

**FROM PRICE TAKERS TO PRICE MAKERS: THE STATUS OF
PRODUCERS OF COMMODITIES ON THE INTERNATIONAL
MARKETS¹ : CASE OF COCAO AND COFFEE**

**DES PRENEURS DE PRIX AUX FAISEURS DE PRIX: LA SITUATION
DES PRODUCTEURS DE PRODUITS SUR LES MARCHÉS
INTERNATIONAUX: LE CAS DU CACAO ET DU CAFÉ**

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¹ This article treats neither the problem related to formation of the prices of cocoa and coffee nor their fluctuation or the problem of the real price or equilibrium price. It focuses on how the producers of raw materials can reverse the existing forces so as to move from price takers to price makers.

Abstract:

The objective of this article is to analyse the status of the producers² on the international markets and propose an alternative. We use an equilibrium model (Cox ,1976) in association to an explanatory model (Servigny & Zelenko, 1999). After the formulation and resolution of two equations, the result shows that variable such as information, the risk premium and the quantity of produce on the market via stock management (speculation) which can give power to the producer to become the price maker. This status leads to the correct compensation of labour a reduction in the deterioration of the terms of exchange as well as an increase in income and turnover. But to reverse the tendency, general conditions in the producer countries and some sort of cartelisation is required(OPECC³). This analysis is similar to that of other studies which show that speculation, the caption of the risk premium and cartelisation are factors that are used to hedge on the market and make the prices of products.

Key words : price taker; price maker; speculation; risk premium; cartelisation

Résumé

L'objectif de cet article est d'analyser le statut du producteur sur le marché international et de proposer une alternative. Nous utilisons un modèle d'équilibre (Cox, 1976) en association avec un modèle explicatif (Servigny & Zelenko, 1999). Après la formation et la résolution de deux équations, le résultat montre cette variable comme l'information, la prime de risque et la quantité de produits sur le marché via la gestion des stocks (spéculation) qui peut donner au producteur le pouvoir de devenir le faiseur de prix. Ce statut conduit à une juste rémunération du travail, à une diminution de la détérioration des termes de l'échange ainsi qu'à une augmentation des revenus et du chiffre d'affaires. Mais pour inverser la tendance, des conditions générales dans les pays producteurs et une sorte de cartellisation sont nécessaires (OPECC). Cette analyse est similaire à celle d'autres études qui montrent que la spéculation, la légende de la prime de risque et la cartellisation sont des facteurs qui sont utilisés pour se couvrir sur le marché et faire les prix des produits.

Mots-clés: preneur de prix ; faiseurs de prix; spéculation ; prime de risque ; cartellisation

² Producers are : the countries, groups of countries, federations, large cooperatives which produce cocoa and/or coffee and sell them on the international market.

³ Organisation of Cocoa and coffee exporting countries.

Introduction

This paper is based on the hypothesis that the sales price of raw materials such as cocoa and coffee are not the result of market forces. That is the interaction between supply and demand, but instead a fight of power in the determination of prices (Mandeng, 2018). In other words the prices of raw materials occupy a strategic place in international trade, the development of countries, geopolitics⁴... (CNUCED, 2019). Thus, the price system is a mode of organisation of economic relations and their regulation and a system of sharing resources and wealthy (Kaldor, 1987). The openness of markets, technological innovations and the multiplicity of actors are phenomenon that have intensified during the 20th century. Together they have contributed to reinforce the complexity and opacity of the organization of the system of exchange of agricultural, industrial and energy raw materials (WTO, 2019).

In order to understand the dynamics of international trade one needs to understand the changes that take place in the mechanisms of price determination (Bessis, 2018). The Walrasian and the classic-marxist models have the merit of highlighting two elementary principles of price analysis in production (Ricardo) and in exchange (Walras) (Melmies, 2005). The trade of raw materials has some specificity: they are often extracted in regions or countries which do not consume nor transform them and their prices are determined in the regions or countries where they are consumed or transformed. This ambiguity in the trade of products requires another analysis or at least another perception of the reality in the determination of the prices of these raw materials (OCDE, 2019).

This situation highlights two pressure groups with unequal strength: the consumers/transformers who are the price makers to the detriment of producers who have consequently become price takers of their own produce. The 2019 decision of two major producers of 'brown gold' Ivory Coast and Ghana whose production represents more than 2/3 of world production to confront the markets by suspending the sales of their products for 2020 and 2021 so as to obtain a floor price of 2600 dollars per ton confirms this power game (Mairout, 2020).

