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The political economy of pricing and price risk in Ghana's cocoa marketing system

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Sophie van Huellen
Fuad Mohammed Abubakar
Nana Amma Asante-Poku
Robert Fig

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Sophie van Huellen[1]
Fuad Mohammed Abubakar[2]
Nana Amma Asante-Poku[3]
Robert Fig[4]

[1] Global Development Institute (GDI), The University of Manchester, UK
[2] Ghana Cocoa Marketing Company (U.K.) Limited, UK
[3] Institute of Statistical, Social and Economic Research (ISSER), University of Ghana, Ghana
[4] SOAS University of London, UK

Corresponding author: Sophie van Huellen

sophie.vanhuellen@manchester.ac.uk

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Abstract

The price of cocoa beans is highly volatile and largely determined at the international commodity exchanges in London and New York. The Ghanaian economy relies heavily on the export of cocoa beans to generate foreign reserves, and many Ghanaian citizens rely directly or indirectly on cocoa beans for income generation. Highly volatile cocoa prices translate into volatile revenues, income and exchange rates, which pose challenges for the Ghanaian government to manage its internal and external balances. Drawing on John R Commons's institutional economics, we propose an institutional theory of price to understand the pricing mechanisms along the cocoa chain. Using interviews with cocoa stakeholders in and outside Ghana in 2024 and a map of the pricing points along the cocoa chain, we then provide a political economy analysis of cocoa pricing and the distribution of price risks. We argue that Ghana's price risk is currently managed by its counterparties to its disadvantage, with large multinational

companies reaping the benefits from the current institutional arrangement. We provide tentative policy suggestions that would enable Ghana to gain greater flexibility in and control over managing its cocoa price-risk exposure.

Keywords

Cocoa, Ghana, commodity dependency, price volatility, risk management

JEL Codes: Q02, Q11, F31, F54, F63

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Acronyms

AFCC	Association Française du Commerce des Cacaos
BoG	Bank of Ghana
CAL	Cocoa Association London
CIF	Cost, insurance, and freight
CMAA	Cocoa Merchants' Association of America

CMC	Cocoa Marketing Company
FCC	Federation of Cocoa Commerce
FOB	Free on board
LBAs	Licensed Buying Agent
LBCs	Licenced Buying Company
LID	Living Income Differential
GHIB	Ghana International Bank
GVC	Global value chain
IMF	International Monetary Fund
PPRC	Producer Price Review Committee
UCA	United African Company

1 Introduction

Despite the central role of the price level and price volatility in the determination of value creation, extraction and distribution along commodity chains, the analysis of price is largely absent from the global value chain (GVC) literature. This absence is particularly puzzling as the GVC literature is a descendant of World Systems Theory, which puts declining terms of trade and unequal exchange with unfair prices at the centre of its analysis. Some recent contributions have started addressing this gap for the value chains of cash crops such as coffee, cotton and cocoa, for example van Huellen (2015), Bargawi and Newman (2017), and Staritz et al (2018, 2022).

Building on this emerging literature, this paper traces the absence of price in the GVC framework to its adoption of new institutional economics as its theoretical foundation and the role of transaction cost economics within this framework. Drawing on economic sociology and (old) institutional economics instead, we propose a simple analytical framework to understand pricing along commodity chains. Within this framework, pricing is understood as an institutionally embedded and politically contested process temporally and geographically

dislocated from the exchange process of goods and services. This dislocation is reflected in the notion of transaction, introduced by Commons (1990) and adopted by our framework. Prices are conceptualised as the outcome of such pricing processes.

Within this framework, we distinguish between price negotiation, price formation, price administration and price derivation as institutionally distinct pricing processes. These are characterised by asymmetric legal, economic and social power relationships. The institutional structures that shape them are upheld either through a claim of legitimacy, through force enabled by power asymmetries, or both. For many commodity chains, price formation takes place in commodity derivative markets, despite these being markets for contracts and not for the physical commodity.[1] Commodity derivative markets are separate, both geographically and institutionally in the sense that they do not directly appear in any of the transactions central to the commodity chains of cash crops. Most prices within the chain are hence derived prices; they are formed outside of the specific transaction.

We use our analytical framework as a starting point. First, we map pricing points along the cocoa chain as the foundation of our analysis. Second, we conduct a political economy analysis of the institutional setup through which prices are determined and price risks are distributed within the Ghanaian cocoa sector. This allows us to identify those who achieve higher value capture, those who carry the burden of price volatility and those who benefit from it. Specifically, the study traces pricing and price-risk exposure for the Ghanaian cocoa sector and its stakeholders, drawing on interviews in and outside Ghana in 2024 and on the authors' extensive and intimate knowledge of the cocoa sector.

We demonstrate that the institutional structures that underpin pricing in the cocoa sector were created during colonial times and have been maintained by powerful stakeholders who have continuously benefited from this arrangement; the primary beneficiaries being large commodity trading houses. An unequal distribution of the burdens and benefits of price risk has been met by the Ghanaian government with the introduction of a forward-selling system that protects Ghanaian cocoa farmers

[1] While taking delivery of the physical commodity is possible in most commodity derivate markets, these markets are rarely used for sourcing physical supply.

from downside risk. However, the rigidity of the system comes at a cost for both cocoa farmers and the Ghanaian government, which relies on the sector for foreign exchange earnings. Costs are particularly felt in times of extreme price volatility, as demonstrated by recent price surges at the London ICE cocoa futures markets.

Ghana is a particularly interesting case study for two reasons: 1) a unique institutional arrangement through the Ghanaian Cocoa Marketing Board (Cocobod) provides protection from downside price risk to cocoa farmers; and 2) the Ghanaian government is a considerable counterparty as the second largest cocoa producer globally. While Ghana is in many ways a 'typical' commodity-dependent economy, its considerable market power in the cocoa sector and its monopoly position on cocoa bean exports are unique. This arrangement brings challenges but also offers opportunities to influence pricing and price-risk management that would be out of reach for a more diffused market.

The remainder of the paper is structured as follows. Section 2 provides a critical review of the GVC literature and the studies addressing the absence of price and price risk therein. These contributions are taken as a starting point to draft a simple analytical framework of pricing and price-risk distribution as an institutionally embedded and politically contested process. Section 3 provides a three-part analysis of the Ghanaian cocoa sector, starting with a summary of the historical evolution of current institutional structures, then providing a mapping of pricing points located in time and space as an analytical starting point, and concluding with a political economy analysis of the current institutional setup and its contestations. Section 4 concludes and reflects on possible arrangements that would enable a more beneficial system for Ghanaian cocoa farmers and the Ghanaian government.

2 Pricing and price risk in global commodity chains

2.1 Literature review: pricing and price risk

The macroeconomic challenges that result from the over-reliance on primary commodity exports for the generation of foreign exchange and revenues are well documented (see Corden, 1984; Deaton, 1999). These challenges arise over the

cyclical nature of commodity prices resulting from alternating episodes of over- and under-production (Maizels, 1994). In addition to their cyclical nature, commodity prices are highly volatile. Many primary commodities are traded as an asset class on derivative markets in global financial centres, adding volatility through fast trading and quick translation of information, expectations, beliefs, fads and sentiments into prices.

This price volatility immediately translates into volatile revenues, incomes, exchange rates and domestic price levels (inflation) for commodity exporters, especially those exporting commodities that are referenced against derivative market prices. The importance of commodity prices for the macroeconomic stability and developmental trajectory of primary commodity export-dependent economies has been highlighted by economists since the early 1950s. Prebish (1950) and Singer (1950) independently identified declining terms of trade for commodity exporters – ie declining primary commodity prices relative to manufactured goods prices – as a key development challenge of the newly independent nations whose economies were largely set up for primary commodity production, and the reason for prolonged current account deficits and debt crises. The observation of unequal pricing between primary commodities and manufactured goods also motivated the unequal exchange theories developed by Emmanuel (1972) and Amin (1974).

While authors differed on the explanations for the phenomenon of declining commodity prices relative to manufactured goods prices, the empirical observation of unequal remuneration for goods exported by countries in the Global South (periphery) and the Global North (core) emerged as a central theme of a set of theories which became known as dependency theories; see Kvangraven (2020) for a review. The concept of commodity chains, which underpins today's GVC analysis, was originally developed as an analytical tool within the tradition of World Systems Theory of the 1980s, which itself is rooted in dependency theory scholarship (Hopkins & Wallerstein, 1977, 1986). Later authors adopted the chain analogy but replaced the theoretical underpinning with different theoretical traditions from management, international business studies, sociology and new institutional economics, merging into today’s GVC scholarship (Bair, 2005).

Gereffi (1994, pp 96–97) introduced the concept of ‘governance structure’, which became a core theme in the evolving GVC literature. He defined governance as

"authority and power relations that determine how financial, material, and human resources are allocated and flow within the chain" (Gereffi, 1994, pp 96–97). Power is exercised by what Gereffi (1999) called the 'lead firm' in the chain, which control access to major resources that generate the most profitable returns. These lead firms can permit the inclusion (or exclusion) of less powerful actors and constrain less powerful actors to lower value-added activities (Raikes et al, 2000). The second iteration of the governance framework by Gereffi et al (2005) highlighted transaction cost economics as one of three pillars underpinning their framework. Within this framework they identified three variables – the complexity of a transaction, the ability to codify a transaction, and the capability of suppliers – that explain the emergence of different types of GVC governance structures.

