Comparative study on the distribution of value in European chocolate chains

Executive summary

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The low level of income of most small cocoa farmers, especially in Western Africa, has been a growing issue in the cocoa sector for the past three decades, furthermore, ensuring a living income for small cocoa farmers has become a pressing issue across producing countries.

This has gained even more publicity as both the Ivorian and the Ghanaian public authorities have decided, in consultation with the industry, to set a fixed “living income differential” (LID) of USD 400 per tonne on all cocoa contracts sold by either country for the 2020/21 season; funds raised through this LID will be used to help increase payments to farmers.¹

This has triggered critical questions such as:

- What would be the additional costs along the chain?
- What would be the impact on the profitability of business actors?
- What are possible scenarios to distribute additional costs among actors of the cocoa chains?

To date, there have been no in-depth studies on the distribution of value and costs along cocoa/chocolate chains, which is nonetheless indispensable information to facilitate an informed collective debate on the above-mentioned questions with all stakeholders of the sector and based on objectified data and information.

The ambition of this study is to bridge the knowledge gap, at least partially, by investigating the French market of dark and milk chocolate tablets as well as confectionery bars and breakfast cocoa powder (sold in supermarket stores) that are made of a mix of cocoa, conventional and certified, grown in Côte d’Ivoire, Ghana, Ecuador, and Cameroon (as illustrated in Figure 1).

The main objectives of the study are two-fold:

1. estimate the detailed distribution of value, costs, and profits for different chocolate products from cocoa farmers down to consumers, and investigate the factors that influence this distribution, both upstream in the countries of cocoa production and downstream in the country of consumption (France);

2. compare the part of value accruing to farmers for the different chocolate products and producer countries analysed together with other key mass-consumed food products sold in France.

To fulfil these objectives, **a sound and reliable methodology has been developed:**

- **to model the markets** related to the chocolate products analysed as well as **associated value chains** from cocoa farmers to end consumers;
- **to collect, process and cross-check statistical data** from public and private databases, as well as from publicly available reports, that enable to make a credible estimate of the value, internal costs, taxes, and net margins attached to each of the main stages of the chain:
  - retail (in French supermarket stores);
  - finished goods manufacturing and selling, i.e. national and international brands as well as chocolate manufacturers working for retailers’ private labels;
  - cocoa processing stages in Europe, i.e. cocoa grinders, cocoa pressers as well as industrial chocolate couverture manufacturers;
  - collection, warehousing, and transport of cocoa in producing countries – including potentially local grinding and/or pressing of cocoa – up to the import stage in Europe;
  - cocoa cultivation by farmers, exploring potential differences depending on most common producer set-ups.
Comparative study on the distribution of value in European chocolate chains
The first main result of the research is the asymmetry of the value creation along the cocoa/chocolate chain, as illustrated above in the case of plain dark chocolate tablets.
On average, 70 percent of the total value and 90 percent of the total margins generated from cocoa farmers to end consumers accrue to the two last actors in the chain, brands, and retailers.

Upstream, only 18.6 percent of the total value and less than 7.5 percent of the total margin are generated by actors in cocoa producing countries (from cocoa cultivation up to bean exports).

At the beginning of the chain, cocoa farmers only receive on average 11 percent of the final price, whereas a high percentage of them are living under the poverty threshold (as exemplified by the latest estimates conducted by the World Bank in Côte d’Ivoire and Ghana).

In this context, our research shows that the three main factors linked to “downstream” actors (retailers and brands) have a very significant impact on this distribution of value and costs i.e.:

- the type of brand (national brand vs private label);
- the marketing mix (basic, cooking, gourmet);
- the products’ performance (best-sellers vs other products).

These downstream factors generate important changes on the price to consumers and on the distribution of value and margins between the two last stages of the chain, for example, at the level of retailers as well as (inter)national brands (and to a lesser extent manufacturers of private label).

At the other end of the chain, the value and costs associated with all other upstream stages (from cocoa cultivation to chocolate couverture manufacturing) are much more stable.

In contrast, all upstream factors analysed have quite a limited impact, if any, on the distribution of value and costs from cocoa farmers to end consumers, whether it is:

- the country of origin (even when highlighted on the packaging of the finished good);
- the percentage of cocoa in the final product (for the same marketing mix);
- the country of first processing.

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These results also apply to plain milk chocolate tablets (which results are illustrated in Figure 4) and the other products analysed in the study (confectionery bars and cocoa breakfast powder).

The only major differences are the higher level of Value Added Tax (VAT) applied in France (20 percent instead of 5.5 percent for plain dark chocolate) and higher value of other ingredients (milk being as expensive as cocoa), which create a stronger pressure/squeeze of all stages of the chain, as plain milk chocolate tablets and confectionery bars are sold to French consumers at a slightly lower price per kilo than dark tablets.
These findings can be largely explained by the fact that most of the value creation in the chain is linked to intangible leverages (marketing segmentation, brand reputation...) which are essentially managed by brands and retailers, and largely prevail over the origin/terroir and the specific work of farmers that are rarely valued at the consumer end of the chain.