Given the contingent international environment characterised by the rules of the WTO, the unequal negotiation power between the producers and the consumers of raw materials raises

⁴ The commodities market is usually considered as less transparent and speculative. This idea even incited President Sarkozy to add their regulation to the agenda of G20 presided by France in 2011. The impact of speculation remains an issue of fierce debates. It is especially important to recall that most of the exchange is done over the counter between the producers and negotiators then negotiators and consumers. Only the excess supply or unsatisfied demand would be found on the financial market. (the forward commodities market).

the question of **how producers of cocoa and coffee can become price makers? In other words, under what conditions can the producers become price makers?**

Based on analyses and economic theories on price determination it is established that it is the producer or the manufacturer who determines the price of his product under constraints (White, 2002). (Dallery and al., 2009), consider the price as an economic object and demonstrate that it can either be given that is the neoclassic conception that the price is determined by the interaction between the forces of demand and supply. This implies that an individual agent on the market has no influence on the price. He is therefore the price taker. Or on the contrary it can be determined. This is the heterodox conception that the price is determined by the decision of the entrepreneur under constraints but leaves some autonomy. He is therefore the price maker.

Thus, in the absence of regulation the producers have to determine the price before carrying out the transaction. In this conception the price is determined prior to the transaction (Lee, 1998). Whereas in the heterodox conception it is the transaction that determines the equilibrium price (Tirou, 2008).

Studies carried out on the same question on industrial products (Boyer & Freyssenet, 2000), services (Dallery and al., 2009) and on some mineral commodities such as petrol. Gibert (2010), Rodriguez and Pena (2011) put into evidence a certain number of factors, leverages and conditions such as : diversification of markets and products, innovation of products , the quality of products, cartelisation, increase in the price competitiveness of products, the reinforcement of barriers to entry, additional investments. Competition ...

Despite the fact that these factors or leverages are pertinent for a large number of goods and services in national and international trade, products of rent such as cocoa and coffee seem not to be beneficial because of a number of issues: the inelasticity of price with respect to demand, the quantity produced and the quantity is determined by the types of inputs and the climatic conditions, the markets of these products are controlled by the same countries which are suppliers of agricultural inputs and price makers, the poor organization of international trade of these products, the lack of understanding among producers, a weak negotiation power of the producers, the presence of several intermediaries ... (Mandeng, 2013).

The objective of this article is to find the adequate conditions and strategies enabling the producers of cocoa and coffee to become price makers on the international market.

The hypothesis that seems to be pertinent is the acquisition of speculative or negotiation power via cartelization of products will enable to benefit from the risk premium.

In the rest of the study, we present the literature review (1), the methodology (2), the results and their managerial implications (3).

1. THE REVIEW OF LITERATURE

« We produce what we do not consume and we consume what we do not produce ». This phrase which is the focal point of the discussion of decision makers of developing countries (PVD), poor and dependent on about 80% of export income of raw materials; summarises the situation in which they find themselves. The producers are disfavoured because on one hand they are price takers on their own produce and the other hand price takers on manufactured products. The consequences are: deterioration of the terms of exchange, increase in poverty, stagnant development ... But how did we come to this? In order to identify the roots of the problem we will first expose the economic principles underlying the transactions and their distortions and secondly the empiric results.

1.1. THE BASIC ECONOMIC LAWS OF THE TRANSACTIONS AND THEIR DISTORTIONS

The international trade of products is governed by economic laws (supply and demand) that gives the actors the power on the determination of price. But competition between the agents creates distortions and enables one to become price maker and the other price takers. This is the case with products of rent such as cocoa and coffee.

1.1.1. THE ECONOMIC LAWS AT THE BASIS OF TRANSACTIONS AND THE DETERMINATION OF PRICES

Two conceptions guide the determination of prices⁵ of goods and services: that of price taker and price maker. These concepts result logically to two definitions of the market. On one hand the market constitutes a transformation mechanism between supply and demand whose result is the market price. On the other hand, the market constitutes not a mechanism but an « institutionalised process » according to Polanyi (1957) leading to circulation of money and products in the society. This last conception summarises the idea that « the producers / entrepreneurs observe one another » and market is tripartite: suppliers- producers-consumers. This confers to the interface two types of possible orientations, either an upstream orientation towards suppliers; or a downstream orientation towards consumers (Dallery and al., 2009).

⁵ In this article the group of words : price determination , make the price, give the price... are synonyms.

From these two concepts also emanates two definitions of the role of the entrepreneur/producer. In the first case and following the given market conditions (competition, price level ...), the entrepreneur maximizes his individual profit by optimizing his costs according a scope of possibilities that he knows and associates probabilities of occurrence to them. In the second case, in a structure of changing competition and conditioned price, the entrepreneur has to put in place strategies so as to meet up with his forecasted sales while mastering risk (Mandeng, 2018). But these conceptions of price determination encounter a lot of distortions.

