MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

„Cooperation or confrontation? Public and private governance and smallholders' incomes in the cocoa sector in Ghana and in Côte d'Ivoire"

verfasst von / submitted by

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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Arts (MA)

Wien, 2020/ Vienna, 2020

Studienkennzahl lt. Studienblatt / degree programme code as it appears on the student record sheet:	A 066 589
Studienrichtung lt. Studienblatt / degree programme as it appears on the student record sheet:	Masterstudium Internationale Entwicklung
Betreut von / Supervisor:	Mag. Mag. Dr. Cornelia Staritz, PhD

Acknowledgements:

First and foremost I would like to thank all interview partners for taking time and for sharing their experiences with me. Their contributions are highly appreciated and without their insights this thesis would have been very differently.

I also wish to thank the University of Vienna for the financial support through the Short-term grants abroad (KWA) which enabled the research stay in Ghana and in Côte d'Ivoire.

I would furthermore like to thank my supervisor Cornelia Staritz for the unfailingly strong support over the past 18 months and for the many advices during that time.

An additional thank goes to Bernhard Tröster and Jan Grumiller from ÖFSE for their support in getting access to price data and for sharing their knowledge on the global cocoa sector.

Also sincere thanks to Judith for the inspiring exchange and to Courage for the hospitality in Accra.

I also like to extend my thanks to Jonathan and Aaron for their comments and for the fine tuning.

And, of course, many thanks to my parents who supported me not only during the writing process in the past months but in general during all the years of study.

Abstract:

Against the background of the sudden cocoa world price drop in 2016/17 and the related income losses for cocoa farmers, the income situation of smallholders gained more attention within the discourse on a “sustainable cocoa sector”. In the two major cocoa producing countries Ghana and Côte d’Ivoire, existing price stabilization schemes and productivity support for cocoa farmers by the state marketing boards are increasingly faced with corporate social responsibility activities of cocoa traders/processors and chocolate manufacturers that aim at improving the income situation of smallholders. Based on 28 interviews with cocoa sector experts in Europe, Ghana and Côte d’Ivoire, this thesis assesses the impact of public and private sustainability governance on smallholders’ incomes by focusing on productivity and quality improvements as well as price setting. It asks whether this regulatory “parallelism” is complementary or if the new private governance initiatives undermine the initiatives of the two parastatals related to smallholders’ incomes. The findings suggest that state and private governance actors are closely cooperating on agronomic issues in terms of improving productivity, with modest advantages for cocoa farmers. At the same time, there is no cooperation on price stabilization and minimum price setting which is a key aspect of public regulation. As seen in the ongoing debate on the Living Income Differential, public-private cooperation may even contradict each other when it comes to price setting.

Seit dem plötzlichen Einbruch des Kakao Weltmarktpreises 2016/17 und den damit verbundenen Einkommensverlusten für KakaobäuerInnen erlangte die Einkommenssituation von KleinbäuerInnen deutlich mehr Aufmerksamkeit im Rahmen des Diskurses über einen "nachhaltigen Kakaosektor". In den beiden größten Kakaoanbauländern Ghana and Côte d'Ivoire, in denen staatliche Marketings Boards durch Preisstabilisierungsmechanismen und Maßnahmen zur Produktivitätsförderung die Einkommenssituation von KakaobäuerInnen verbessern wollen, lassen sich in den letzten Jahren immer mehr Nachhaltigkeitsinitiativen von transnationalen Kakaohändlern und -verarbeitern und Schokoladenherstellern beobachten, die ebenfalls auf eine Verbesserung der Einkommenssituation der KleinbäuerInnen abzielen. Auf Basis von 28 Interviews mit ExpertInnen aus dem Kakaosektor in Europa, Ghana und Côte d'Ivoire bewertet diese Arbeit den Einfluss öffentlicher und privater Mechanismen zur Verbesserung der Einkommenssituation von KakaobäuerInnen in Bezug auf die Verbesserung von Qualität und Produktivität sowie die Preissetzung. Ebenso wird gefragt, ob das gleichzeitige Auftreten von öffentlicher Regulierung und Nachhaltigkeitsinitiativen privater Firmen komplementär ist oder ob die beiden Governance-Formen im Hinblick auf die Verbesserung der Einkommenssituation von KakaobäuerInnen unterschiedliche Interessen verfolgen. Die Ergebnisse deuten darauf hin, dass staatliche und private Governance-Akteure in agronomischen Fragen im Hinblick auf die Verbesserung der Produktivität eng zusammenarbeiten, mit mäßigen Vorteilen für KakaobäuerInnen. Gleichzeitig gibt es keine Kooperation in Bezug auf stabilere und höhere Preise für KakaobäuerInnen. Vielmehr ist die öffentlich-private Zusammenarbeit hinsichtlich der Preissetzung von Widersprüchen geprägt, wie die Debatte um die Living Income Differential zeigt.