However, despite the central role of price in the determination of value creation and value distribution along commodity chains, the question of pricing, that is, where prices originate and by whom they are created, has not been discussed within the GVC governance frameworks. Arguably, the reason for this omission is its foundation in transaction cost economics. Prices are conceptualised as information or as signals of demand and supply conditions within a market exchange (Gereffi et al, 2005). Implicitly, price formation is hence seen as equivalent to price discovery, whereby prices reveal underlying market conditions. Prices therefore play a coordinating role by signalling over- or under-supply and remain exogenous to the individual exchange process. Although the GVC framework acknowledges, like transaction cost economics, that exchange can take place outside the market context, the role of price beyond the market remains underdeveloped, as governance structures are reduced to outcomes of lead firms' economic optimisation processes.[2]

The works by van Huellen (2015), Bargawi and Newman (2017) and Staritz et al (2018, 2022) seek to address this shortcoming and highlight pricing and price risk as key variables in the understanding of value creation and distribution along commodity chains. Van Huellen (2015) borrowed from Commons's institutional theory to analyse price transmission and price-risk distribution along the cocoa chain. Bargawi and Newman (2017) drew on sociological and institutional approaches to price to develop the price chain as an analytical framework for

[2] See Medema (1992) for a comprehensive critique which specifically focuses on the shortcomings of transaction cost economics in explaining vertical integration processes.

commodity price formation and transmission with applications to the coffee chain. Staritz et al (2022) argued for the addition of price-setting power as a central scheme to the GVC approach to understand how price risk is distributed along the chain, studying the West African cocoa chain specifically.

This strand of literature emerged in the context of the financialisation of commodity markets debate (Mayer, 2012). A synchronous price rise and subsequent collapse across seemingly unrelated primary commodity derivative markets in the 2000s revived a debate about the impact of speculators on price formation in these markets and highlighted the importance of prices formed in derivative markets for pricing across commodity chains (Nissanke, 2012; Staritz et al, 2018). However, this centrality of derivative markets is commonly absent in primary commodities-based GVC studies. The above-cited attempts to integrate pricing into GVC frameworks therefore turn to institutional and sociological approaches to price and emphasise the need to consider the interplay of institutional structures at different scales beyond the single point of exchange and the power relations embedded in these structures.

Among sociological approaches to price referenced by both Bargawi and Newman (2017) and Staritz et al (2022), Beckert (2011) sees prices as the outcome of social and political forces. For him transactions are embedded in "institutions, social networks and culturally anchored frames of meaning" and prices are a result of this embeddedness of transactions (2011, p 757). The distribution of wealth, as the consequence of pricing, is therefore the outcome of the structures that shape transactions. Çalışkan and Callon (2009, 2010) distinguish between valuation and price, with valuation conventions shaping what is considered a fair price. Citing Weber, they argue that price is the outcome of power struggles between evaluation agencies. Therefore, the price of any transaction is always relational, as it is calculated and legitimised based on other prices. Tool (2002) proposes an institutional theory of discretionary pricing drawing on Veblen's theory of exchange. He defines the discretionary pricing process as the use of power by individuals to influence the monetary terms of exchange and observes that most 'real world' pricing processes are discretionary, in that prices are administrated by large oligopolistic corporations and are determined by target rates of return to capital.

Building on Commons's institutional economics, Gloria and Palermo (1996) point out that the method of price determination is largely conventional, and that pricing is, therefore, an evolutionary and path-dependent process. Their analysis was focused specifically on bargaining as the market-based process of price determination. In reference to Commons's work, they saw the concept of economic power as a key defining factor in explaining different outcomes in different bargaining processes. Kaufman (2007) reviewed Commons's work and adopted his typology of transactions to develop an institutional theory of price that reflects different pricing practices, including the bargaining transaction, but also transactions outside the market.

For Commons (1990), a transaction is the legal transfer of ownership (mode) in contrast to exchange, which is merely the physical transfer of a commodity (matter). Commons introduced the notion of transaction as an antithesis to 19th-century economics, which he accuses of wrongly conceptualising the price formation mechanism as a harmonic (equilibrium) relationship between man and nature. By focusing on exchange rather than transaction, those economists failed to account for the legal transfer, which, according to Commons, is a process characterised by conflict, in a relationship between man and man. Specifically, Commons defined a transaction as:

the alienation and acquisition, between individuals, of the rights of future ownership of physical things, as determined by the collective working rules of society. The transfer of these rights must therefore be negotiated between the parties concerned, according to the working rules of society. (Commons, 1990, p 58)

Commons emphasised 'futurity', meaning that not immediate but future physical ownership is transferred. This, inspired by Keynes's work, introduces fundamental uncertainty as a key characteristic of all transactions and means that the transaction process is temporally dislocated from the exchange process. Another core theme in his theory are working rules, which can be formal (laws) or informal (conventions). Since a transaction is a relationship between man and man, it is characterised by conflict, mutuality and order. The interests of the parties involved are both in conflict and mutually dependent. Order is a necessary characteristic because of the true uncertainty of the future. Commons argued that the future must, to some extent, be reliable in order to facilitate action in the present

(Commons, 1990, p 58). The security of expectations is guided by the working rules, which "work as a limiting factor on behaviour" and guide what is legally and ethically accepted by society (Commons, 1990, p 140).

The enforcement of working rules is the gain for one which comes at a loss for the other. When it creates liberty for one party, it results in exposure for the other. When it creates security for one party, it demands conformity from the other. Hence the institutional framework, in which transactions and pricing processes are embedded, determines not only the distribution of wealth but also the distribution of the burdens and benefits of wealth creation. This entails risk, which is allocated according to security and conformity, liberty and exposure. Legal power is the control over agents' future behaviour and is therefore as important as economic power in shaping the outcomes of transactions (Commons, 1990, p 86). Power is hence a key theme for Commons. Ultimately, "power…determines whose interests count and who reaps the rewards and carries the costs of economic activity" (Kaufman, 2007, p 16).

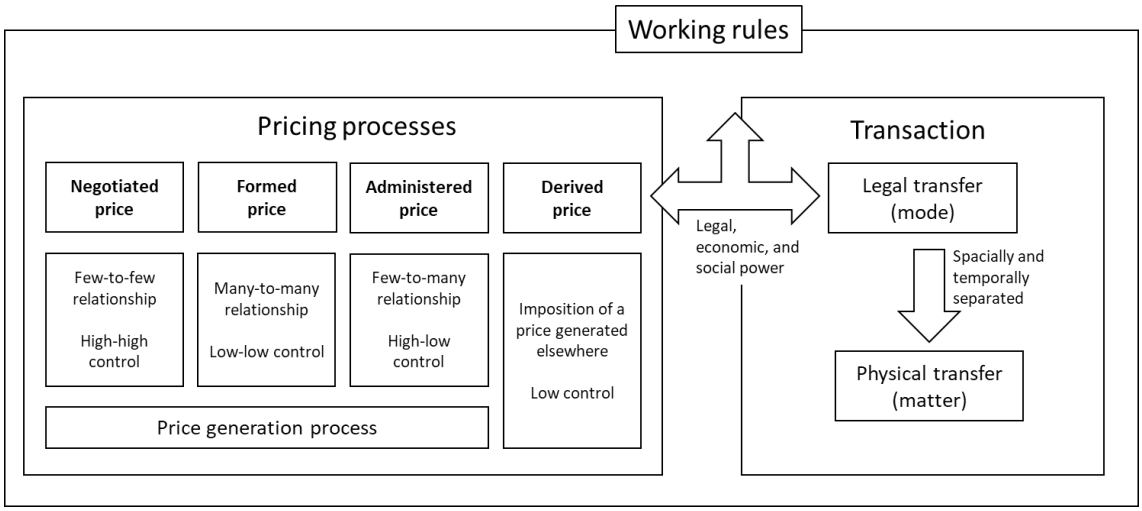
Commons distinguishes between three different types of transaction – bargaining, rationing and managerial transaction – which are characterised by different degrees of economic and legal power asymmetries – the latter two being characterised by legal (and economic) asymmetries and the former by economic asymmetries but legal symmetry. Pricing in the bargaining transaction is driven by relative scarcity as well as by the unequal economic power of those involved, which affects bargaining strength. Pricing in the managerial transaction is driven by proprietary scarcity, with the more powerful actor generating situations of scarcity or abundance to control price. Pricing in the rationing transaction is driven by intended profit margins, whereby prices are administered to achieve these profit margins for the more powerful actor (Takahashi, 2018).