1.1.2. THE DISTORSIONS OF LAWS OR STRTEGIES OF PRICE DETERMINATION

In other identify the strategies of price determination on the market, we represent the theory of « productive models » proposed by Boyer and Freyssen in 2000, to analyse the automobile industry by adapting it to the case of producers of commodities such as cocoa and coffee. Thus, in the same market these authors show that the profit strategies of enterprises can be numerous. These strategies that are said to be profit strategies are derived from what the authors call source of profit related to the production of goods and services. These sources are what the entrepreneur-producers exploit when need arises by combining them. This involves amongst others: the diversification of markets and products, innovation of products, their quality, the cartelization of products, increase in price competition of products, reinforcement of entry barriers, additional investments, etc. As for mineral raw materials the studies of (Turner et al., 2011) reveal that the factors of price determination are amongst others the cartelization of producers, new investments ... Consequently if the markets are supposed to harmoniously confront consumers and producers, they are presently sources of a lot of misunderstanding. On the market of cocoa and coffee for example have observed on one hand the co-existence between forward and spot contracts which favour the strategies of capitulation of rents by the actors: intermediaries, negotiator, consumers, financial analysts, industrialists , nationalists and foreigners ...(Mandeng, 2016). This situation butts the producers of developing countries in situation of receivers of residual price consequently price takers.

1.1.3. FROM PRICE TAKER TO PRICE MAKER : WHAT EMPIRICAL RESULTS

The studies on the search of factors or conditions of price determination (make the price) can be seen in the domain of industrial goods and services. But also in the trade of raw materials especially minerals. The results of the different studies are similar. That is the same conditions or factors are found in different products except cash products such as cocoa and

coffee. Either, because of scarcity of studies or by the specific characteristics of the markets. We then present on one hand the conditions or the general factors of determination of prices of products and on the other hand the results of some empiric studies.

1.2. CASE OF SERVICES AND MANUFACTURED GOODS

(Dallery et al., 2009), use structural economic sociology and post Keynesian economics and based on an empirical survey of 300 restaurants in Illinois using the cost-plus method demonstrates that the question of price determination requires that the market should be considered not as a mechanism of interaction between demand and supply but as an Institutionalised process » governed by different social relations between the producers, consumers, workers and suppliers. They conclude that the economic performance of firms is in opposition to the neoclassic results on the effects of price competition. They establish a hierarchy of factors which enable the entrepreneur to make the price; that is to have a market power. These are: the quality of products, 19%; the volume of production, 16%; innovative speculation, 13%; etc.

1.3. CASE OF RAW MATERIALS

According to Gorton and Rouwenhorst (2006), the main factor of the determination of the prices of raw materials is the relation between producers and consumers in terms of supply and demand or in terms of market power. According to Roch (2012), the factors of price determination are: the intervention of speculators, the adoption of forward contracts and high demand. Sabora and Tudeda (2009) as well as Babusiaux and Pierru (2010), studied the determinants or factors which influence the price of crude oil and conclude that the variations of production and the emergence of producers who are not members of the Organisation of Petroleum producing countries (OPEC) are at the origin of the price of petrol.

The case of cash crops such as cocoa and coffee is less explicit in literature thus reinforcing the suspicions of a dubious market where producers can not experience the dictatorship of consumers (White, 1992). The methodology below will enable us to look for the necessary conditions to make the producer of cocoa and coffee price maker on the international market.

2. METHODOLOGY

In order to propose a strategy (that is translated in the form of conditions) that enables producers to become price makers of their products the agents, variables as well as the constraints which interact on the market of cocoa and coffee have to be identified; then an equilibrium model is found.

2.1. IDENTIFICATION OF ACTORS, VARIABLES AND CONSTRIANTS

The modeling of the producers of raw materials on the international market that imposes a sales/purchase price that fluctuates (risky) and enables us to identify on one hand those who intervene namely:

- The producer of raw material;
- The consumer / transformer ;
- The intermediary who is the buyer exporter ;

And on the other hand some variables and constraints such as :

- The systemic indicator (the risk premium) ;
- The quantities produced;
- The different periods (t_0 and t_1) ;
- A possibility of speculation by the producer;
- The volatility of the prices of raw materials;
- The spot and future price of the commodities.

We consider the producer as operating in a discrete time universe. The instances are noted $t=0,1,2,3 \dots n$. The observation of the competitive situation of international trade of raw material and present exploitation conditions makes producers price takers. The model is based on the assertion that the producer is a price taker and the argument that dominates the decision is definitely competition between the producers and the international market. They are obliged to respect the conditions and the established prices in reference to the international market. The international organization of raw materials confirms this choice (WTO, 2019).

2.2. THE FORMULATION OF THE MODEL

We are going to begin with the following:

We know that price (y) is a function of:

- t = the spot price;
- l = forward price ;
- μ_i = risk premium ;
- x_1 = information;
- x_2 = date;
- x_3 = supply ;
- xy = stock;
- P_i = production ;
- β = coefficient of capitalisation;
- ε = error.

