exported, the proceeds of which go to the National Coffee Fund (Fondo Nacional del Café, or FoNC), which finances the main activities of the FNC – purchase guarantee, Cenicafé, the Extension Service, and commercialization and marketing efforts.²⁵

Most notably, the FNC operates a “purchase guarantee” (*garantía de compra*) at each of its 500+ purchase points across the country: this is a programme that gives all farmers the opportunity to sell parchment coffee at a publicly announced base price that tracks the world price, with small discounts for FNC fees and slight price adjustments based on quality and location.²⁶ For our study period (Oct. 2020 to September 2021),²⁷ the average base price was 1,290,123 COP/arroba dry parchment coffee, i.e. 2.33 euros/kg, which translates to 2.84 euros/kg green coffee equivalent at farmgate. Traders are reported to follow the FNC price, since farmers always have the option of getting a better price at the FNC affiliated regional cooperatives. After coffee is collected, sampled, and graded at the points of sale, the FNC's cooperatives undertake the milling (for their farmers and sometimes also for other actors of the Colombian coffee sector). The FNC's share of exports has seen a slow but steady decline in the last twenty years, from 36% in 2001 to 17% in 2022.²⁸

The FNC also promotes Colombian coffee domestically and abroad. To achieve this, it has developed a comprehensive strategy to differentiate Colombian coffee on the world market and promote coffee consumption on the domestic market, based on a prominent character: the fictional farmer “Juan

²² Rust-resistant varieties became compulsory after a rust epidemic in 2011. However, these new varieties (Castillo, Tabi, and Colombia) have a shorter life span (about 8-10 years vs. 30 years for the traditional Típica variety), which obliges producers to renew their plantations more regularly and to commit to a logic of intensification of their operations. With the change in varieties, the agricultural practices also had to develop: alignment of rows, decrease in tree cover to facilitate maintenance and harvesting, and systematization of use of crop protection products and artificial fertilizer. Cenicafé, “CASTILLO: Nueva variedad de café con resistencia a la roya,” 2005; Cenicafé. “Nueva Variedad De Café De Porte Alto Resistente a la Roya,” 2002; Cenicafé. “Manual Del Cafetero Colombiano: Investigación y Tecnología Para La Sostenibilidad de La Caficultura,” 2013.

²³ Today, a significant proportion of area is planted with rust-resistant plants – up to 75% in 2019 as against 25% in 2010. The Sustainable Coffee Challenge estimates that less than 10% of Colombia's coffee surface area needs R&R (farm renovation and rehabilitation). Sustainable Coffee Challenge. “Colombia: Country Profile,” 2 March 2019.

²⁴ Technoserve, “Colombian Coffee Production and Costs,” 2014.

²⁵ FNC, “Fondo Nacional Del Café,” 2023. <https://caldas.federaciondecafeteros.org/fonc/>

²⁶ The guaranteed and announced reference price is calculated by taking the C-price on the New York market, adding the Colombian coffee differential, subtracting fees paid to the FNC (the *contribución cafetería*), and subtracting costs and expenses incurred by the FNC. Then, the guaranteed reference price is adjusted based on the quality of the lot brought by the farmer. For example, the price is higher if the coffee has a better output (*factor de rendimiento* – quantity of parchment coffee needed to produce green beans, where a low score is preferable) or depending on the quantity of imperfections in a sample. The FNC publishes a daily bulletin detailing the C-price, the purchase price, and the different discounts or bonuses applied to coffee based on its quality. There are minor variations in price from region to region, partly due to prorating transport costs. The FNC also purchases *pasilla de finca* coffee, i.e., coffee with many impurities or non-whole beans. FNC, “Aprenda a vender su café,” 2023.

²⁷ The year used for the purpose of this study is October 2020 to September 2021, so as to accommodate the different calendars at which coffee is harvested in the four different countries.

²⁸ FNC, “Exportaciones de café colombiano,” 2023.

Valdez,” who appears with a large sunhat and a mule on a bright-red logo advertising “100% Colombian coffee.”²⁹ Using this character as a flagship, the FNC created a chain of coffee shops in 2002 on the Starbucks model, to promote the consumption of quality coffee produced in Colombia. After being developed domestically, the chain started to spread in the United States. As of 2022, Juan Valdez had 361 shops in Colombia and 133 shops in 33 international markets.³⁰



Figure 2. Juan Valdez with mule, the promotional logo Colombian coffee developed by the Federación Nacional de Cafeteros (FNC)

Producers have a variety of options to market their coffee. The FNC is one buyer, along with its cooperatives. Producers can also sell to an estimated 38 non-FNC-affiliated cooperatives in Colombia. They can also sell to other buyers such as Expocafé³¹ or private traders such as Volcafe, Neuman Group, and Ecom Trading. Finally, the role of middlemen in the Colombian coffee trade should not be underestimated.³²

2. Producers’ archetypes

Methodological remarks

In sections 2 and 3 we examine production costs and income dynamics for different archetypes of farms in Colombia. It should be underlined that Colombia, like other countries, has an extraordinary diversity of farm profiles and that modelled figures are just that – our best model to translate a complex reality. Second, when discussing labour, we clearly distinguish between hired labour and family labour. In Colombia, for instance, the data on which we built the model factored in family labour as well as hired labour in the costs of coffee production; thus, references to labour in the text are clearly indicated as “family and hired labour,” except in circumstances where the discussion focuses on one or the other. Third, we make a distinction between total

²⁹ Although the logo may date to 1981, Juan Valdez as a character in FNC promotional material – print and TV – has existed since 1958. The first advertisement featuring Juan Valdez dates from 1958. Barista Hustle 2023, op. cit. For the photograph of the farmer with donkey, the source is: FNC/Comité departamental de cafeteros de Tolima, “Compra de café por factor de rendimiento,” 2000.