2.2 A simple analytical framework

Following the existing literature, this paper understands pricing as an institutionally embedded and contested process (Çalışkan & Callon, 2010; Beckert, 2011; Bargawi & Newman, 2017; Staritz et al, 2022). We use these insights to develop a simple framework that borrows heavily from Commons's institutional theory. Commons's distinction between legal and physical transfer accounts for

the temporal aspect of a transaction, which enables us to analyse uncertainty. Once the pricing processes within a transaction are identified, the distribution of price risk can be derived as an outcome of this process. In our framework, we distinguish between different forms of pricing: price negotiation, price formation, price administration and price derivation (see Figure 1).

Figure 1: Price setting and transactions



Source: Authors' compilation.

Price negotiation is akin to Commons's bargaining transaction, while price administration is akin to the rationing transaction in the sense that price setting is driven by the profit expectations of an economic (and legal) superior. Price formation, on the other hand, is inspired by the double auction in the sense that both buyers and sellers have low control over price, as bargaining is limited by working rules that anonymise and standardise the transaction.[3] For many commodity chains, price formation takes place exclusively in commodity derivative markets.[4] Price derivation is the process of administering a price which is neither negotiated nor formed in the specific transaction, but instead taken or derived from another transaction. Derived prices are hence a specific form of administered prices but without any agent involved in the transaction being able to exercise

[3] We explicitly avoid the notion of price 'discovery', as it suggests the existence of a natural price level which is discovered by market participants rather than shaped by their actions and relations. Agreeing with Commons that transactions are a relationship between man and man and not man and nature, we use price formation instead.

[4] However, derivative markets do not exist for all commodities. Prices in these chains are thus set through bargaining or administered though pricing agencies.

control over the price. This also means that price derivation is not a price generation process, as a price generated in a different transaction is transferred. This typology provides a stylised categorisation of pricing processes within a transaction. Pricing processes can arise as a composite or combination of these stylised processes.

We adopt Commons's notion of working rules as the laws and conventions that govern pricing processes within transactions. Legal, economic and social power asymmetries are embedded in these working rules. Social power is added to Commons's dimensions of power in acknowledgement of formal as well as informal rules governing how power is distributed within society. Power asymmetries are historically rooted and hence path-dependent. The price-setting process is part of the legal transfer of any transaction (mode), alongside an agreement over quantity, insurance and other modalities of the transaction. The legal transfer (the agreement made between buyer and seller) is both temporally and geographically distinct from the physical transfer (matter) of goods.

The distinction between the transaction process, of which pricing is part, and the exchange process introduces the element of 'futurity' and thereby uncertainty, as in Commons's theory. While we focus on price within the transaction, it is important to acknowledge that other elements that constitute the transaction are also subject to uncertainty. While a more comprehensive analysis should focus on the uncertainty of income, with price being one factor alongside quantity and costs, the primary focus of the analysis is on price to ensure that the scope of the analysis remains manageable. A more comprehensive analysis of income in the context of cocoa would also include consideration of longer-term uncertainties, such as soil degradation, climate change, and pest and disease control. Here Commons's notion of a going concern as a network of transactions will be a helpful addition.

To better understand the institutional structures that underpin pricing mechanisms at different pricing points along the cocoa chain, we create a temporal and spatial map of pricing points. This allows us to identify uncertainties located within transaction arrangements. The mapping draws on document analysis as well as insights from semi-structured interviews conducted in 2024 and the authors' experiences in the cocoa sector. The mapping exercise is then used as

the analytical foundation for a political economy analysis of pricing and the distribution of price risk along the cocoa chain.

3 Ghana's cocoa marketing: a political economy analysis

Our analysis is divided into three sub-sections. The first provides a brief account of the history of cocoa marketing in Ghana. The second maps the temporal and spatial locations of pricing points along the Ghanaian cocoa chain. Drawing on this mapping exercise, the third provides a political economy analysis of the institutional setup to identify who benefits and who loses from the current institutional arrangement.

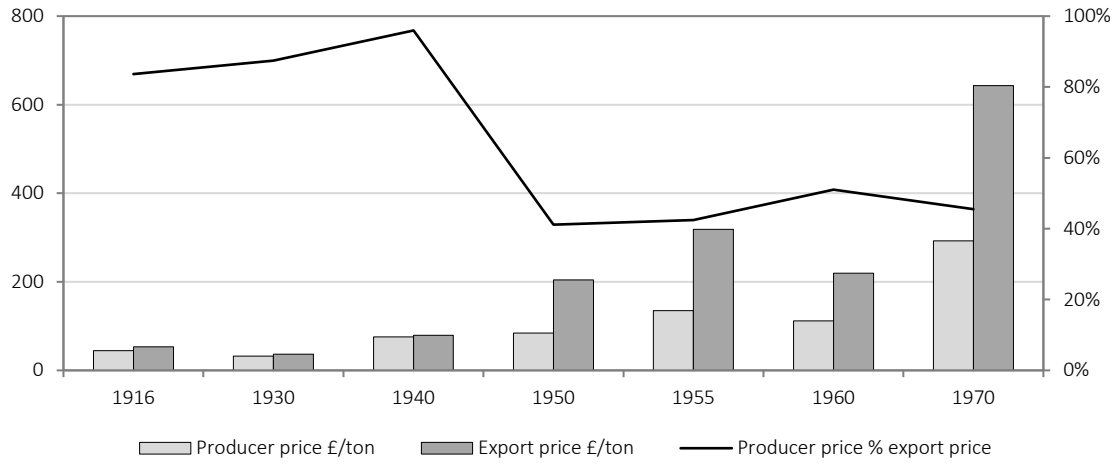
3.1 A brief history of Ghana's cocoa marketing

Ghana's cocoa marketing system is unique in its structure and organisation. Ghana is the only country that has not abolished its Cocoa Marketing Board and has therefore maintained a state monopoly on the sale of cocoa beans. The monopoly is managed through the Cocoa Marketing Company (CMC), a subsidiary of Cocobod which is registered as a limited company. Today's Cocobod is the institutional successor to the West African Producer Control Board, which was introduced in 1940 by the British colonists at the onset of the Second World War (Wickizer, 1951; Acquaah, 1999). Under the board, prices were fixed, and the rising power of domestic middlemen and cooperatives was curtailed by allocating buying quotas to Licensed Buying Agents (LBAs) who were registered with the board.

The system suppressed political unrest and hostility towards European buyers after several cocoa holdups[5] and helped finance British war efforts by dictating a low cocoa bean price (Alence, 1991). Its introduction led to a prolonged squeeze on the cocoa producer price, which deteriorated from up to 90% of the export (free on board (FOB)) price to as low as 40% (Acquaah, 1999). Once the board was in place, the producer price remained suppressed long after independence in 1957 (see Figure 2).

[5] Several cocoa holdups took place during the late 1930s. Cocoa farmers refused to sell their harvest to European (mainly British) trading companies and boycotted manufactured goods imported and sold domestically by the same companies in protest over low cocoa prices and high prices for imported goods.

Figure 2: Export prices (£ per ton - left scale) and producer price share in export prices (% - right scale), 1916–1970



Source: van Huellen (2015)

Initially, the prices received by traders were formed at the spot exchanges in Liverpool and London (Dand, 1995, p 82). With the development of edible chocolate in the late 19th century (cocoa was previously consumed as drinking chocolate), demand for cocoa beans in Europe and North America grew and forward contracts became the preferred mode of transaction. Forward contracts could be cleared via the London Produce Clearing House, which was established in 1888 for soft commodities such as cocoa, coffee and sugar (Cranston, 2007). Three trade associations were formed to administer standardised contracts and provide arbitration services between the trading houses and chocolate manufacturers: the Cocoa Merchants' Association of America (CMAA) in New York, the Cocoa Association (CAL) in London and the Association Française du Commerce des Cacaos (AFCC) in Paris (Dand, 1995, p 84). In 1925 the first standardised cocoa futures market opened in New York (today ICE US), which remained the benchmark for cocoa for the subsequent decades. The London Commodity Exchange opened in 1954 as a futures market for soft commodities, becoming the second leading commodity exchange for cocoa (today ICE EU).

The forward contract system was favoured by the trading houses not only because forward contracts mitigated price and supply risk but also because the system was less transparent than the auction system previously practised in Liverpool and London, and competitors were left with uncertainty over the price and volume of trading deals (Dand, 1995, p 83). The two largest trading houses at the time were

the United African Company (UCA), later owned by the Lever Brothers (Unilever), and Cadbury (later Cadbury and Fry), owned by the Cadbury Brothers (Acquaah, 1999, pp 99–100). UCA maintained an import–export business and was the major buyer of cocoa in the 1930s, with over 1,000 buying points and merchandise outlets. Because of its dual role, the company was at the centre of the cocoa holdups of the late 1930s. In protest over low cocoa prices and the high prices of imported consumer goods, powerful middlemen and cocoa cooperatives withheld cocoa from sale (Acquaah, 1999, p 108).