They are determined on the market which is exogenous to the producer.

First the equilibrium situation is determined (Cox, 1976) without information where:

$$- \text{Demand} = C_t = \beta_0 - \beta_1 P_t + \mu_i \quad (1)$$

$$- \text{Supply} = S_t = S_0 + S_1 P_t^a + \varepsilon_1 \quad (2)$$

$$- \text{Stock} = ST_t = ST_0 + T_1 (P_t^a - P_t) + \mu_t \quad (3)$$

$$\text{At equilibrium, we have: } P_t = C_t + ST_{t-1} \quad (4)$$

Secondly, the situation of disequilibrium has to be found. Thus, two exogenous variables change this equilibrium. They are information (Cox, 1976) and the risk premium (Servigny & Zelenko, 1999).

From the above the price of the producer is a function of:

- Net hazards on the date and supply;
- The determinants of stocks ;
- information ;
- And the risk premium resulting from volatility.

From these constraints, the future price (P_t^a) can be made or determined by the producer if and only if:

- baisse de stock à travers diminution (x_1)
- augmentation de l'information au niveau du producteur (pouvoir de negociation) (X_2)
- augmentation de la demande mondiale (X_3)

- Fall in stock ((x_1))
- Increase in information at the level of the producer (negotiation power) ((x_2))
- Increase in world demand ((x_3))

$$F(x) = f(x_1 + x_2 + x_3) \text{ with } x_1 = x_2 = x_3$$

Thus, the producer who is averse to risk maximises a criteria for each quadratic utility function of the form :

$$U(W) = E(W) - K/2 \sigma^2 (W) \quad (5)$$

W is the capitalised gain, K is a coefficient measuring the aversion for risk.

$$E(W) = (l_0 P_0 + l_1 P_1 + t_1 T_1) + \beta E(l_1 P_1 + l_2 P_2 - t_2 P_2) + \beta^2 E(l_2 P_2 + l_3 P_3 - t_3 P_3) + \dots \quad (6)$$

β is a capitalisation coefficient .

$$\text{The first order conditions: } \left(\frac{\partial}{\partial P_1} = 0 \quad \text{et} \quad \frac{\partial}{\partial T_i} = 0 \right) \quad (7)$$

Give the values of the quantities of commodities sold by the producer.

$$T_2 = \mu_1 / K \sigma_1^2 \beta^2 \quad (8)$$

$$T_3 = \beta \mu_2 - \mu_1 / K \sigma_1^2 \beta^4 \quad (9)$$

$$\mu_1 = l_1 (1 + \beta) - t_1 - \beta t_2 \quad (10)$$

$$\mu_2 = l_2 (1 + \beta) - t_2 - \beta t_3 \quad (11)$$

1. μ_1 and μ_2 are the risk premiums at periods 1 (spot) and 2 (forward) and finally:

$$P_1 = (C_t / 1 + \beta^2) + ((I_1 - t_1) + \beta (I_1 - I_2) + \beta^2 (I_3 - I_2)) / K \beta^2 (1 + \beta^2) (1 + \beta)^2 \sigma^2 + (\mu_1 / K \beta^2 \sigma^2) \quad (12)$$

The resolution of equation (12) gives P_1 , the volume of production at time $t = 1$ as a function of the variables of price.

3. RESULTS AND MANAGERIAL IMPLICATIONS

This section the equilibrium point is determined by the resolution and analysis of equations (4) and (12) below as well as the managerial implications on the other hand.

3.1. RESOLUTION AND ANALYSIS OF THE EQUATIONS

The resolution and analysis of equations are presented in two phases: the search of an equilibrium point and analysis of conditions confers a status of price maker to the producer.

3.1.1. The search of the equilibrium price

By solving equation (4) below, we obtain the following results:

$$(\beta_0 - \beta_1 P_t + \mu_t) + (S_t + \mu_1 (P_t^a - P_t) + \mu_t) = S_0 + S_1 P_t^a + \varepsilon_t + (S T_0 + \psi_1 (P_{t-1}^a - P_{t-1} + \mu_t)) \quad (13)$$

By bring similar terms together we have:

$$(\beta_0 - \beta_1 P_t + \mu_t - S_0 - S_1 P_t^a - \varepsilon_t) + S T_0 + \psi_1 (P_t^a - P_{t-1}^a) - \psi_1 (P_t - P_{t-1}) + \mu_t - \mu_t = 0 \quad (14)$$

$$(\beta_0 - \beta_1 P_t) + (\mu_t - \varepsilon_t) - S_0 - S_1 P_t^a + \psi_1 (P_t^a - P_{t-1}^a) - \psi_1 (P_t - P_{t-1}) = 0 \quad (15)$$

$$(\beta_0 + \mu_t - \varepsilon_t - S_0 - S_1 P_t^a) = \beta_1 P_t + \psi_1 (\Delta P_t^a - \Delta P_t) \quad (16)$$

$$P_t = \frac{1}{\beta_1} [\beta_0 + \mu_t - \varepsilon_t] - S_0 - S_1 P_t^a + \psi_1 (\Delta P_t^a - \Delta P_t) \quad (17)$$

Thus, at equilibrium the price of the producer is a function of:

- The net hazards on demand and supply
- The evolution of stocks.