³⁰ USDA Foreign Agricultural Service, ‘Coffee Annual 2023: Colombia’, 18 May 2023 and Juan Valdez, “Nuestra historia,” 2023. This is an increase from 2017, when there were 252 Juan Valdez shops in Colombia and 119 abroad in 15 countries. FNC. “FNC En Cifras,” 2017.

³¹ Expocafé is estimated to export around 10% of the flow of coffee out of Colombia. “Strength in Numbers: Understanding Colombia’s Coffee Cooperatives,” 28 February 2022. <https://intelligence.coffee/2022/02/strength-in-numbers-understanding-colombias-coffee-cooperatives/>.

³² According to an estimate from one interviewee, up to 40% of the volume of coffee traded may be purchased by middlemen and resold to exporters who conduct the secondary processing. BASIC Interview with Colombia coffee sector expert, 28 July 2023.

farm coffee income and net farm coffee income. In the model, we estimate the total farm coffee income per kilogram based on the farmgate purchase price guaranteed by the Federación Nacional de Cafeteros (FNC), which stood at 2.74 euros/kg for our study period (1.242 million COP per arroba).³³ It should be noted that this is a simplification made for the purposes of the model (in reality, actual sales price vary from farmer to farmer – this is not unique to Colombia, and according to one interviewee, the price is often above the FNC guaranteed price.)³⁴ Net farm coffee income is calculated as total coffee income minus the costs of coffee production.

In terms of number of coffee farms in Colombia, the vast majority are small family farms: 96% of them are estimated to be under 5 hectares;³⁵ 90% are under 3 hectares and 23% have less than 0.5 hectares sowed as coffee.³⁶ The average size of coffee-planted plots on farms nationwide is 1.57 hectares as of 2020.³⁷ In volume terms, the farms under 5 hectares represent 69% of the total Colombian coffee production at national level.³⁸

Of the countries included in this study, Colombia is unique in that we were able to access detailed information on costs of coffee production and other agronomic and economic indicators (area harvested, yields, income) thanks to a comprehensive survey with a large sample size ($n = 2,130$) conducted annually by Solidaridad.³⁹ Although this survey only consolidates data from certified farms, it represents a good basis for establishing farm archetypes because (1) the majority of Colombian farms have at least one certification and (2) our analysis is based on a comparison of how groups of farms perform relative to one another rather than on absolute values for each farm category.⁴⁰

Based on this Solidaridad study, we retained four archetypes for the quantitative model: farms under 2 hectares, farms between 2 and 5 hectares, farms between 5 and 10 hectares, and farms above 10 hectares. The table below summarizes the farmers’ archetypes as delineated in this study:

Farm profile	Economic model	Economic performance ⁴¹
Micro-smallholder farms Under 2 ha ≈25% of Arabica production	<ul style="list-style-type: none"> Permanent family labour + hired labour at harvest time Use of improved varieties. Washing on-site or with a pulper at the 	<ul style="list-style-type: none"> Main costs: labour (family and hired) for the harvest; fertilization Yield: 1.235 tonnes/hectare Average net coffee income tends to

³³ Farmgate prices are taken into account for the period September 2020 to August 2021, and costs of production from July 2020 to June 2021 (average of 2020 and 2021 costs).

³⁴ BASIC correspondence with Colombia coffee sector expert, 22 March 2024.

³⁵ USDA Foreign Agricultural Service. “Coffee Annual: Colombia,” 2 June 2022.

³⁶ FNC, “Ensayos Sobre Economía Cafetera no. 34,” 2021, p. 38.

³⁷ FNC, “Ensayos Sobre Economía Cafetera no. 34,” 2021.

³⁸ USDA Foreign Agricultural Service, Colombia Coffee Annual, 2017.

³⁹ Solidaridad, Indicadores Del Negocio Cafetero En Colombia 2023.

https://agrolearning.org/finanzas/documentos/soluciones/dashboard_costosCafe.html

⁴⁰ We have assumed that certified and non-certified farms perform similarly in relative terms.

⁴¹ Information in this column is 2022 data taken from Solidaridad. “Indicadores Del Negocio Cafetero En Colombia,” 2023. https://cafe.agrolearning.org/finanzas/documentos/soluciones/dashboard_costosCafe.html.