Post-independence in 1957, cocoa in Ghana remained highly political and the state monopoly on cocoa trading remained in place, albeit with some interruptions and alterations (Mikell, 1989). Like many commodity export-dependent economies, Ghana was forced to approach the International Monetary Fund (IMF) for financial assistance in the 1980s. Anticipating the IMF's austerity programme, the Ghanaian government drew up an extensive reform plan for the cocoa sector, which saw the previous marketing board replaced with today's Cocobod and partial liberalisation of the domestic internal cocoa marketing system (Akiyama et al, 2001; Gocking, 2005; Laven, 2010; Quartey, 2013). In many ways, the partial liberalisation reinstated the system in place during colonial times, with Licenced Buying Companies (LBCs) conducting the internal marketing on behalf of CMC, but without allocated quotas and with an improved share in the FOB price for farmers.

In the early 2000s, Cocobod introduced a unique forward-selling system. This enables Ghana's central bank, the Bank of Ghana (BoG), to access international money markets for cheap credit in the form of an annual syndicated loan collateralised with cocoa forward contracts (van Huellen & Abubakar, 2021). Originally, the system was put in place to finance the country's foreign exchange requirements in order to import oil (interview, 25 February 2024). To date this syndicated loan has been providing the main and most important access to international money markets for the BoG (interview 22 March 2024).

3.2 Mapping pricing points in Ghana's cocoa marketing

Today, Ghana's cocoa marketing system has an internal and external component. CMC, as the monopoly buyer and seller of cocoa beans in Ghana, bridges internal and external marketing. Two crop seasons exist: the main crop with the harvest

starting in September and the season opening in October and lasting until May; and the light crop lasting from June to September. This analysis will focus on the main crop season, where the bulk of the cocoa is harvested and shipped. Operations in the main crop cycle are divided into two stylised periods: 1) pre-harvest; and 2) during and post-harvest. We refer to this periodisation as stylised, as the two periods may blend into one another.

CMC finances its internal marketing operations predominantly through a syndicated loan from the international money markets, which is collateralised with forward contracts. Building up to the main crop season in September, CMC sells forward an adequate volume of cocoa beans, ranging from 50% to 70% of the predicted cocoa harvest. The exact amount depends on the overall predicted crop size, global reference prices, the premium achieved in negotiations with buyers, CMC traders' view of the market and cash flow requirements for internal marketing operations. Forward contracts are predominantly standardised, fixed-price contracts in which the price is fixed at the time of signature to the price of the futures contract that matures close to the agreed delivery date, plus a country premium and another premium called the Living Income Differential (LID).

These standardised contracts follow the format set by the Federation of Cocoa Commerce (FCC). The FCC was formed in 2002 out of a merger between the CAL and AFCC and offers two types of standardised contracts: 1) fixed-price contracts in which the price is fixed at the time of signature; and 2) differential contracts in which the price floats with the price of the futures contract that matures close to the agreed delivery date. The London ICE cocoa price, denominated in pounds sterling, is the futures price that acts as the reference price for Ghanaian cocoa beans. A country premium (as well as a delivery point, transportation and insurance) is negotiated between CMC and the buyer, while the sterling–US dollar exchange rate is derived and fixed at the time of signature. Since June 2019 (for the 2020–21 cocoa season contracts), the LID, set at US$400 over the terminal price, has been imposed by Cote d'Ivoire and Ghana as another premium.

The price that CMC receives is hence a composite of a derived price formed at the terminal market in London at the time of signing the forward (or spot) contract, a negotiated price, which is the country premium and an administered price which is the LID. The terminal market price is the greatest contributor, making about 80% or more of the composite price – a market in which CMC does not participate.

Buyers tend to be large multinational commodity trading houses that maintain forward contracts with confectionary companies and others (Fold, 2001, 2008). A few large buyers (eg Barry Callebaut, Olam, Touton and Cargill) dominate the space, and about 65% of all cocoa is sold to these large multinational buyers. The remaining forward contracts are signed with domestic buyers, which could be Ghanaian-owned businesses (eg Niche Cocoa and Plot Enterprise) but in many cases are also foreign-owned (Barry Callebaut, Olam, Touton and Cargill all maintain processing capacity in Ghana).

Securing an adequate volume of forward contracts with large buyers deemed creditworthy is important for CMC,[6] as these contracts are subsequently used by Cocobod as collateral to obtain a syndicated loan in US dollars via the Ghana International Bank (GHIB) to finance its internal marketing. GHIB is a subsidiary of the BoG and is based in London; it is the receiving bank for all cocoa sales proceeds on behalf of Cocobod. It holds a syndicated and a non-syndicated account, both in US dollars. The interest rate for the loan is partly negotiated between Cocobod and the syndicate of banks. The largest part of the interest rate is derived relative to the standard borrowing rate (LIBOR). A risk premium is added based on the assessment of the possibility of CMC defaulting on its loan, which is subject to negotiation. The price of the loan is hence a composite of a derived price and a negotiated price.[7]

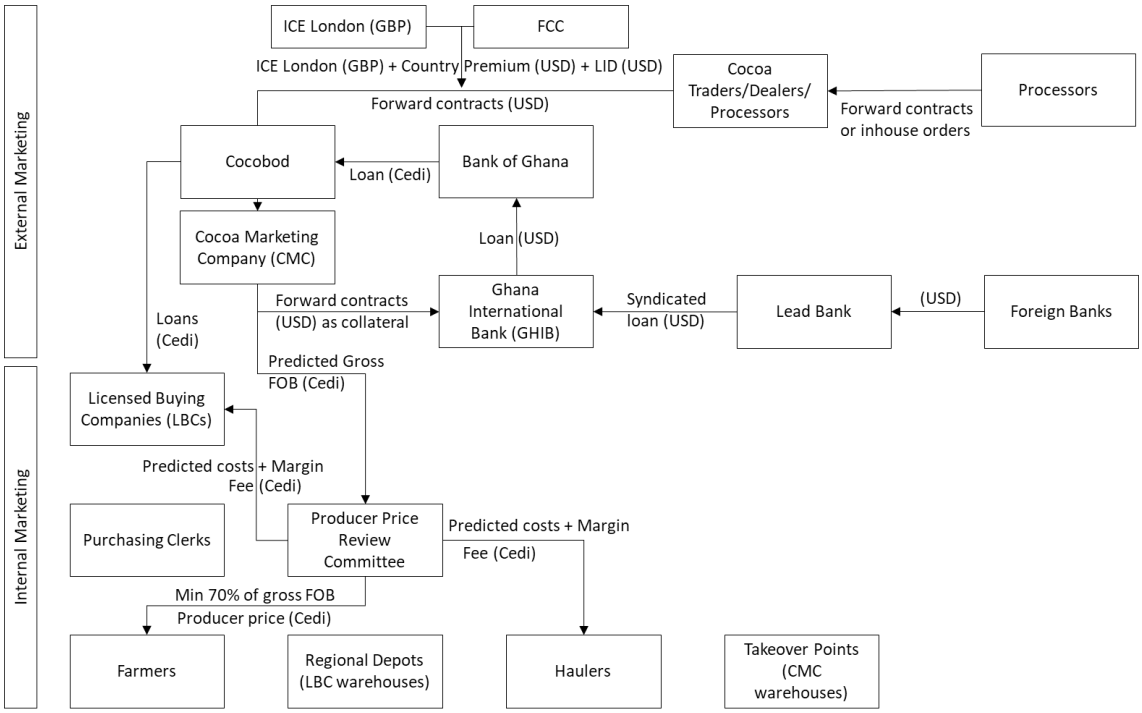
Once the loan is agreed with a syndicate of mostly foreign banks, it is transferred to GHIB, which forwards the dollars to the BoG. The BoG then releases the Ghanian currency (cedi) equivalent to Cocobod while keeping the dollars on its books. The exchange rate is negotiated between Cocobod and BoG but reflects rates within the loan drawdown period, which is usually October to December (interview, 25 February 2024). The US dollar sum received is a significant source of foreign exchange for the BoG reserves and the balance of payments. Ghana maintains a floating exchange rate regime, which means the exchange rate is

[6] Many of the Ghanaian owned businesses are viewed as risky by international banks, despite their maintaining large balance sheets.

[7] However, the bargaining power of Cocobod is relatively weak *vis-à-vis* lenders because of its reliance on the loan. While the risk premium averaged at around 60 basis points between the 2017–18 and 2019–20 season, it almost tripled in subsequent seasons as a result of Covid-19-induced uncertainties which banks priced into the loan.

sensitive to the arrival of the loan. These processes are summarised in the external marketing segment of Figure 3.

Figure 3: Pre-harvest period 1



Source: Authors' compilation

Cocobod then uses the cedi from the BoG to finance its internal marketing operations. LBCs buy cocoa from farmers on behalf of Cocobod and Cocobod acts as a credit provider for LBCs, especially Ghanaian-owned LBCs who do not have access to international capital markets. Cocobod extends cedi loans using the cocoa funds sourced through the syndicated loan. Given the size of the cocoa sector in Ghana, the financing requirement is too large for the domestic banking sector to provide the required sums for cocoa sourcing. The interest rate is set by Cocobod relative to the BoG prime rate, in order not to encourage diversions into government instruments. Often the rate is set slightly below the prime rate and sometimes the BoG prime rate plus 1% is achieved. These processes are depicted in the internal marketing segment of Figure 3.