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2QC	Programme Qualité-Quantité-Croissance
ANADER	Agence Nationale d'Appui au Développement Rural
CAISTAB	Caisse de stabilisation
CCC	Conseil du Café-Cacao
CFA Franc	Franc de la Coopération Financière en Afrique
CHED	Cocoa Health and Extension Division
CIF	Cost, Insurance, Freight
CMC	Cocoa Marketing Company
CNRA	Centre National de Recherche Agricole
COCOBOD	Ghana Cocoa Board
COCOSHE	Cocoa, Coffee and Shea nut Farmers Association
COPAL	Cocoa Producer's Alliance
CRIG	Cocoa Research Institute of Ghana
CSR	Corporate Social Responsibility
FAQ	Fair Average Quality
FBO	Farmer Based Organization
FCC	Federation of Cocoa Commerce
FFC	Fine Flavour Cocoa
FIRCA	Fonds Interprofessionnel pour la Recherche et le Conseil Agricoles
FOB	Free on Board
GPB	British Pound Sterling
GCC	Global Commodity Chain
GPN	Global Production Network
GVC	Global Value Chain
ICCO	International Cocoa Organization
ICCA	International Cocoa Agreement
ICE	Intercontinental Exchange
ICI	International Cocoa Initiative

IMF	International Monetary Fund
LBC	Licensed Buying Company
LID	Living Income Differential
OPEC	Organization of the Petroleum Exporting Countries
PBC	Produce Buying Company
PC	Purchasing Clerk
PPRC	Producer Price Review Committee
QCC	Quality Control Company
RA	Rainforest Alliance
SAP	Structural Adjustment Programme
SPD	Seed Production Division
UNCTAD	United Nations Conference of Trade and Development
USD	United States Dollar
UTZ	UTZ Certified
WCF	World Cocoa Foundation

1 Introduction

Despite the emergence of various sustainability discourses in the global cocoa sector during the past two decades, the focus has so far been generally on the fight against child labor and deforestation, while the income situation of cocoa farmers has often been ignored (Hütz-Adams et al. 2016a). However, the strong decline of the cocoa world price in 2016/17 by almost 40% and the real losses for cocoa farmers have illustrated the problematic income situation of smallholders linked to the cocoa world price development (ICCO 2020; Hütz-Adams 2018). Against this background, the issue of smallholders' incomes has been acknowledged more recently, as on the following World Cocoa Conference, the director of the International Cocoa Organization (ICCO) claimed that *"Business as usual in the cocoa sector is no longer an option. We have to break the mould"* and it was affirmed that *"the cocoa sector will not be sustainable if farmers are not able to earn a living income"* (ICCO 2018).