This is further amplified by:

- the complexity of the cocoa/chocolate chain associated with a high level of industrialization and large economies of scale at the processing stage, which have made it possible to largely democratize the consumption of chocolate thanks to the (relatively) low price level achieved at the consumer level. However, this hampers the capacity of cocoa farmers and producer countries to get recognition and value for their specificities (terroir, flavours...);

- the consumers, because of the marketing and advertisement made by major brands, consider that the percentage of cocoa is what matters most and defines the quality of chocolate tablets sold by retailers (especially in the premium segment) and not the terroir or the work of farmers.

As a result, there is too little incentive for cocoa producing countries to develop large-scale product differentiation strategies.
In this context, based on the official data published by the countries’ public authorities (e.g. barème in Côte d’Ivoire) and the information from customs authorities, our results show that in 2018:

- the lower share of value for cocoa cultivation was achieved in Côte d’Ivoire and Cameroon (with a respective producer price of EUR 1.07/kg and EUR 1.15/kg);
- followed by Ghana which reached a producer price of EUR 1.41/kg; and
- Ecuador for which the cocoa producer price reached EUR 1.63/kg for isolated small-holder farmers selling unsorted cocoa, and EUR 1.86/kg for organized farmers selling sorted “cacao nacional” (fine flavour).
In comparison, the share of value associated with collection, transport, warehousing, and exports is much more similar among the four countries, from EUR 0.48 euros in Ecuador (unsorted cocoa) to EUR 0.63/kg in Côte d’Ivoire.

The main difference is associated with taxes which range from EUR 0.06/kg in Ecuador up to EUR 0.29/kg in Côte d’Ivoire. The case of Ghana must be analysed separately as it is the only country which has maintained a public monopoly on export and trading of cocoa beans through the Cocobod. Therefore, the state derives revenues not only from the taxes levied but also from the margins (i.e. profits) generated by the public Cocoa Marketing Company (as a result, the tax share in Ghana cannot be compared with the other producing countries).

Our research shows that, within producing countries, the main differences in value and costs distribution stem from three principal factors:

- **the type of regulation** and the state’s involvement in the sector;
- **the type of cocoa varieties**, especially the ones **offering finer flavours and/or higher yields**, and the type of associated **agricultural practices**;
- **the evolution of cocoa world prices**.

The case studies of Côte d’Ivoire and Ghana show that stronger regulation systems enable more stable prices for producers country-wide, especially in times of negative price shocks, but are most often associated with a lower share of export value accruing to cocoa farmers.

To create sufficient value at the export level and guarantee a minimum farmgate price for all cocoa farmers in the country, and if possible, increase it over time, these case studies show that a **key leverage point lies in the guarantee of a homogeneous, stable, and predictable quality of cocoa** as well as the reliability of the supply. In addition, the creation and maintenance of a **mitigation fund** seems to be the main available and effective tools to buffer market volatility, in particular potential price falls. As a result, these countries are associated with a **relatively homogeneous base of cocoa producers** whose farm and household features are globally quite similar, and who produce comparable lots of unsorted mixes of cocoa having consistent physical characteristics.

In contrast, the case study of Ecuador illustrates the potential variations of value distribution – from farming to exports – associated with different varieties of cocoa, such as:

- on the one hand, a **standard quality cocoa linked to unsorted varieties**;
- on the other hand, **specific cocoa varieties** which are either linked to **higher quality of aroma** (fine and flavour cocoa) or **higher productivity** (CCN51), and which are both more profitable than standard cocoa quality: sorted fine and flavour varieties are associated with +15 percent farmgate price while industrialized production of CCN51 generates an estimated net margin of +8-10 percent.

These are the results of **differentiation strategies developed by Ecuadorian producers and private actors which have required significant investments and capacity building.**

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3 On average, yields in Côte d’Ivoire, Ghana and Cameroon lie between 350 kg/ha and 450 kg/ha. In Ecuador, according to the Ministry of Agriculture (MAGAP), average yields for cacao nacional reach 350 kg/ha while for CCN51 they reach 650 kg/ha.
In Ecuador, the fact that the cocoa sector is liberalized leaves room for greater potential of differentiation of cocoa production, but is associated with a quite polarized producer base between the farmers who can achieve it and all the others.

On the one hand, small to mid-size (industrialized) plantations and organized small-holder farmers benefiting from private and public support are the ones who produce the high(er) quality and high(er) yield varieties, in the case of smallholder farmers achieving better income and generating net benefits in the case of plantations. On the other hand, non-organized smallholder farmers who produce the majority of exported cocoa volumes remain for a large part below the poverty line. Cameroon, the other liberalized country analysed, also shows signs that such polarization processes are emerging and developing, but to a lesser extent, between certified and non-certified producers.

**Estimated evolution of prices along the cocoa value chain, for 1 kg of plain dark chocolate 2014–2018, France (€/kg)**


![Graph showing the evolution of prices along the cocoa value chain](https://lebasic.com/en/)

The evolution of cocoa world market prices is the third and last factor influencing the value and costs distribution within producing countries.