Thus, the price increases as the stocks fall and the differential between the variables of forecasted and observed prices. The more the forecasted future price is further from the previous observed price, the advantage of the producer can increase their sales price.

3.1.2. The analysis of the conditions confers a status of price maker to the producers

The resolution of equation (12) gives P_1 , the volume of production at $t = 1$ as a function of the variables of price. In order to do this we have to integrate the risk premium in the analysis as well as the level of information.

❖ *The volume of production conditioned by the risk premium: the speculative power*

The volume of production chosen by the producers of raw materials is presented as the sum of three terms which correspond to three types of behaviours. It is then possible to write the

expression of (12) by using only the risk premium. The first two terms are based on the activity of the producer, the third is that of the consumer/transformer. Their interpretation is as follows:

- For the consumer / transformer ;

$$(\mu_1 / K \beta^2 \sigma^2) \quad (18)$$

This fraction corresponds according to the will of the buyer to a quantity of raw material without distortion of the law of supply and demand. That is without wanting to stock ... but this choice has to be a function of the positive risk premium. Thus, for a transformer the risk premium measures the forecasted gains on a transformation/consumption operation

- For the producer production responds to two logics namely :

$$(C_t / 1 + \beta^2) \quad (19)$$

This ratio is a term describing a simple investment activity from period to period of about half of his gains. Thus the producer « diversify » his risk depending on the period⁶.

$$((1 - t_1) + \beta (l_1 - l_2) + \beta^2 (l_3 - l_2)) / K \beta^2 (1 + \beta^2) (1 + \beta)^2 \sigma^2 \quad (20)$$

This expression corresponds to a speculative activity of the producer. This speculation is constructed on future price levels and anticipation on its change. Logically a tendency to speculate with all what is considered as risky is slowed when the volatility of the underlying asset increases. Thus, as a function of the risk premium this expression becomes:

$$\mu_1 - \beta \mu_2 - \beta^2 \mu_3. \quad (21)$$

This sum first indicates that production is sensitive to the risk premium. But especially it considers its forecasted values. It describes a very classic speculative behavior. If the producer estimates that the relative level of forward prices measured in an exact manner by the risk premium for an agent who forecasts rationally: it will continue to increase in the next period ($\mu_1 < \beta \mu_2$). Then, he diversifies his investments over time so as to benefit from fully from the opportunities of the next period.

In the expression developed, the sum $\beta (l_1 - l_2) + \beta^2 (l_3 - l_2)$ shows that the producer considers these forecasts of forward prices. Concretely, if its forecast indicates that l_2 is higher than l_1 and $l_3 > l_2$ (increase in forward prices), so the producer will retain his production of raw materials at $t = 1$ or lets say will differ from his investment. On the contrary if it is an increase

⁶ The use of time as an instrument of repartition and a mutualisation of risk was put into evidence in comparative analysis between the German financial sector that adopts this choice and those of the United States and the United Kingdom which prefers an instant treatment and repartition of risk (Allen et gales, 1993)

in the forecasted spot price , $I_1 > I_2 > I_3$, the production of raw materials is accelerated to overcome the high prices. This is a very classic speculative behaviour.

The expression $\mu_1 - \beta\mu_2 + \beta^2\mu_3$ indicates that the producer as an investor can choose to moderate its forward sales in the first period if he forecast that their remuneration relative to the next period (measured by the risk premium) will be better.

These speculative terms induce acceleration movements or slow down of production activity of raw material thus diverting its rhythm from that of the person putting him in the position of price taker..

$$(\mu_1 - \beta\mu_2 - \beta^2\mu_3) / K \beta^2 (1 + \beta)^2 (1 + \beta)^2 \sigma_1^2 \quad (22)$$

Expression (22) translates the speculative behaviour of the producer has accelerated or slowed down his production according to its depreciation and its forecasting of the level of forward price. The risk premium is based on a forecast, this expression can then be analysed as a forecast of the forecast or forecast squared or a second order speculation.