The income situation of farmers can be linked to the power asymmetries and the related distribution of value within the cocoa Global Production Network. In this context, a highly fragmented production base, consisting of around five million smallholders worldwide, corresponds with a strongly concentrated rest of the Global Production Network (Fold and Neilson 2016), with a handful of multinational grinders/traders and chocolate manufacturers accounting for the majority of market shares (Oomes et al. 2016). This leaves cocoa smallholders as "price takers" within an "bi-polar buyer driven value chain" (Fold 2002), with farmers only capturing 6% value of the final product (Fountain and Hütz-Adams 2015). Given the fact that the cocoa world price is set on financial derivative markets, there has been a debate on the "financialization" of the global cocoa sector in recent years. In this context, it is especially discussed whether non-commercial actors with purely financial interests have an impact on the cocoa world price development and increase price fluctuations such as in 2016/17 (Van Huellen 2015; Oomes et al. 2016; Hütz-Adams 2018; Purcell 2018; Tröster et al. 2019).

This raises the question which governance mechanisms are able to improve the income situation of cocoa farmers in the context of these power asymmetries and underlying market structures. On a regulatory level, the global cocoa sector has undergone a fundamental change towards a more liberalized market structure with a growing importance of private actors within the past decades. The ICCO lost its role as an active market regulator (Fold and Neilson 2016), while on a domestic level, liberalization policies related to Structural Adjustment Programmes (SAPs) aimed at reducing state regulation of the cocoa sector in producing countries (Gilbert 2009). In this context, the cases of the two major cocoa producers Ghana and Côte d'Ivoire constitute an important exception, as Ghana resisted the fully dismantlement of its Ghana Cocoa Board (COCOBOD), while Côte d'Ivoire reversed its initial market liberalizations by reintroducing a central regulatory institution in the form of the Conseil du Café-Cacao (CCC) in 2012 (Barrientos and Asenso-Okyere 2009; Laven et al. 2016). Within these domestic institutions, seasonal minimum producer prices and in the case of Ghana a wide-ranged market assistance for farmers constitute important pillars of an active regulation impacting the incomes of cocoa farmers (Laven et al. 2016). Additionally, the two countries have recently agreed to align their pricing strategies to improve the income situation of farmers (FCC 2019).

Nonetheless, in addition to this strong public regulation, private governance in the form of certification schemes and sustainability initiatives have played an increasingly important role in both countries. Not least due to the growing consumer awareness of the social implications of cocoa production, private sector governance initiatives have grown rapidly throughout the last years, containing the promise to improve the livelihoods of cocoa smallholders (Barrientos 2016; Thorlakson 2018). This can be observed by the existence of a multitude of different programs, ranging from international multi-stakeholder initiatives to third-party certification and in recent years also in-house sustainability schemes by multinational grinders/traders and chocolate manufacturers.

Against the background of this "hybrid public-private governance" structures in the cocoa sectors in Ghana and in Côte d'Ivoire (Fold and Neilson 2016), this thesis asks to which extent public and private regulations contribute to stable and higher incomes for cocoa smallholders. Given the potential overlap of regulations or competition between different market interventions, the thesis furthermore investigates the relationship between public and private initiatives with respect to the incomes of smallholders and how these different regulations are competing or complementing each other.

In this context, the present thesis aims at answering three major research questions:

(1) What is the impact of national government regulations and institutions as well as private standards and certification in terms of securing stable and higher incomes for cocoa farmers in Ghana and Côte d'Ivoire?

(2) To what extent do public and private governance mechanisms complement or undermine each other in terms of securing stable and higher incomes for cocoa farmers in Ghana and Côte d'Ivoire?

***(3) How can the coordination between public regulation and private governance be improved, complementarities leveraged and contradictions be avoided*?**

In order to operationalize the research questions, the impact of state interventions and different private sustainability schemes on stable and higher incomes for cocoa farmers are assessed along three different indicators: (1) prices, (2) quality and (3) productivity. Interventions on prices in the form of guaranteed minimum prices or premiums can be regarded as the most direct way to stabilize and raise the incomes of cocoa farmers. However, there are also more indirect strategies to influence the incomes of cocoa farmers, as increased quality of the beans can result in higher revenues as well as productivity gains in the form of higher yields, and more efficient production can also result in lower cost structures of cocoa farmers.