The margins received by LBCs and hauliers who transport the beans for LBCs and the price received by cocoa farmers are negotiated within the Producer Price

Review Committee (PPRC). The coverage of other costs incurred by Cocobod, like warehousing, jute bags for transport, fertiliser and pesticides, and quality control costs, as well as an export duty for the Ministry of Finance, are also negotiated within the PPRC. The PPRC includes farmer representatives, who are chief farmers selected by the government, in consultation with regional chief farmers. The remaining stakeholders are representatives of the LBCs (through the Licensed Cocoa Buyers Association of Ghana), and hauliers, as well as representatives from Cocobod and academia. The committee is chaired by the Minister for Agriculture (earlier it was chaired by the Minister of Finance). Before negotiations, all operational stakeholders are asked to submit an approximation of their costs and a suggested margin.

The negotiations within PPRC are based on the projected cocoa revenues achieved by CMC or the projected gross FOB.[8] The projected gross FOB is the product of the forecasts for three variables: 1) crop size in tonnes; 2) cocoa bean price per tonne in dollars – itself a composite of terminal price and country premium and LID; and 3) the projected exchange rate for 12 months starting from September/October of the cedi against the dollar. The forecast of the latter variable is provided by the BoG, while those of the former two variables are predicted by Cocobod. Predictions of the crop size are based on pod counting and farmer surveys. Predictions of the bean price are based on the forward contracts signed by CMC and market intelligence (and the sterling–dollar exchange rate).

By law, a minimum of 70% of the gross FOB is allocated to farmers. PPRC is also advised not to reduce the nominal farmgate price as compared with the previous year. These are conventions that set the framework within which negotiations take place. The PPRC chair has the final word in these negotiations. In some instances, the announcement is made by the President of Ghana, highlighting the political relevance of the cocoa sector. The agreed cocoa price and margins are made public a few days before the main crop season and fixed for the duration of the

[8] Until the 2023–24 crop season, some industry costs incurred by Cocobod were deducted before negotiation, so that the net, not the gross FOB was the basis for negotiations by PPRC. For decades, concerns have been raised over the lack of transparency of the deducted industry costs; the fact that these costs were administered and not negotiated undermined its legitimacy. The move from the net to the gross FOB was eventually realised as a result of pressure from the IMF, after the Ghanaian government had to request an IMF support programme in July 2022 to tackle its economic and financial crisis.

season.[9] If a higher price than predicted is obtained, the farmgate price can be revised upwards mid-season. However, these are rare occasions. The gross FOB hence contains a derived price, which is generated in the negotiations between CMC and buyers, with most parts of this price being in turn derived from the terminal price. This derived price sets the boundaries within which margins and the producer price can be negotiated.

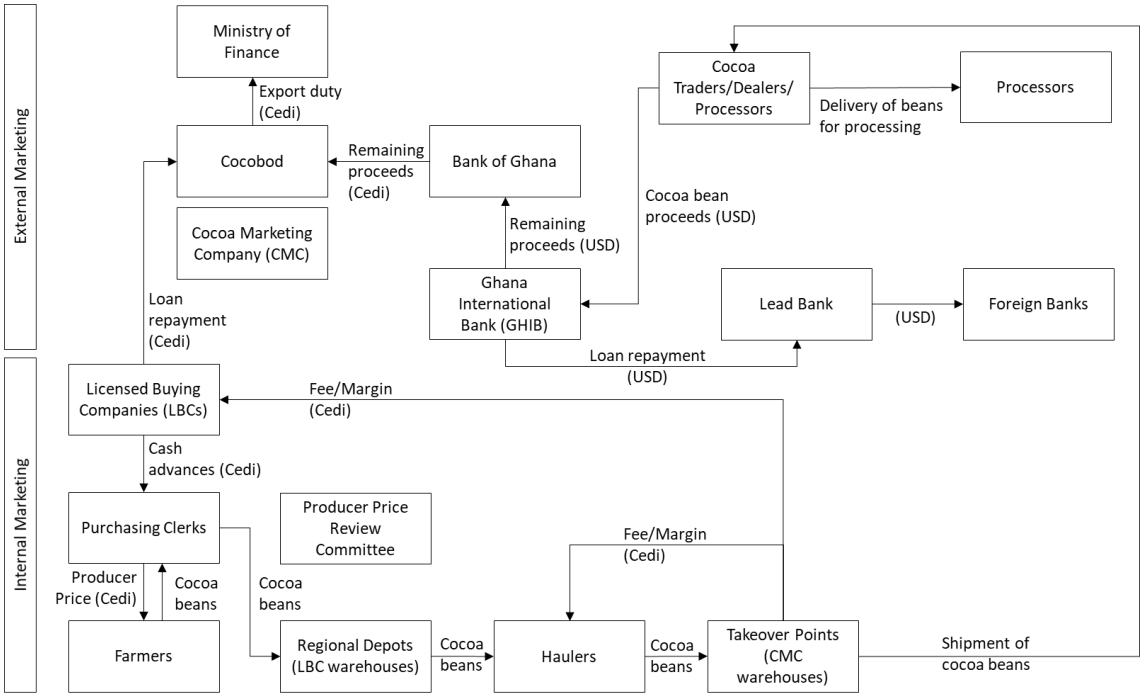
With the start of the harvest period, LBCs source cocoa beans from farmers through purchasing clerks and deliver them to CMC warehouses located in Tema, Takoradi or Kumasi via haulage companies. Alongside Ghanaian-owned companies, many of the large multinational buyers also own LBCs. While they benefit from the margin, they have two additional incentives to enter the internal marketing segment. First, part of their core business is speculation in both physical commodities and commodity derivatives; market intelligence is key to ensure this side of their business is profitable. Second, for their physical trading business to be profitable, they need to secure large volumes of supply, which are increasingly sourced via certification and sustainability initiatives implemented at the farmgate level.

Farmers are being paid predominantly in cash, but increasingly also by mobile money at the time of the cocoa bean handover.[10] When LBCs and haulage companies deliver the cocoa to one of the takeover points, they are compensated by Cocobod with the agreed fee, and loans to LBCs are turned over. Since the partial liberalisation, LBCs compete over volume not price. A fast turnover is hence essential for them to remain profitable. These processes are depicted as the internal marketing segment of Figure 4.

[9] Farmers do not necessarily obtain the agreed price. Rigged scales might be used by LBCs to increase their margin; LBCs tend to buy beans that are harvested off-season for a lower price; and beans might be kept as collateral for loans (interest rates of 100% are not uncommon) with the collateral prices below the agreed price.

[10] Some farmers also receive pre-financing by LBCs, commonly in the form of agricultural inputs to cover production costs. The loan is repaid with cocoa beans after harvest.

Figure 4: During and post-harvest period 2



Source: Authors' compilation

After handover at the CMC warehouses, the cocoa is then shipped to the respective buyers, who transfer payments to GHIB. The dollar proceeds are then used to repay the loan and interest from the collateralised account. The revenues on the non-collateralised account are transferred to Cocobod to cover the costs of operations. After these are deducted from the revenues, the remainder is transferred to the Ministry of Finance as an additional export duty. In years where Cocobod is making losses, no export duty accrues and the losses are absorbed by the Ministry of Finance. These dynamics are depicted in the external marketing segment of Figure 4.

3.3 The political economy of Ghana's cocoa marketing

To understand the political economy of the current pricing system, we analyse pricing processes and how price risk is distributed among cocoa stakeholders, building on the mapping exercise in the previous section. As part of the analysis, we identify who benefits from the current institutional structures that underpin these processes, using the example of recent developments. The latter include the

introduction of the LID in 2020, the Covid-19 period and the cocoa price surge in 2024.

Price risk and the primacy of the terminal price

As pointed out previously, more than 80% of the price received by CMC is derived from the terminal price, over which CMC has no control. The terminal market is a market of contracts over the future sale and purchase of a crop, not a market of the physical commodity. It is hence forward-looking and speculative in nature. Prices reflect traders' expectations about future demand and supply conditions, which are uncertain and may be subject to fads and sentiments. Demand and supply for these contracts are based on a variety of motivations, including traders' outlook on future market conditions as well as a desire for portfolio diversification or hedges against inflation. Even if these markets reflected expectations about future demand and supply conditions only, prices would not necessarily reflect the actual willingness of cocoa farmers to sell their crops or the intended profit margins of producers. Indeed, prices may reach a level below the cost of production.