	<p>“washing station” of nearby cooperative</p> <ul style="list-style-type: none"> • May diversify with plantain, cassava, guamo, yarumo, nogal cafetero, avocado, soursop trees, or inga⁴²: (only 20% of coffee in Colombia is grown in full sun).⁴³ However, the proceeds from diversification are not counted as a source of income in our model, since we only calculate farm coffee income. 	<p>increase with the land area dedicated to coffee cultivation (see discussion next section)</p>
<p>Small farms 2 to 5 hectares ≈44% of Arabica production</p>	<ul style="list-style-type: none"> • Permanent family labour + hired labour at harvest time – slightly more hired labour than farms under 2 hectares (see details below) • Use of improved varieties • Washing on-site or with a pulper at the “washing station” of nearby cooperative • May diversify (see above) 	<ul style="list-style-type: none"> • Main costs: labour (family and hired) for the harvest; fertilization • Yield: 1.294 tonnes/hectare • Average net coffee income tends to increase with the land area dedicated to coffee cultivation (see discussion next section)
<p>Medium-sized farms 5 to 10 hectares ≈15% of Arabica production</p>	<ul style="list-style-type: none"> • Mainly hired labour at harvest time • Use of improved varieties • Washing on-site • May diversify (see above) 	<ul style="list-style-type: none"> • Main costs: labour (family and hired) for the harvest; fertilization • Yield: 1.499 tonnes/hectare • Average net coffee income tends to increase with the land area dedicated to coffee cultivation (see discussion next section)
<p>Large farms 10 or more hectares⁴⁴ ≈0.9% of farms, 16% of Arabica production</p>	<ul style="list-style-type: none"> • Mainly hired labour at harvest time • Use of improved varieties • Washing on-site • May diversify (see above) • May mechanize when the terrain allows it⁴⁵ 	<ul style="list-style-type: none"> • Main costs: labour (hired) for the harvest; fertilization • Yield: 1.593 tonnes/hectare • Average net coffee income tends to increase with the land area dedicated to coffee cultivation (see discussion next section)

3. Results of the model

⁴² Machado Vargas et al., Social-Ecological Resilience of Small-Scale Coffee Production in the Porcè River Basin, Antioquia (Colombia), 2018.

⁴³ Barista Hustle 2023, op. cit.

⁴⁴ They can go up to 1,000 hectares in size; the average in the Solidaridad sample is 18.3 hectares.

⁴⁵ Although this cannot be confirmed, it is assumed that these plantations can afford to mechanize if they choose, thanks to a greater capitalization (hand-held mower for weed removal, hand-held feller-harvester to force cherries off the branch, etc.). There are two main problems: First, even these methods require some manual labour: first to lay out and later collect tarpaulins under the row of coffee trees; and later to manually pick the last of the ripe cherries off the branch, to avoid the spread of coffee cherry borer. Second, the hand-held harvesters are reported to be heavy and unwieldy on the steep terrain, and even tarpaulins may be difficult to deploy due to the sloped land (Colombia’s humid and rainy climate makes it difficult to terrace the land, unlike a place like Yemen where the dry weather preserves the terraces). Barista Hustle 2023, op. cit. and BASIC Interview with Colombia coffee sector expert, 23 August 2023. The FNC actively promotes the harvester, however: see FNC, “Derribadora Brudden DSC-18,” 2020, <https://youtu.be/l0toYjvwB1w>.

As described earlier, a little more than a quarter of exported Colombian coffee goes to Europe, with Germany the leading EU destination accounting for 7% of the volume of the country's coffee exports.

Comtrade data suggests that Colombia accounts for around 5% of Germany's annual coffee imports (in weight). The data collected for this study suggests that most of this Colombian coffee is incorporated in coffee blends sold in higher value added formats in German retail stores (whole beans and capsules), due to the higher price of Colombian Arabica.

Single origin Colombian coffee only represents about 0.2% of coffee supermarket sales in Germany. It, too, is sold in more expensive formats (whole beans and capsules) under two brands that represent 93% of sales: one national brand's whole bean and capsules with Fairtrade and Rainforest Alliance certifications, and another national brand's capsules.

3.1. Farm level

This section presents the results of the quantitative model of the distribution of costs and net farm coffee income at the coffee cultivation stage. For the distribution of costs, we relied on data from Solidaridad. For net farm income based and the farmgate price, we relied on data from the FNC.

Two points need to be underlined at this stage. First, as stated earlier, the farmgate price of coffee has been estimated based on the data published in FNC statistics for Arabica and for the 2020/2021 campaign, i.e. 2.73 euros/kg. This price is consistent with the data collected on the ground by Solidaridad ('Indicadores del Negocio – Comparativo años') which reflects prices slightly higher by 2% to 3% compared to the FNC statistics, depending on the size of the farm. We have thus chosen to simplify the model and used the FNC price across all archetypes.

Second, we have decided to use the data collected on the ground by Solidaridad since 2021 to inform the costs of coffee production per archetype. Indeed, this is the most detailed and up-to-date database on production costs we've found for Colombia (even compared to FNC data). It made it possible not only to estimate costs consistent with producers' archetypes, but most importantly to include both hired labour and family labour in the estimates of production costs (which no other source of information does).⁴⁶ Thus, the "harvest" cost item in Figure 3 below includes the expenses incurred to pay for the hired labour needed for harvesting as well as the monetized cost of family labour. The same applies to fertilization, processing, rejuvenation, weeding, and other manual tasks. The Solidaridad study also provides the total number of days of family labour related to these tasks, per farm size and province. This makes it possible to give a comprehensive picture of the microeconomics of coffee farms in Colombia, in particular the smallest family farms which are more than just a business for producers as they constitute their living environment, in a context where other economic opportunities are scarce for them.

Figure 3 shows the expenses linked to the cultivation of coffee and the net income from coffee on each of the four archetypes of farms, based on the Solidaridad data.⁴⁷

⁴⁶ Figures are an average of those reported by Solidaridad in its annual "Costos de producción de café" reports for 2021 and 2020. See <https://cafe.agrolearning.org/finanzas/documentos/documentacion/informeCostos2020.pdf> and <https://café.agrolearning.org/finanzas/documentos/documentacion/informeCostos2021.pdf>.