Theoretically, the thesis builds on chain and network theoretical approaches. Despite the fact that the state is under-conceptualized in the different strands of chain and network analysis (Horner and Alford 2019), the Global Production Network (GPN) approach with its stronger

consideration of non-firm actors and institutional contexts has taken up the role of the state the most and is therefore identified as the most useful concept for this thesis (Henderson et al. 2002). Additionally, perspectives that include the analysis of price formation at the global and local level (Bargawi and Newman 2017; Staritz et al. 2018) and the concept of private regulations as "governance as normalization" (Gibbon et al. 2008) are particularly relevant for this thesis. Hence, the GPN approach is used in combination with the analysis of price formation in agricultural sectors and the role and impact of public and private governance on the incomes of farmers.

Methodologically, 28 semi-structured expert interviews with cocoa sector actors were conducted. These comprise four interviews with sector experts in Europe and 24 interviews with sector experts in Ghana and Côte d'Ivoire, which were conducted during a two-month research stay in August and September 2019 that was supported through a Short-term grant abroad (KWA) by the University of Vienna. The interview partners included representatives from four multinational grinders/traders and four chocolate manufacturers, two multi-stakeholder sustainability platforms, three third-party certification schemes, two government representatives (one from each country), one NGO, four farmer-based organizations and four researchers or journalists.

The thesis concludes that public regulations have an overall stronger impact on stable and higher incomes of cocoa farmers compared to private governance initiatives. The price regulation of the parastatals in Ghana and Côte d'Ivoire stabilizes the incomes of cocoa farmers for a given harvesting season, while long-term price stabilization is impeded by the dependencies of price setting on the cocoa world price. However, inflationary pressure reduces the real incomes of farmers, particularly in Ghana. Cocoa farmers in Ghana benefit to a stronger extent from public assurance of bean quality, since the related higher export revenues in Ghana are also mirrored in higher farm-gate prices for Ghanaian farmers compared to Ivorian producer prices. The provision of public extension services and thus higher yields for farmers is also more pronounced in Ghana, but both countries have in common that a large share of smallholders is not reached by the extension services. All private governance initiatives contain a strong focus on productivity enhancement, while only few standards consider quality management. Except third-party certification, private governance initiatives do not consider price setting within their sustainability efforts, despite the fact that prices are an important factor for higher and especially more stable incomes of cocoa smallholders.

On a technical level, state and private sector actors are closely cooperating on productivity measures and multinational grinders/traders are also increasingly involved in domestic trade. However, this thesis argues that public and private actors do not cooperate in price setting and multinational buyers may even contradict price stabilization measures of the parastatals, as debates around the recent policy move from a guaranteed "Floor Price" towards a "Living Income Differential" (LID) show.

This thesis is structured as follows. The next section contains a discussion of the relevant literature on chain and network theoretical approaches, price formation in agriculture GPNs and public and private governance. This is followed by the discussion of the methodological

approach in section 3 that includes semi-structured expert interviews that were conducted in Europe, Ghana and Côte d'Ivoire as well as data on cocoa prices. Based on secondary literature, section 4 contextualizes the global cocoa sector, with reference to important actors in the cocoa GPN, global price formation and major regulatory shifts in recent decades. Section 5 describes the regulatory and institutional context of the cocoa sectors in Ghana and Côte d'Ivoire and illustrates the policy measures by the two parastatals with respect to the incomes of cocoa farmers. Based on price data and the results of the semi-structured interviews, section 6 assesses the impact of both public and private regulations on farmers' incomes and discusses the forms of public-private interplay. The section further discusses the potential implementation of the LID and its implications for smallholders' incomes. In a final section, major conclusions and an outlook are presented.