The primacy of the terminal price and the institutions that govern the standardised contracts which reference the terminal price (the FCC) are artefacts of colonial times. This setup primarily benefits the commodity trading houses, ie the buyers, for whom and by whom it has been established. Their operational profits originate from both trading in physical commodities and trading in commodity derivative markets, where they use market intelligence for risk management, strategic positioning and outright speculation. It is hence important for these companies to ensure a close relationship between the terminal price and the price obtained in their sourcing operations. While CMC has gained FCC membership, the primacy of the terminal price has been maintained. The legitimacy of this working rule originates in the belief in the 'efficient market' hypothesis, which suggests a 'fair' price is provided by a deep and liquid financial market.[11]

Decades of notoriously low prices have resulted in farmers selling their land or moving to more profitable crops such as rubber and oil palm, or to more profitable

[11] Tool (2002, p 4) on the competitive market paradigm states that "the normative use of this competitive model remains endemic in orthodox neoclassical theory generally".

activities such as mining. This has put pressure on the cocoa sector regulators in the two largest cocoa bean-producing countries, Cote d'Ivoire and Ghana. The LID was originally intended to provide a floor price to ensure that farmers receive a "living income" (interview, 25 March 2024). The original calculation of a living income was provided by the Faritrade reference price and was estimated at US$2,600 per tonne of cocoa in 2020 (interview, 22 March 2024). Since the terminal price hovered around $2,200 at the time, the LID was set as a premium of $400 over the terminal price. However, a floor price was not a mechanism that buyers could agree to as it would have delinked the cocoa bean price from the terminal market price. Instead a premium, akin to the country premium, was negotiated.

The claim of legitimacy for this administered price is in the name. Multinational buyers found it difficult to publicly object to paying farmers a living income. However, buyers were quick to use the uncertainty of the Covid-19 crisis and a predicted drop in demand for chocolate because of the closure of the hospitality industry in Europe and North America to negotiate a reduction in the country premium to compensate for the LID.[12] A battle for legitimacy ensued. The Cote d'Ivoire–Ghana Cocoa Initiative, which was established to manage the cocoa cartel, started publishing the country differentials to shame buyers who negotiated a negative differential.[13] A negative differential meant that the LID, which is an administered price, was indirectly negotiated down through the bargaining price of the country differential. This episode demonstrates the importance of asymmetries in the economic and social power for pricing outcomes.

Other than through the country premium and LID, CMC can influence the gross FOB by timing the forward and spot sales to secure a favourable price level as well as exchange rates. Two exchange rates play a critical role: 1) the sterling—US dollar exchange rate at the time CMC signs the contract with a respective buyer; and 2) the US dollar–cedi exchange rate at the time the syndicated loan is

[12] Hershey even took delivery of a substantial amount of cocoa at the terminal market in a highly unusual move to circumvent the LID. It was called out publicly by Ghana and Cote d'Ivoire for this. See https://www.confectionerynews.com/Article/2020/11/23/Hershey-move-of-buying-cocoa-on-futures-market-threatens-LID-agreement-with-Ghana-and-Cote-d-Ivoire. Accessed: 25 June 2024.

[13] In June 2022, the country differentials reached £125 below and £60 below the ICE EU terminal market for Cote d'Ivoire and Ghana, respectively. See https://www.cighci.org/category/publication-of-cocoa-origin-differentials-for-cote-divoire-and-ghana/. Accessed: 25 June 2024.

converted into cedi. However, CMC's ability to time the market is curtailed by its financing requirements for internal marketing. Since the syndicated loan has to be in place by September for CMC to be able to pay farmers during the harvest, CMC needs to commit an appropriate volume of cocoa through forward contracts, which means locking in prices even in a rising market. This situation is well known by the buyers, who can play it to their advantage. The Covid-19 period demonstrates this, as buyers refused to sign forward contracts with CMC unless the latter agreed to the negative country premium. This would have left CMC with no money to pay cocoa farmers, which ultimately forced it to agree.

The forward-selling system means that CMC's price risk is managed by its counterparties. While it enables CMC to protect cocoa farmers against downside price risk by locking in sales prices in a declining market, CMC loses the flexibility to benefit from rising prices. Some level of flexibility is maintained by reserving a portion of the harvest for spot sales. However, a rising market commonly materialises if the realised crop is below the predicted crop. This means that CMC, if caught out by the low harvest, will have committed a higher proportion of the crop in forward contracts than intended, thereby reducing its ability to sell beans at the higher spot price. Since Ghana is the second largest producer globally, a harvest below expectations will have an impact on prices, which works to CMC's disadvantage. The 2023–24 crop season is a clear example of this dilemma.

Price risk compounded with quantity risk

Weather conditions brought about by particularly powerful El Niño events, which were further aggravated by climate change, adversely affected the 2023–24 crop season. Decades of low bean prices and underinvestment have left cocoa trees prone to plant diseases, and swollen shoot virus and black pod disease spread rapidly in these conditions, decimating yields. While a bad harvest was predicted, the severity of the impact was underestimated. In March 2024, Cocobod revised its cocoa crop forecast to a maximum of 425,000 metric tonnes for the season, just above half the initial forecast. Between January and mid-April 2024, the London ICE cocoa futures price tripled in value, reaching £10,000 per metric tonne for the first time in history. However, since CMC had inadvertently sold forward more than its annual realised crop, no cocoa beans were left to sell at the spot market.

Smuggling has further contributed to CMC's over-commitment. If the producer price set at the start of the season is significantly lower than the terminal price and the price in liberalised markets during the harvest period, purchasing clerks are incentivised to smuggle beans to neighbouring countries. Although this is illegal, if the arbitrage to be made is large enough, a significant portion of beans may cross porous borders (interview, 22 March 2024).[14] If the producer price is significantly higher than the terminal price, smuggling into Ghana may also cause problems, as CMC is obliged to buy at a price above what it can obtain at the spot market. Hence, if prices move too much between the time when CMC sells forward the crop and the time of harvest (between period 1 and period 2), CMC may be exposed to significant quantity risk. While the farmgate price was revised upwards from $1,575 to $2,481 per metric tonne in April 2024, the increase is unlikely to be sufficient to discourage smuggling. The increase was financed by reducing the margins for other cocoa stakeholders.

Further, in times of economic turmoil and especially in times of an external debt crisis, Cocobod and CMC might face additional pressures from the government to forward sell a higher volume of beans than would have been desirable given the market outlook and the crop forecast. The BoG gains direct access to around $2 billion annually through cocoa bean sales, which makes Cocobod one of the most important government institutions in the country. However, this lack of independence is perceived as a significant risk in times of crisis and has threatened to undermine CMC's credibility in the eyes of creditors. The fact that Ghana had lost access to international capital markets two years earlier as a result of a debt crisis did not help its case, which was reflected in a higher risk premium. The syndicated loan became the sole means of accessing international markets, the biggest source of foreign exchange and the largest contributor to foreign exchange reserves (interview, 22 March 2024).[15]

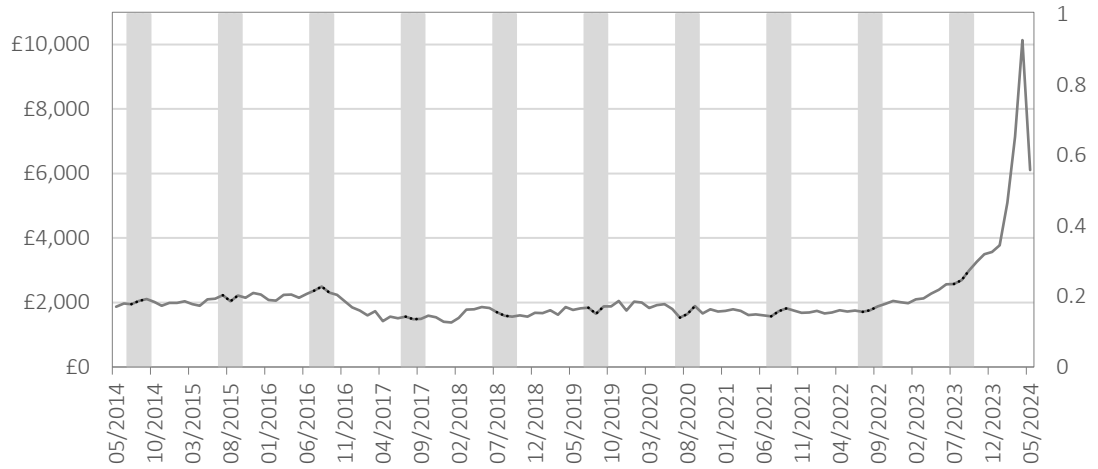
While overselling does not necessarily mean that CMC defaults on its loan – there is a mutual agreement between CMC and buyers providing some flexibility over

[14] While producer price coordination between Ghana and Cote d'Ivoire has reduced smuggling, fluctuations in Ghana's exchange rate (Cote d'Ivoire's currency is pegged to the euro) still results in price differences, and other West African countries with a fully liberalised market for cocoa, such as Togo and Nigeria, are destinations for smugglers.
[15] It ranked second behind Eurobonds in previous years (interview, 22 March 2024).

delivery dates[16] – it can create significant disadvantages in a rising market. Not only is CMC unable to gain from the high prices in the current season, but part of the crop for the next season is also already committed to being delivered at a low price (interview, 25 March 2024). Figure 5 demonstrates this situation. The grey periods are those in which forward contracts are typically signed and the price is locked in. The main beneficiaries of the recent price rise are hence the cocoa trading houses that have secured the crop at low prices and can sell it to chocolate and confectionary manufacturers at a significantly higher price.[17]

At the same time, overselling is associated with a higher default risk, which adversely affects Cocobod's credit rating and the rate achievable for the syndicated loan. While the current situation is unprecedented, it demonstrates the significant risks that CMC is exposed to because of the forward-selling system. Price risks are manageable in tranquil times, which is when the price that is locked in is relatively close to the price at the spot market during harvest. However, in times of high price volatility (both boom and bust episodes) price risks become further compounded by quantity risks through smuggling.