⁴⁷ Due to a lack of data, the production costs for micro-smallholders (< 2 ha) are taken from the data for small farms (2–5 ha). This is why the two cost profiles in the figure appear identical.

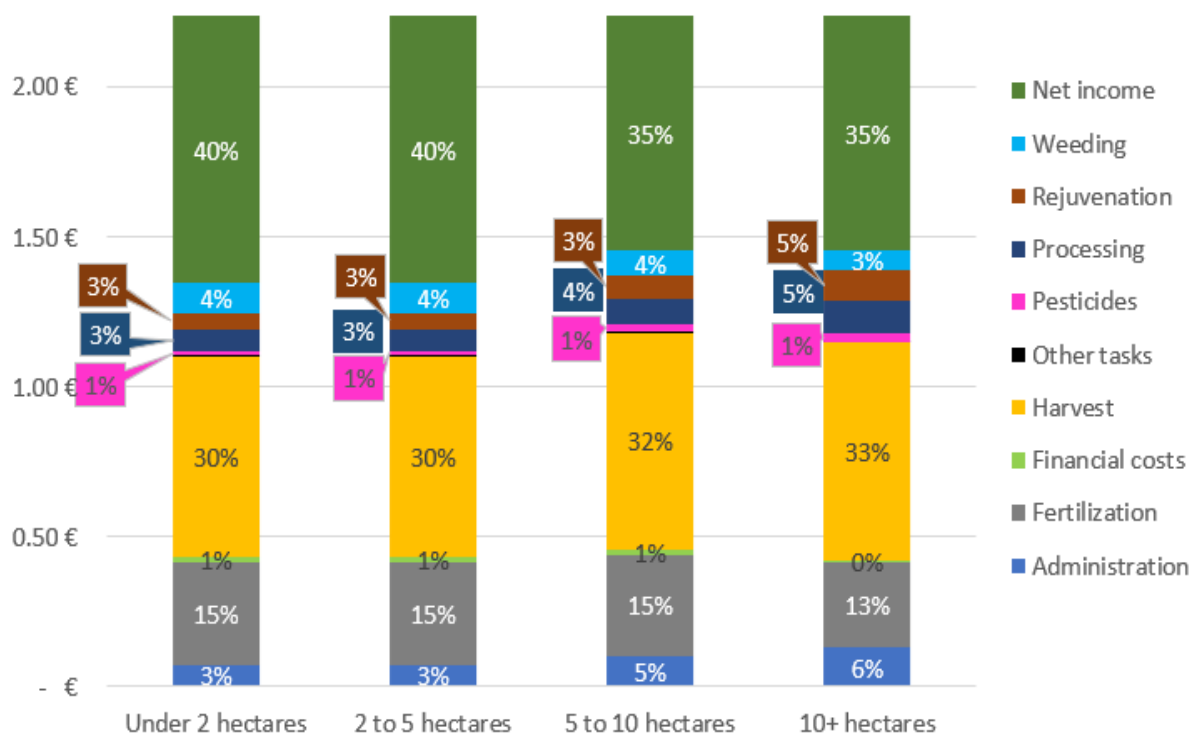


Figure 3. Costs of production in €/kg for four archetypes of farms in Colombia, with a farmgate price of 2.73 €/kg. Source: BASIC, 2023, based on data from Solidaridad, 2020 and 2021⁴⁸

The “harvest” category represents the highest single cost to all four archetypes. This category encompasses *patrones de corte* (decisions about picking and harvesting patterns), the cost of jute bags as well as *cocos* or *tarros* (rigid buckets in which to collect coffee), and labour.⁴⁹ The second most important expense is fertilization, followed by administrative costs, post-harvest processing, weeding, rejuvenation, and pesticides. It is worth underlining that more money is spent on weeding than on pesticides. Further, radical increases in the price of fertilizer in the past two years are said to have decreased their use.⁵⁰

The in-depth study and data from Solidaridad also gives information (for farms up to 5 hectares) about the degree of reliance on hired labour versus family labour. Two elements stand out. First, even very small farms have recourse to hired labour. Second, smaller farms have a greater reliance on family labour, both in absolute terms per hectare and as a percentage of total labour. Indeed, farms under 2 hectares supply 51% of total labour days (69 days of family work out of a total of 135), while farms 2 to 5 hectares provide only 34% of labour days (44 days of family work out of a total of 131 days). This is intuitive as, in most cases, increasing acreage absorbs family labour, leaving room for hired labour as the surface area to be tended to, harvested, and treated post-harvest increases.⁵¹

Typically, a farmer drives to a nearby town in a pickup truck and returns with day labourers in the

⁴⁸ Figures are an average of those reported by Solidaridad in its annual “Costos de producción de café” reports for 2021 and 2020.

See <http://cafécafe.agrolearning.org/finanzas/documentos/documentacion/informeCostos2020.pdf> and <https://cafe.agrolearning.org/finanzas/documentos/documentacion/informeCostos2021.pdf>

⁴⁹ Solidaridad, “Costos de producción de café 2022,” 2022, pp. 30 and 36.

⁵⁰ BASIC Interview with Colombia coffee sector expert, 23 March 2023.