❖ *The power of negotiation and information*⁷

The prices of commodities are volatiles. This volatility is a function of variables whose mastery gives agents forecasting power. Thus, two ratios differentiate the consumer/transformer of raw material from the producer:

- The ratio of risk premium to the volatility of spot prices for consumer/transformer is

$$\mu_1 / \sigma^2 \quad (23)$$

- The ratio of the forecasted variations of the risk premium to the volatility of forward prices of the producer is :

$$(\mu_1 - \beta\mu_2 - \beta^2\mu_3) / \sigma_1^2 \quad (24)$$

The Producer being a price taker in the present conditions of the market of commodities its behavior is analysed as a reaction to values and the fluctuation of prices of products which are determined exogenously. Two variables enable to reverse the tendency, that is render the producer the price maker based on quantities produced. They are the ratio of risk premium on volatility of spot prices and the ratio of forecasted variation in the risk premium to the volatility of the forward prices.

⁷ The risk premium measures the forecasted gains of a simple commercial operation that consist of forward sales or buying of a commodity.

Thus, the forecasting of these two variables makes the producer to play on the quantity to be produced and to speculate if necessary. The problem then becomes a game between diametrically opposed agents: the market is made up of consumers/transformers and producers. Thus the game matrix for a period is.

Table 1: The gains and losses between consumers and producers

Producer consumer	Price taker	Price maker
Price taker	1-1	1-0
Price maker	2-x	1-2

Source : author

Comments: the table above presents the relation between the consumer and the producer of cash crops such as cocoa and coffee. Thus:

- When the two parties have equal power, that is they are price takers on these products, the gains of one are equal to that of the other thus the notation (1-1) ;
- When the consumers/transformer has a weak market power thus is the price taker and the producer the price maker; the gain is 1 for the market and 0 for the producer. Thus the notation (1-0). This results to a net loss of the producer. Since at this level commodities such as cocoa and coffee are considered as luxury products whereas until recently they were considered as current consumer products;
- When the price is determined by the consumer/transformer and the producer is price taker the gains of the consumer is almost double and that of the producer is unknown a at least residual (2-x). This is the present situation of the trade of cash crops where the producer receives a residual price that is usually unknown. This price is a function of the charges and the existing intermediaries between the international market and the place of production of commodities(le bord champs) Mandeng (2016) ;
- When the two parties have the same power to determine the price, that is they are price makers the gain of the producer is double that of the consumer (1-2). The consumer will remain with the gains of the market but will not be able to grape the surplus of the gain from the risk premium because he is not the holder of stock. The risk premium will return to the producers.

This matrix of gain and loss shows the different situations that the international trade of raw materials present. Two factors or variables orientate this gain or loss: -the risk premium and –

the negotiation power that is obtained via the power of speculation. Thus, the existence of a risk premium that is a source of gain is orientated on the side of those who have a speculative power (power of negotiation).

3.2. MANAGERIAL IMPLICATIONS AND VIABILISATION CONDITIONS

It should be noted that of the 100 billion that the international market of chocolate represents only 6 billion goes to the farmers. A situation that is considered to be “unreasonable”. Meanwhile a good price for cocoa will be of good help to support investments of the government in rural infrastructure and improve the livelihood of the population... (CNUCED, 2019). According to the international cocoa organization (ICCO, 2020), there is a consensus that the prices of cocoa are structurally very low. Since 30 years the constant price in dollars has been divided by four. But if the price of 2,600 dollars is not unrealistic an increase in price on the world market would not necessarily go into the pockets of the producers who live in extreme poverty. It is at this level that the real problem of determination of the price of raw materials is raised and that of cocoa and coffee in particular. The determination of price by the producer has managerial implications and requires some conditions of his viabilisation.

3.2.1. The managerial implication

The determination of prices by the producers of cocoa and coffee enables to remunerate labour fairly, reduce the level of deterioration of terms of exchange as well as an increase in income and turnover from exports.

❖ The fair remuneration of the labour of producers

Generally in the system of commercialisation of cocoa and coffee, the producers receive the residual price. This price does not take cost and benefits into account since it is based on the subtraction of different charges from the prices determined by the international market. The fact that the producers determine the price of their products themselves reverses the system of price determination. That is the producers sum up the costs and benefits before announcing their sales price. Thus, the prices of cocoa and coffee become the prices to be determined and not the residual prices. This remunerates the labour of the producers well.

❖ The reduction in the deterioration of the terms of exchange

The deterioration of the terms of exchange finds its origin in the famous international division of labour (IDL). But, is aggravated because the producers of cocoa and coffee are price takers since international trade is characterised by the sales of products at prices fixed by the

different agents. The fact that the producers of cocoa and coffee become the price makers of their products re-equilibrates the terms of exchange. In fact, even though these products are sold in their crude state (because of lack of transformation industry), the fixing of prices by the producers has to integrate the purchase price of the manufactured product. In other words, the producers will make the price of their product only if they estimate that the price level enables them to acquire manufactured goods (everything being equal).