2 Chain and network approaches, price formation and sustainability governance

2.1 Chain and network approaches

The evolvement of chain and network literature dates back to the late 1970s. The term “commodity chain” was first mentioned by Terrence Hopkins and Immanuel Wallerstein (1977: 128) within their research on the global world system. In contrast to understanding the global economy as a simple expansion of national markets, Hopkins and Wallerstein argued for a **world system approach** on the basis of a sequentially backward analysis departing from a finished commodity. Bair (2005: 156) characterizes this world system inspired research as a “holistic macro approach”, underlining its historical view which assumes an inseparable linkage between commodity chains and the rise of capitalism in the 16th century and onwards. Furthermore, the world system approach entails a “developmentalist illusion”, which assumes a persistent hierarchical world economy and the maintenance of a center-periphery dialectic between different countries. Thus, an upgrading process of a certain country’s economy within a commodity chain goes hand in hand with the downgrading of another country.

Within a first transition during the 1990s, initial ideas on commodity chains were taken up with a stronger focus on the meso (sector) or micro (firm) level with an explicit consideration of upgrading opportunities for certain firms or countries, neglecting the idea of a “developmentalist zero-sum game”. Therefore, the theoretical focus shifted from Hopkins’ and Wallerstein’s explanatory intentions on the historical rise of global capitalism to an approach that focuses on contemporary developments in particular commodity chains, intending to understand “how and by whom value is created and distributed along a commodity chain” (Appelbaum and Gereffi 1994. In: Bair 2005: 157). Gereffi (1995: 102) argues that different key characteristics of the modern era capitalism can be best described through the **Global Commodity Chains (GCC)** approach.

The analytical framework of the GCC approach is based on four different dimensions: the value-added chain of products, the geographical dispersion of the production, the governance structure between firms, and on the institutional framework consisting of different policies and conditions on a local, national and international level (ibid. 113). While the analysis of a product’s value chain and its geographical dispersion are building up on ideas of the world system approach, Gereffi (ibid.) additionally emphasizes the importance of the governance structure within a commodity chain. In this context, multinational companies are identified as “lead firms” that are “driving” GCCS, either within producer-driven commodity chains (PDCC) or within buyer-driven commodity chains (BDCC). Whereas producer-driven commodity chains apply to technology intensive industries such as the automotive sector (with car manufacturers as the lead firms), buyer-driven commodity chains are found in labor intensive industries such as the garment sectors, with retailers, branded marketers or trading companies as lead firms. The dominating role of lead firms within a commodity chain is characterized by their control over the most profitable parts of the commodity chain, the outsourcing of less profitable segments and by their ability to include or exclude other actors in the commodity chain (Raikes, Jensen and Ponte 2000: in Van Huellen 2015: 207).

Within the debate on upgrading, the importance of governance structures evoked an even stronger focus on inter-firm governance during the mid-2000s, when Gereffi et al. (2005: 79) proposed the **global value chain (GVC) paradigm**. GVC's major distinction towards the GCC paradigm is probably its more detailed conceptualization of the governance structures between firms. In comparison to the rather narrow two-fold GCC typology (buyer- or producer-driven), Gereffi et al. (ibid. 86) suggest five possible types of firm governance within a chain, ranging from the extremes of competitive market relations to a strong hierarchy. The five different governance types (*market-based, modular, relational, captive or hierarchical),* can be identified according to the amount of transaction costs between firms.[1] According to Gibbon et al. (2008: 323) GVC's incorporation of business literature and its focus on transaction costs and efficiency constitutes a move away from GCC's notion of lead firms as powerful "drivers" of a commodity chain towards the idea of governing a commodity chain through **"coordination**" of inter-firm transactions and process standards.