⁵¹ Solidaridad, “Indicadores Del Negocio Cafetero En Colombia,” 2023.

back. These labourers are not unionized, and while they may receive basic accommodation and meals, they perform difficult work from sunrise to sundown. Pickers are paid by weight, with the caveat that there are incentives to pick only ripe cherries. Experienced pickers can make in one day three times the minimum wage, and recurring labour shortages have ensured that wages remain competitive.⁵² However, the labour is seasonal and labourers may not make an annual living wage.⁵³ In addition, there was a notable development in 2022, when in the wake of rising coffee prices, casual labourers were able to negotiate significantly better pay.⁵⁴ Despite this, finding qualified hired labour is a challenge. Many rural Colombians move from the countryside to larger cities or turn to other sectors such as construction. In 2020, there was also a shortage of Venezuelan migrants who, in 2019, were reported to make up 90% of the labour force on Colombian coffee farms during the harvest.⁵⁵ According to one interviewee, the COVID crisis prevented some of these workers from coming to Colombia, making the hired labour shortage more acute.⁵⁶ On the very smallest of farms, families have to harvest their own coffee, solely relying on the help of a neighbour who is repaid in kind.⁵⁷

Once all the production expenses are covered – including hired labour, fertilizers, family labour – all that remains is the net coffee income. As it stands, this net income of Colombian family coffee farms included in the model is the amount of money left for the family to invest on the farm, make their living, face contingencies and emergencies, etc. It is important to stress that this net coffee income is the result of a study of agricultural and farm economics conducted by Solidaridad, not a survey of farm accounts. Consequently, the costs estimated in the model do not include important accounting concepts such as amortization, debts or provisions and they cannot be used to quantify a “net profit” as in an entrepreneurial farm with published official accounts. Therefore, the available data did not make it possible to arrive at any estimate of “net profits” at the level of Colombian coffee farmers.

Analysing the coffee net income measured by the Solidaridad study for coffee farms up to 5 ha (screenshots for 2021,⁵⁸ online platform for 2022⁵⁹), results show that it increases proportionally to the coffee acreage cultivated, and proportionally to the achieved yields which in turn increase with farm size. This is true in absolute terms, but also when expressing the net income earned by farmers per kg of coffee produced and sold (see Figure 3 above). At equal levels of acreage, high-productivity (high yield) farms tend to have a higher net income than those with low productivity (low yield), strengthening the importance of this factor in the economic performance of Colombian coffee farms.

3.2. Collection and export level

⁵² BASIC correspondence with Colombia coffee sector expert, 22 March 2024.

⁵³ Solidaridad, “Understanding The Situation of Workers in Corporate and Family Coffee Farms,” December 2016, page 8.

⁵⁴ Barista Hustle 2023, op. cit., citing Smith 2022: “The typical pay for coffee pickers is around 550–600 COP (US\$ 0.11–0.12) per kilogram, but in 2022 some pickers received wages of 1,000 COP (US\$0.21) per kilogram (Smith 2022).”

⁵⁵ Barista Hustle 2023, op. cit.

⁵⁶ BASIC Interview with Colombia coffee sector expert, 12 April 2023.

⁵⁷ Barista Hustle, “The Coffee Buyer’s Guide to Colombia,” 2023.

⁵⁸ Solidaridad, “Costos de Producción de Café 2022,” 2022.

<https://café.agrolearning.org/finanzas/documentos/documentacion/informeCostos2022.pdf>.

⁵⁹ Solidaridad, “Indicadores Del Negocio Cafetero En Colombia,” 2023.

https://cafe.agrolearning.org/finanzas/documentos/soluciones/dashboard_costosCafe.html. Last accessed 15 March 2024.

Estimating the costs of doing business at the collection and export level is challenging, for many reasons. First, the road from farmgate to FOB is incredibly diverse both within countries and across countries. Actors in the value chain on this rung of the chain can include the FNC, cooperatives that export through Expocafé, international traders, etc. In reality, all these actors have different business models and costs, making it difficult – as in other producer countries – to build a single estimate of costs at this stage of the chain (in this case, the Collection and export stage of the model). Further, data on this subject is virtually non-existent in the public domain. To our knowledge, there are no official statistical databases on exporter costs, taxes, and net profit margins – only isolated information in academic papers, “grey” literature, or the websites of parastatal agencies that regulate, survey, or are otherwise associated with the coffee sector. Finally, being an exporter or an importer is all about taking risks and managing uncertainties. Our understanding from interviews is that the core of the work done by exporters and importers is to foresee the high volatility of the coffee market, make stocks, lose money on sales sometimes and make money at other times, trying to equate profits of sales with the costs of borrowing capital. In our understanding, only a national statistical agency with the power to hold confidential and exhaustive business data could make a statement on profit levels and taxes of coffee exporters. This is indeed an important challenge regarding transparency for the coffee industry in Colombia and other origins.

Nonetheless, we were able to obtain an estimate of costs at the export stage thanks to a single interview. This interview indicated that for 2021, the total value-added of this stage of the coffee chain was 0.82 euros/kg, divided between costs (0.61 euros/kg), taxes (0.13 USD/kg) and net profit margins on exports (0.08 euros/kg).⁶⁰

⁶⁰ BASIC Interview with Colombia coffee sector expert, 16 August 2023.