As the LIFFE-ICE cocoa price increased by more than 20 percent between 2014–2016, then fell by 35 percent in 2017 and 2018, public data show that the cocoa farmgate price has followed similar trends (albeit to some extent in Ghana where the Cocobod used its mitigation fund to buffer part of the price fall).

At the end of the chain, the combined share of value for retailers and brands had increased in 2014–2016, thereby transmitting to consumers the cocoa world price increase; it continued to build up until 2018 despite the fall in cocoa world prices in 2016–2018, achieving a growth of +15 percent compared to 2014.
To improve the situation of cocoa farmers, several certification schemes have been developed since the 1990s with the objective to promote the production and consumption of products produced to higher social and/or environmental standards than the market norm.

The main ones used in the cocoa sector – Rainforest Alliance and UTZ (now merged), fair trade and organic – represented in 2016 a combined area of 2.3 million to 3.8 million ha of cocoa (roughly 30 percent of the world global cocoa area) and 2.1 million tonnes of cocoa (40 percent of world global production).  

FIGURE 7. Distribution of value, for certified premium plain dark chocolate tablets in 2018 (cocoa harvest 2017/18).

In all the cases analysed, the share of value of retailers and national brands are quite the same between conventional and certified tablets, and the share of value accruing to all other actors only varies moderately (for example between 10.2 percent and 11.6 percent for certified dark premium tablets, compared to 8.2 percent for conventional tablets).

Whatever certification was analysed, the overall value distribution from raw material to end consumption has not profoundly changed, apart in certain cases from the association with certification schemes, such as in the case of organic and fair trade.

Significant changes can be observed at the level of cocoa farmers in the case of organic certification especially when combined with fair trade (for example, in the case of dark premium chocolate tablets, farmers reached an estimated EUR 2.7/kg which is 87 percent more than in the case of non-certified tablets).

Beyond the requirements of these certifications, changes in value distribution seem to be strongly linked to:

- greater partnership relationships between actors all along the chain (farmers, cooperatives, processors, brands, retailers);
- greater value creation associated with the growing demand from certain consumers who are ready to pay more for “green and fair” chocolate made from cocoa of identified origins.

Finally, our research shows that the certification systems analysed have mixed results:

- on the one hand, the organic certification, especially in combination with fair trade, is associated with a higher valuation of the work of farmers and of the terroir of cocoa, but only concerns a minority of cocoa farmers who can enter these demanding certification systems;

- on the other hand, the UTZ/Rainforest certification and the fair-trade certification, when they are not combined with organic, appear to serve mainly as “licences to operate” in the eyes of many brands and retailers willing to demonstrate their conformity with social and environmental criteria while ensuring productivity (for UTZ/Rainforest), with difficulties in most cases to translate these commitments into higher prices to consumers when these certifications are not combined with organic.
In 2019, Côte d’Ivoire and Ghana, in consultation with the industry, have decided to bring a more systemic change by establishing a concerted “living income differential” (LID) of USD 400 per tonne for the 2020/21 season, with the objective of improving the livelihood of their cocoa farmers.

In order to investigate the consequences of this decision on the sector in France, we have used the calculation tool we developed on cocoa/chocolate value chains in order to build simulations of the potential price transmission of the LID on the different actors of the cocoa-chocolate value chain (consumers, retailers, brands, manufacturers, processors, traders, transporters...) for the French market of plain dark and milk chocolate tablets.

Our modelling shows that the cost transmission of the LID introduced at origin by Côte d’Ivoire and Ghana could result in a consumer price increase of +1.5 percent for milk chocolate tablets and +2.0 percent for dark chocolate tablets.

These economic issues and their implications would need to be discussed more in-depth through an inclusive process among all stakeholders of the cocoa sector (public authorities, farmers, processors, brands, retailers, consumers, and NGOs), based on informed/objectified data to enable them to understand each other’s perspectives, in particular:

- the significant role played by retailers and the critical importance of chocolate and confectionery products for their economic balance, as one of the few sources of profitability at a time when their business model is more and more questioned;
- the two very distinct business models that exist along the rest of the chain: low(er) volumes/high margins (for certain international brands, smaller national brands but also smaller processors and quality-specialized farmers) and high volume/low margins (transporters, traders, processors, main international brands, and private label manufacturers);
- the need for significant public spending on essential services (roads, education, health...) to ensure sustainable living conditions in cocoa producing regions.
To support this move, three main proposals are made:

1. Expand the current study to include other important cocoa producing countries and consuming markets, and build-up on it to develop a permanent 'observatory' tool on the distribution of value and costs in the cocoa sector hosted by an existing institution to facilitate a multi-stakeholder discussion at the national and global levels, through the sharing of objectified and cross-checked data.

2. Secure and promote the development of tripartite agreements between farmers’ organizations, industry players and retailers that aim at guaranteeing decent prices for producers and protecting the environment.

3. Promote and strengthen farmers’ organizations in the producing countries and help develop their capacity to differentiate cocoa varieties and improve their quality, their access to credit and their capacity to invest (in their business and their communities).
REFERENCES