❖ Increase in income and turnover of exports

The intervention of the Ivorian president A. D. Ouattara on the Ivorian radio television on the sixth of August 2019 at the eve of the celebration of the independence of his country: *« we are not going to sell the harvest of 2020-2021 at less than 2600 dollar per ton. And we would have a margin of 00 dollars to make sure that producers receive a minimum amount. He insists: « as from the first of October 2019 the price of cocoa and coffee paid to producers will increase »*. The objective is to come back to the price of 1000FCFA in 2015 (1.52Eur) per kilogram as against 750FCFA per kilogram in 2019. This objective is shared by Ghana which intends to increase the price in October to 1.40Eur per kg as against 1.26Eur. The first increase in 3 years in the country.

In a nutshell the determination of the price by the producers of cocoa and coffee has significant managerial implications such as: the fair remuneration of the labour of producers by reversing the order of price determination, reduction in the deterioration of the terms of exchange, increase in income and turnover from exports. Anything that will contribute to a reduction of poverty and contribute to the real economic development of the countries concerned. But for the viability of these implications some conditions must be considered.

3.2.2. The conditions of viability

The international flow of the trade of cocoa and coffee is made up of several intermediaries who grape the value owed producers such that at the end they receive only the residual price. The strategy of capturing this gain is well put in place by the consumer/transformer for decades to the detriment of producers. At the beginning they organised spot trade of commodities that will benefit the two parties. Then forward sales via forward contracts (source of the risk premium) and constructed large warehouses to stock products which gave them negotiation power that is the speculative power. On the other hand the producers remained in the spot trade of their products without storage infrastructure. The consequence is

that all the gain goes to the consumers/transformers and the producers receive only a residual price (2-x): the situation of price taker and maker. In order to reverse the tendency there should be general conditions in producer countries and some cartelization of producers⁸.

❖ *General Conditions*

The situation of producing countries in the international market is structural. To reverse the tendency a certain number of conditions have to be respected:

- The construction of storage warehouses in countries where cocoa and coffee are produced ;
- The organisation of spot and forward markets in these countries (commodities market) ;
- The reinforcement of the financial sector;
- The improvement of the legal system by putting in place a regulatory framework adapted to the trade of cash crops ;
- Invest in infrastructure and training
- Etc.

All the above will give them speculative power (strength of negotiation) leading to the gripping the existing rent (risk premium) in the international trade of raw materials. But what are these conditions worth in a powerful group?

❖ *OPECC for cocoa and coffee*

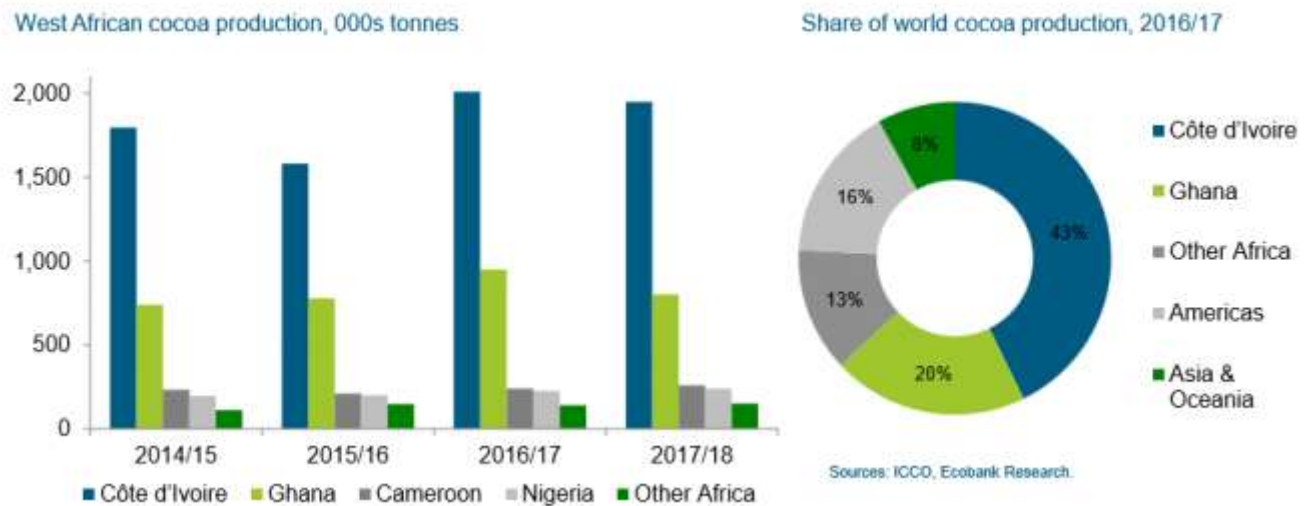
Since 1932 a Brazilian cooperative created by 24 members has become the first exporter of cocoa in the world today. With 300,000 tons it has bank. It is a model of producer cooperatives. It has 1500 permanent employees and about 1000 seasonal employee during periods of campaigns, it had a turnover of more than one billion dollars in 2012 for a profit of 17 million dollars (ICO, 2018).