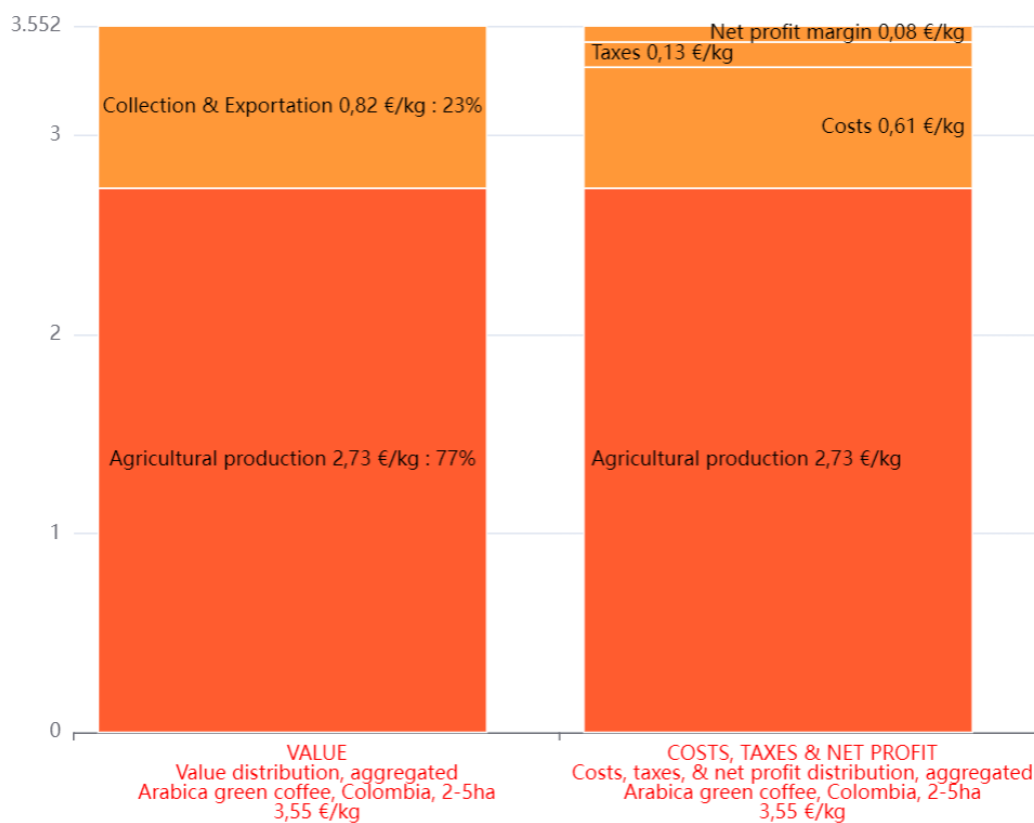


Figure 4. Value distribution (left) and costs, taxes, and net profit margin (right) for exported non-certified Colombian coffee, for farmers (in red) and collecting agents and exporters (orange). Source: BASIC, based on bibliography and interviews, 2023

3.3. Certifications

Although certifications in Colombia took off somewhat later than in other countries,⁶¹ today Colombia is a leader in environmental, social, and quality certifications. As of 2019, 61% of coffee purchased by cooperatives of the FNC was certified.⁶² According to Dietz et al. (2020), cited in another article, “Colombia is also one of the world’s most important producers of coffee produced under sustainability certifications: it has the largest area of Fairtrade-certified production, the second-largest area certified under 4C, and the third-largest Rainforest Alliance–certified area in the world.”⁶³

3.3.1. Results for Fairtrade certified Colombian Arabica

Figure 5 shows costs, taxes, and net profit margins for Fairtrade-certified coffee in Colombia at the export stage.

Our model of Fairtrade coffee is based on the family agriculture model between 2 ha and 5 ha, which

⁶¹ World Bank, “Colombia: Coffee Sector Study,” 2022

⁶² FNC, “Informe Consolidado De La Gestión De Las Cooperativas: Año 2019,” June 2020

⁶³ Barista Hustle 2023, op. cit.

appears to be the archetype most consistent with available reports on Colombia.

The farmgate price for Fairtrade coffee, estimated at 3.21 euros/kg, is the weighted average of:

- Fairtrade minimum price for October 2020 to April 2021 (when farmgate prices were below the 2021 Fairtrade threshold of 1.40 USD/lb, i.e. 2.60 euros/kg at the time)
- FNC⁶⁴ data for the remaining months of the study period (May 2021 to Sept 2021), i.e. after the coffee price increased above the Fairtrade minimum price.

The resulting farmgate price for Fairtrade coffee, standing at 3.21 euros/kg, represents a substantial (+18%) differential of 0.48 euros/kg relative to the non-certified coffee price of 2.73 euros/kg.

Downstream in the chain, the increase in the export price of Fairtrade coffee follows the increase of the farmgate price estimated for Fairtrade coffee, to which is added the Fairtrade premium, the specific use of which is decided by the cooperatives themselves.

Figure 5 shows the distribution of value between family farms (in red), and collectors and exporters (in orange) in the Colombian Fairtrade-certified coffee value chain in 2021.