Figure 5: ICE London terminal prices (continuous next to maturity; £ per metric tonne)



[16] In return, CMC does not go into arbitration if buyers leave the crop in a CMC warehouse beyond the point of delivery, which means CMC carries the storage costs for longer than agreed.

[17] There are reports of smuggling through Burkina Faso and export through other West African ports; Togo also benefits.

Source: Datastream[18]

Exchange rate risk as another price risk

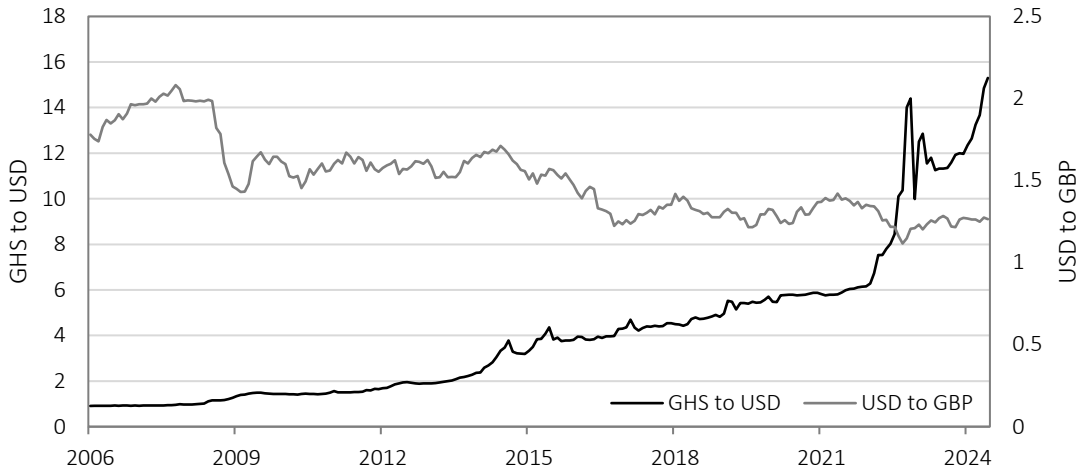
Another significant price risk for CMC is the exchange rate. CMC is exposed to two exchange rate risks: the cedi to the US dollar and the dollar to sterling. The latter arises because the London terminal price is used as a reference price denominated in sterling and not dollars; this is an institutional relict from colonial times. While buyers hedge the sterling–dollar exchange rate risk, CMC has no access to currency derivative markets and remains exposed to any exchange rate fluctuations. For instance, large losses were incurred when sterling depreciated sharply against the dollar immediately after the Brexit referendum in June 2016 and when the mini-budget of the Truss administration was announced, which caused market turmoil in September 2022.[19] A weakening of sterling against the dollar affects Ghana's cocoa revenue negatively, while it benefits trading houses, who require fewer dollars against the same sterling reference price.

Since 2013, the cedi has been on a depreciating trend against the dollar, which has accelerated in the past two years as a result of the ongoing debt crisis (see Figure 6). By the time cedi payments reach the cocoa farmer, they have lost value *vis à vis* the dollar, leading to a suppressed producer price (see the downward trend during the cocoa seasons in Figure 7). This is significant not only because of quantity risks arising from smuggling but also because a depreciation accelerates inflationary pressures, further reducing the income received by farmers in real terms. Since the projected exchange rate is used to calculate the projected gross FOB from which the producer price is derived, any depreciation beyond what has been predicted is a windfall for Cocobod and an indirect tax gain for the government.

[18] www.lseg.com/en/data-analytics/datastream-and-macroeconomics

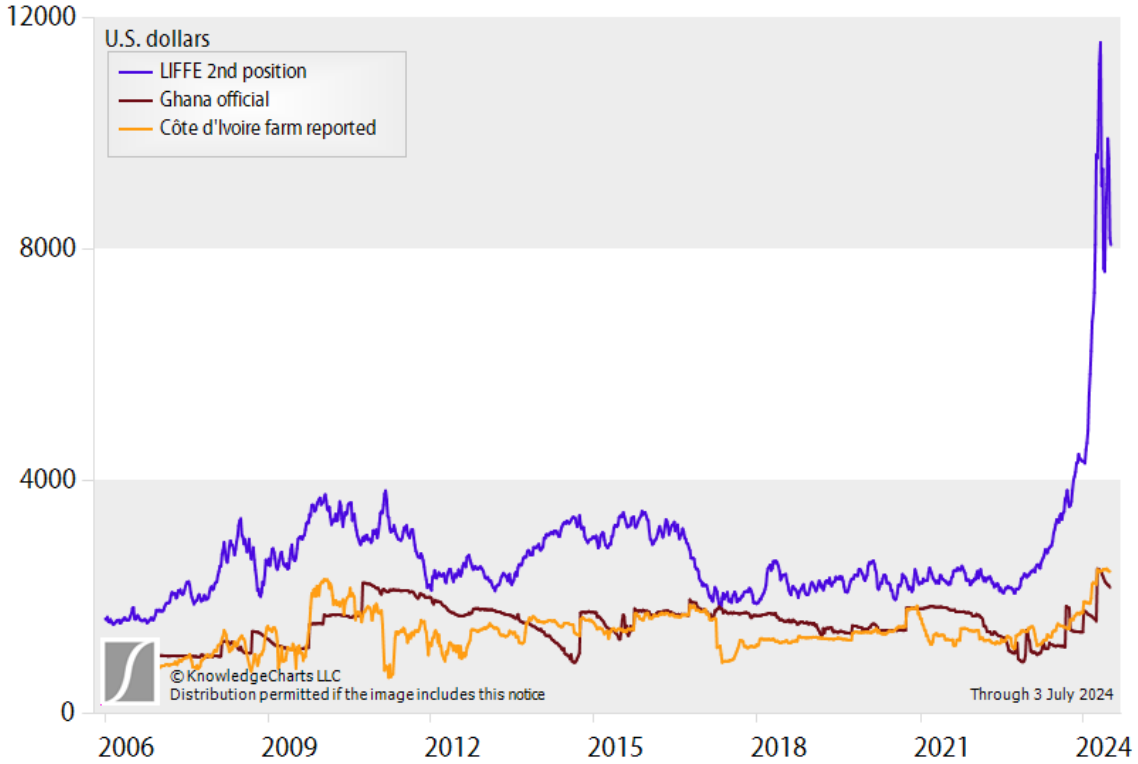
[19] The sterling—dollar exchange rate was at around 1.5 before the Brexit vote in June 2016 and tumbled to 1.32 immediately after the referendum. Sterling has remained below its previous level at an average of 1.25. Traders hedge the exchange rate exposure but CMC does not.

Figure 6: Cedi—dollar and dollar—sterling exchange rates (monthly)



Source: Refinitiv[20]

Figure 7: Cocoa producer price against the ICE London (previously LIFFE) terminal price



[20] https://www.lseg.com/en/data-analytics

Source: Knowledge Charts[21]

Since terminal prices as well as exchange rates are outside the CMC's control, the point in time at which these prices are administered is a crucial determinant for the gross FOB and the producer price. Buyers make substantial investments in market intelligence to time the market well. For instance, they use common brokers (even if they have an in-house broker) to gain information and also invest in pod counting and weather stations to produce crop forecasts (van Huellen, 2015). While CMC might have superior market intelligence on production thanks to its monopoly position, timing the market requires flexibility. However, CMC's flexibility is curtailed by its need to finance its internal marketing via the syndicated loan by October each year. The timing of the loan is well known among financial traders, and hedge funds tend to front-run CMC's sales by selling the market low. At the same time, the BoG relies on the syndicated loan for access to foreign exchange. This constrains CMC's flexibility and leaves it exposed to significant price and quantity risk.

Multinational buyers, as well as chocolate manufacturers, can pass on rising costs to consumers by increasing the price of chocolate, lowering the bean content in a chocolate bar or reducing its weight within the legal margins. These large corporations also tend to operate on a cost-plus basis, which means they supply their custromers with cocoa beans, cocoa derivates (like liquor, butter and powder) and industry chocolate using cost-plus contracts instead of the FCC contracts referenced against the terminal price. This means any cost increase is passed on to their customers, while profit margins are protected. CMC's ability to pass on higher costs to buyers is limited, as all beans are referenced against the terminal price, which only leaves the country premium and LID as mechanisms to cover rising costs.