From this example and to face the inequality of market power the creation of OPECC for cocoa and coffee by the major producer countries is more than ever necessary today. This possibility which is the fruit of the will of governments directly concerned is the declaration of the recent conference of the international cocoa organization (ICCO) and a recent report of the World Bank encourages the association of the public regulators of Ivory coast and Ghana. This is a means of equilibrating supply and negotiation power between the consumer and the

⁸ The first contracts of cocoa by including a premium of \$400 per ton, called differential of vital income (DRV), were signed for the 2020/21 campagne as indicated by industrial and governmental sources via Reuters.

producer (World Bank, 2018). The first four African producers: Ivory Coast, Ghana, Cameroon and Nigeria make up more than 60% of world production. Coffee also has the same configuration as shown in figure 1 and 2 below.

FIGURE 1: The major producers of cocoa in the world

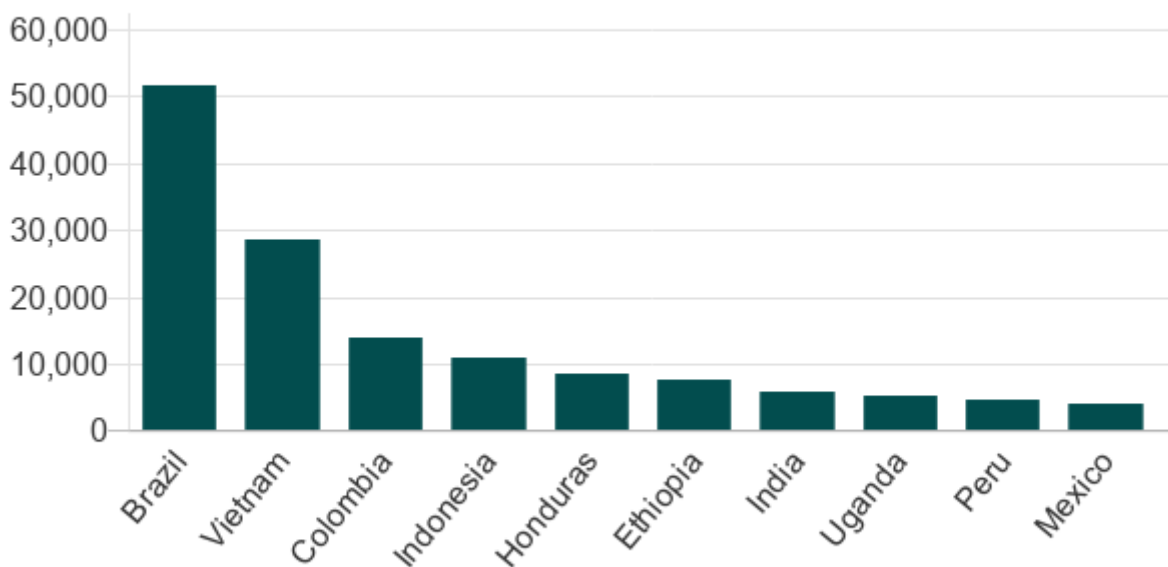


Source: ICCO.Ecobank Research

FIGURE 2: The major producers of coffee in the world

Top 10 coffee producers

By thousand 60kg bags, crop year 2017-18



Source: International Coffee Organization



CONCLUSION

Based on the different laws and strategies enabling producers of goods and services to have market power and consequently make or take the price of his product, the analysis of the situation of producers of the raw materials on the international market seems to move away from the reality.

The objective of this article is to analyse the status of the producer on the international market and propose an alternative. In order to do this we used an equilibrium model (Cox, 1976) associated to the explanatory model (Servigny & Zelenko, 1999). After formulation and resolution of the two equations the results show that variables such as information, risk premium and quantity of products supplied on the market via stock management (speculation) can give power to the producer so that they become price makers. This status has significant managerial implications such as : the fair remuneration of the labour of producers through the reversal of the mechanism of price determination , reduction in the deterioration of terms of exchange, increase in revenue and turnover from exports... anything that contributes to the reduction of poverty and stimulates real economic development of countries concerned. But for the viability of these implications (reversal of tendency) a certain number of conditions are envisaged. These are general conditions in the producing countries and a cartelization (OPECC). This analysis is similar to that of other studies which show that speculation; the earning of the risk premium and cartelization are factors that enable to anticipate on the market and the price of products.

Our analysis could not quantify the speculative power as well as the amount of the risk premium neither does it propose the conditions of a cartelization of cocoa and coffee in the countries concerned. Future studies will focus on filling this gap.

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