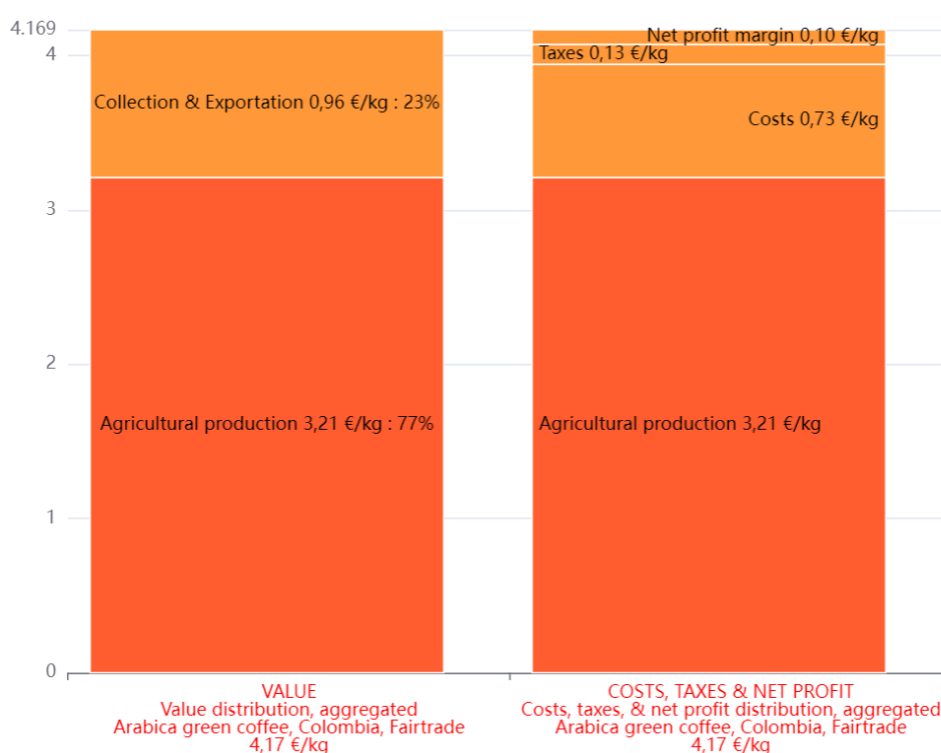


Figure 5. Value distribution (left) and costs, taxes, and net profit margin (right) of exported Colombian Fairtrade certified coffee, for farmers (in red) and collecting agents and exporters (orange). Source: BASIC, based on bibliography and interviews, 2023

We considered that the costs of exporting Fairtrade coffee (in light green below) also increase proportionally to the increase in farmgate price. This increase in value added is theoretical and assumes a fixed farmgate capture ratio, translating into higher costs for collectors/exporters but also higher potential revenue. Thus, the rest of added value as well as the net profit margin increases (net profit margin increases by 0.02 euros/kg relative to conventional). As noted above, farmgate prices

⁶⁴ The Federación Nacional de Cafeteros (FNC) publishes daily and monthly export prices of Excelso coffee. See Federación Nacional de Cafeteros. “Estadísticas Cafeteras,” 2023. <https://federaciondecafeteros.org/wp/estadisticas-cafeteras/>.

for archetype 2 stands at 3.21 euros/kg for Fairtrade Arabica coffee. This represents 77% of the FOB price of Fairtrade coffee, as can be seen from the grey part of the pie chart in Figure 6.

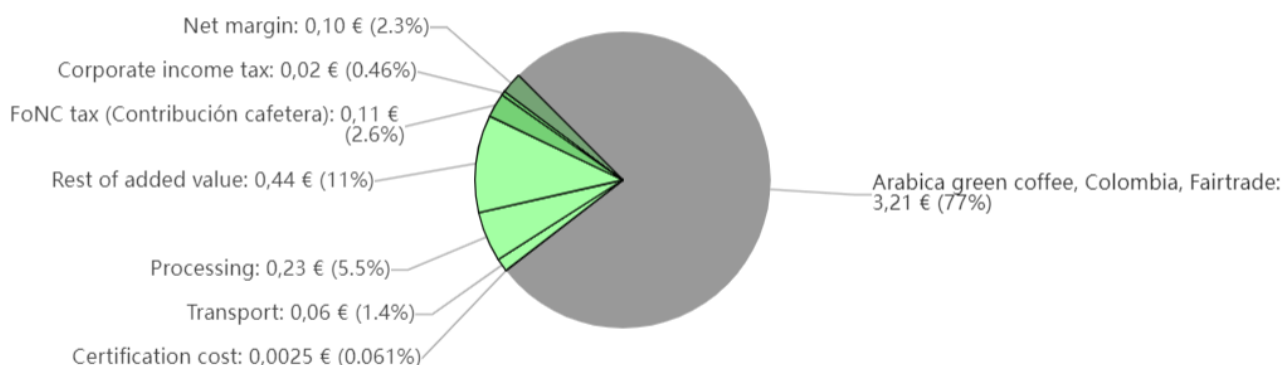


Figure 6. Main costs of production (light green), taxes (green), and net profit margin (dark green) for collectors and exporters of Fairtrade Arabica coffee from Colombia in 2021. Source: BASIC, based on bibliography and interviews (2023)

3.3.2. Results for Rainforest Alliance certified Colombian Arabica

In terms of prices, based on the information collected for this study, Rainforest Alliance coffee is purchased from farmers at 2.85 euros/kg, i.e. 0.12 euros/kg more than conventional coffee. This represents an increase of 4% from the conventional farmgate price.

Figure 7 shows the distribution of value between family farms (in red), and collectors and exporters (in orange) in the Colombian Rainforest Alliance-certified coffee value chain in 2021.