4 Conclusion and policy outlook

We have developed a simple but novel analytical framework based on Commons's institutional theory as well as institutional and sociological approaches to price to understand pricing processes and price-risk distribution along commodity chains. We thereby contribute to a small but growing literature which seeks to analyse

[21] https://www.knowledgecharts.com/

pricing in GVCs. We argue that the relative neglect of pricing within the GVC literature is a result of its foundations in new institutional economics, which focuses on exchange rather than transaction. The concept of transaction, introduced by Commons, enables us to understand pricing as an institutionally embedded and politically contested process temporally and geographically dislocated from the exchange process.

We have used our analytical framework to map pricing points along the Ghanaian cocoa chain. Based on this map, we conducted a political economy analysis of the institutional setup through which prices emerge and price risks are distributed within the Ghanaian cocoa sector to identify those who achieve higher value capture, those who carry the burden of price volatility and those who benefit from it. We found that CMC has limited ability to control cocoa prices, despite being the monopoly seller of Ghanaian cocoa beans and despite Ghana having recently formed a cocoa cartel with Cote d'Ivoire. We also found that Ghana's price risk is managed by its counterparties to its disadvantage.

Specifically, our analysis demonstrates that the currently employed forward-selling system with prices referenced to the terminal market price in London, as well as multiple currency conversions, is leaving CMC exposed to significant price and quantity risk. While forward selling has clear advantages during times of moderate price declines, and protects cocoa farmers from downside risk, it can cause significant losses in times of high price volatility. The forward-selling system in combination with the syndicated loan forces CMC to fix sales prices in September (and farmgate prices in October), even in a rising market. The rapid price rise in the 2023–24 season has resulted in significant losses for CMC through cocoa smuggling and foregone income as a result of locked-in prices. It has also been the biggest test of Cocobod's ability to repay the loan by the timeline of August 2024. Most lending banks are worried about a potential Cocobod default in some parts of the syndicated loan for the first time in 32 years.

Adjusting the system is complicated because of the dual role that the forward-selling system and the syndicated loan play in the Ghanaian economy, a role which reaches beyond the cocoa sector. On the one hand, it provides Cocobod with the liquidity required to finance its position as the monopoly buyer of Ghanaian cocoa beans. The cash-flow requirement exceeds the capabilities of the domestic banking sector and hence requires Cocobod to approach the international capital

market, where borrowing in domestic currency is not possible. On the other hand, it provides the BoG with access to the international capital market at affordable rates. This service is ever more important in the context of a domestic debt crisis, which has made it impossible for the government to borrow abroad by other means, and of a continuously depreciating currency which demands the accumulation of a healthy foreign exchange reserve stock.

Further, because of the primacy of the terminal market as a reference price, CMC has limited control over the major part of the price it receives. If costs increase, these cannot easily be passed on to the buyer. As a result, they tend to be passed on to the farmer. The lack of profitability of cocoa farming is the primary reason behind the collapse of output. Passing on rising costs to cocoa farmers is hence an undesirable outcome. However, de-linking the bean price from the terminal market is unacceptable for the commodity trading houses which are the primary buyers for CMC. With the LID, Ghana and Cote d'Ivoire have introduced a mechanism that can be used to gain greater control over the sales price. However, the negotiated country premium has provided buyers with a way to undermine this administered price in the past.

A possible way to provide more flexibility for CMC and greater control over its price-risk exposure is to de-link the financing of the internal marketing from the syndicated loan. This could be achieved through the provision of seed funding to Cocobod by the Ghanaian government (workshop, 21 March 2024). Such seed funding would provide CMC with more flexibility in terms of when to sign forward contracts and lock in prices. It would also mean that the size of the syndicated loan could be more flexibly decided as it would no longer be required to finance internal marketing (in full) and CMC could sign differential contracts in a rising market or reserve a larger amount of the projected crop for spot sales to benefit from rising prices. The syndicated loan could then be reserved to finance Cocobod's industry inputs (fertiliser, jute sacks). Seed funding could also be used to finance Cocobod's sourcing operations during the light crop season, which have been accumulated into loans from the BoG in form of Cocoa Bills, as the size of the syndicated loan is insufficient to cover the light corp season.

Given the importance of the syndicated loan for the BoG, other mechanisms to generate foreign reserves could be explored. The BoG has already started seeking such mechanisms. Since June 2021 a Gold for Reserves Programme has been

implemented to assist with reserve requirements and foreign exchange management. The programme involves buying gold from mining firms in Ghana with local currency. The gold is subsequently refined to the status of monetary gold and shipped to the Bank of England and US Federal Reserve to increase the country's international reserves. "With this, the central bank can leverage the monetary gold as collateral for short-term borrowings and other facilities." (interview, 26 February 2024). Currently, foreign exchange interventions and imports are still financed via the syndicated cocoa loan and non-collateralised cocoa revenues. However, as the BoG moves to gold, the dependence on cocoa to access international financial markets can be reduced.

Reducing the reliance on the syndicated loan would bring the additional benefit of a reduction in interest payments, as international banks are currently extracting a share of the cocoa revenues. A smaller syndicated loan or no loan would also mean that the dollar revenues from cocoa exports enter the BoG account continuously, reducing exchange rate pressures and volatility. However, given the funding demands of the Ghanaian cocoa sector, the extension of seed funding would require a stepwise approach and careful management of inflationary pressures. As the IMF currently imposes restrictions on the government's ability to extend such funding, negotiations with it would be required before implementation. In the context of the 2023–24 season, calls for the abolishment of the 32-year-old syndicated loan have received significant political attention in recent years. This could be an appropriate time for Cocobod to design a five-year strategic plan aimed at gradually weaning itself off the syndicated loan.

With exposure to multiple currency risks, the BoG could also consider either conversion of dollars into cedi in tranches or closer to the time when Cocobod requires the funds for internal marketing (especially at times of a continuously depreciating cedi). Further, the BoG could consider actively managing the exchange rate exposure through derivative instruments, as is being done by the multinational buyers for the dollar–sterling exchange rate risk. A switch to dollar-denominated benchmarks (ICE New York) could be another solution to circumventing the sterling–dollar exchange rate risk. However, ICE London tends to trade at a premium over ICE New York, which means a supressed reference price if switching to ICE New York. Switching the reference price would also require changes in the standardised FCC contracts, which are currently referenced to ICE London for Ghanaian cocoa. An alternative could be a concerted lobbying effort to

convince the ICE London market to switch to US dollars instead. However, the success of such efforts is doubtful as they have failed in the past.

Further, especially in the context of a depreciating currency and high levels of domestic inflation, the LID should be revised at the start of each cocoa season (workshop, 21 March 2024). To remain true to its name, the revised LID should consider the depreciation and inflation trends in both Cote d'Ivoire and Ghana for the duration of the season.[22] This would bring the LID closer to its initial objective of providing a floor price for cocoa. The formula could also consider the negotiation position of producer countries and the likely impact on the respective country premium. Whether and to what extent the LID might then affect the terminal price adversely remains to be seen. A concerted lobbying effort could also push for new standardised FCC contracts providing flexibility to renegotiate prices in times of a significant price rally and to include an annually reviewed LID.

Given the asymmetries in the bargaining relationship between CMC and its buyers, a reduction in CMC's reliance on large multinational buyers would also be desirable. As the country is the second largest producer of cocoa beans, de-commodifying cocoa (workshop, 21 March 2024) is unlikely to be an option for the bulk of the cocoa beans produced in Ghana, but some beans could be de-linked from the terminal prices by marketing them as speciality cocoa. At the moment the certification and marketing of speciality cocoa are in the hands of large multinational trading houses and farmers earn a premium for certified cocoa. This could be managed by CMC, which would allow for more flexibility in the price negotiation (beyond a country premium). CMC could also take on the role of selling its contracts at ex-store European warehouses (instead of CIF as it currently does). This would allow CMC to achieve a higher premium, as cocoa stored in Europe is priced with a lower risk premium than cocoa stored in Ghana.

Last but not least, CMC could develop a price-risk management strategy involving utilising derivative markets directly. This will require training and flexibility in being able to manage price risks in both climbing and falling markets. Ghana has not had positive experiences of hedging in the past thanks to uncontrolled trading undertaken by Ashanti Gold. Such experiences might caution policy makers against

[22] Cote d'Ivoire maintains a fixed exchange rate against the euro, which means depreciation is not a concern.

engaging with derivative trading. To avoid interference, CMC will have to ensure that it follows strict adherence to policy controls and governance procedures. To mediate some of these risks, Cocobod could engage with big brokers who have already approached CMC and offered risk management services against a premium. To cover these costs, Cocobod could explore available Risk Management Support funds from the World Bank and IMF. Hedging could potentially cover CMC's price-risk exposure and also enable CMC to use price volatility to its advantage.

While these suggestions are tentative and work at various timelines, they go some way towards catering for the interdependences of stakeholder interests in the Ghanaian cocoa sector and could provide CMC with much-needed flexibility in an increasingly volatile market.

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