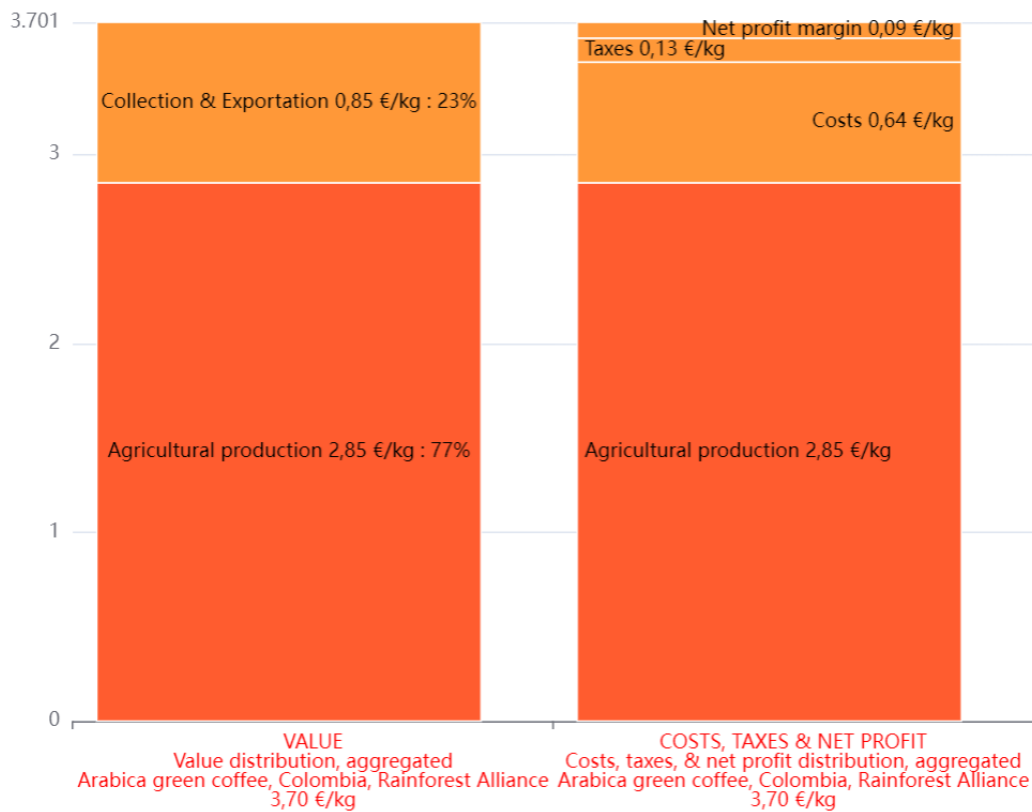


Figure 7. Value distribution (left) and costs, taxes, and net profit margin (right) for exported Colombian Rainforest Alliance certified coffee, for farmers (in red) and collecting agents and exporters (orange). Source: BASIC, based on bibliography and interviews, 2023

At the exporter level, there is a slight increase in costs associated with the Rainforest Alliance certification, which continue to represent 23% of the FOB price. There is a new cost (certification and traceability), as well as an increase in the rest of added value. While corporate income tax remains approximately the same, net profit margin increases by 0.01 euros/kg.

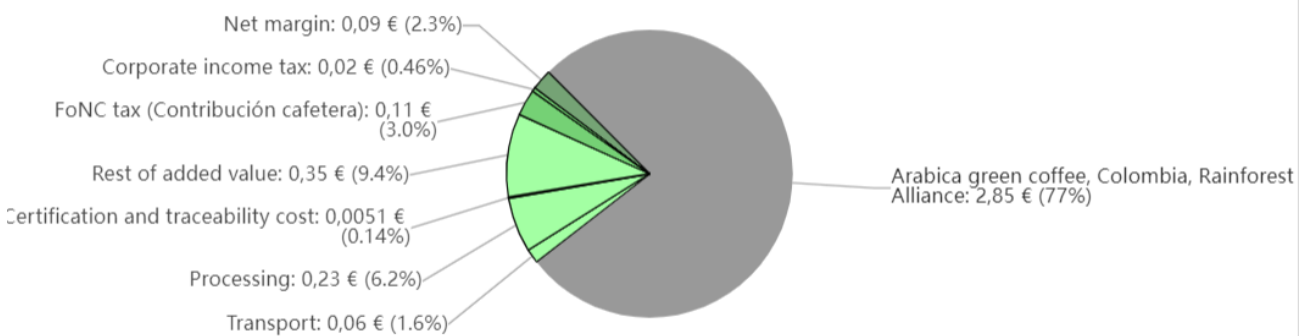


Figure 8. Breakdown of costs for exporters of Rainforest Alliance green Colombian coffee
Source: BASIC, based on bibliography and interviews, 2023

4. Comparison between net income and costs of decent living

For Colombia, we unfortunately have not been able to compare the net actual income generated by the coffee farms included in the model to the costs of decent living of Colombian coffee growers' households. This is because, while estimates of a cost of decent living for rural regions of Colombia are available,⁶⁵ we have not found hard data on the proportion of the income from coffee to reach the living income threshold. Therefore, it is not possible to compare the net income from coffee farming calculated in the model to the share of costs of decent living covered by coffee farming.

⁶⁵ Solidaridad, “Indicadores Del Negocio Cafetero En Colombia,” 2023. https://cafe.agrolearning.org/finanzas/documentos/soluciones/dashboard_costosCafe.html. And Fair Trade. “Fairtrade Living Income Reference Prices for Coffee from Colombia,” 2021. https://files.fairtrade.net/Fairtrade-Living-Income-Reference-Prices-for-Coffee-from-Colombia-2021_EN.pdf.