The concept of governance as "coordination" and its mere focus on transaction costs has faced criticism for lacking the consideration of dominant regulatory systems or corporate strategy paradigms among lead firms, but also for blinding out the social and political dimensions of governance. In addition to the concept of "governance as driving" and "governance as coordination", Gibbon et al. (2008: 324) argue that inter-firm governance can be also understood in a more jurisdictional manner as **"governance as normalization".** Based on ideas of convention theory (Boltanski and Thévenot 1991), Gibbon et al. (ibid. 325) point out that "each economic action is framed by systems of justification", which generate "systematic languages for identifying the objects of economic action and the criteria for attributing functions and values to them". In other terms, governance as normalization theorizes the way lead firms apply and communicate their own rules to other actors in the value chain. Nonetheless, these firm-specific norms should not be understood as constant market rules, but rather as highly dynamic criteria within an "ongoing process of solving specific problems and achieving particular goals" (ibid.). Gibbon and Ponte (2005: 10), identify the ongoing change of quality conventions as a major source of the introduction of these justification systems. Hence, market saturation or increasing consumer awareness evoke new quality dimensions such as products that are socially or environmentally "ethical", whereby new information to consumers is commodified (Gibbon et al. 2008: 325). However, these paradigms and jurisdictional systems are multiple and can overlap or even be in conflict with each other (Van Huellen 2015: 212). In comparison to the two other GCC/GVC forms of governance, the "normalization" strand consequently identifies governance not through market concentration but rather through the ability to introduce dominant paradigms but also to create legitimacy and norms (Gibbon and Ponte 2008).

[1] The type of governance depends on the value (either high or low) of three key variables: (1) complexity of transactions between the firms, (2) ability to codify transaction between firms, (3) capabilities of the suppliers in relation to transactions (for a more detailed explanation on the categorization of GVC's governance types see Gereffi et al.(2005: 87))

Henderson et al. (2002: 441-444) criticize GCC's/GVC's overall focus on inter-firm governance and its lack of consideration of a "specific social and institutional contexts at the national or subnational level" in which different firms are (geographically) embedded. Instead, they propose the concept of **Global Production Networks (GPN).** In this context, the "chain metaphor", which would narrow the view on a linear chain according to the authors, is replaced by a "network", which should highlight the complexity of relations between firm and non-firm actors. The term "production" suggests that the "analytic emphasis is on social processes that are involved the production of goods but also in the reproduction of knowledge, capital and labor". Henderson et al. (ibid. 448-455) define three conceptual categories that have to be considered – value, power and embeddedness. In this context, researchers have to analyze how value is created (within a labor process) and enhanced (in terms of quality or technological sophistication) and how and by whom value is captured (e.g. through governance or firm ownership). The conceptualizations of power are crucial insofar as they do not only include corporate power, but also institutional power (by national or local state, but also through inter-state agencies such as the Bretton Woods Institutions) and collective power (trade unions, NGOs). The analysis of embeddedness considers how firms are embedded socially and spatially into production networks, e.g. through subsidiaries in different countries and how the (state or non-state) institutional context impacts their evolvement. These three conceptual categories "live" through four conceptual dimensions – firms (and their ownership structure) – sectors (and their "common language" through industry organizations and regulative environments) - networks - and institutions. GPN's major innovation is its focus on institutions, and they are also central in setting standards for labor relations or wage levels, and therefore "central whether GPNs can deliver sustained social and economic wealth" (ibid. 455).

2.2 Specifities of agricultural production networks

The initial focus of chain and network approaches on manufactured industrial goods raises the question how agricultural sectors can be theorized adequately. Daviron and Gibbon (2002: 138) argue that tropical agricultural commodities such as coffee, cotton, or cocoa have certain key characteristics in common. One of their distinctive feature during the 20th century was that the supply was typically controlled by parastatals in producing countries that served as state export monopolies (ibid.145). This included also strong support for the crop producers in the form of price stabilization and hence less entry barriers for smallholders. As a reaction on potential global oversupply, producing countries promoted international producer associations and commodity agreements that aimed at stabilizing producer prices. However, producing states interventions were limited on a horizontal level. According to Daviron and Gibbon (ibid. 146) vertical coordination by multinational firms "was mainly of an 'arm's length' kind", involving a "loose system of multiple and often quite temporary contract-based relations with particular suppliers and end-users", and the main formal institution around these commodity chains were international commodity exchanges and futures markets.

Yet, the collapse of transnational agreements and the extensive deregulation of parastatals in producing countries in the course of SAPs in the 1980s and 1990s is considered as a

“game changer”. This is because the role of international traders transformed from a mere intermediator towards a stronger chain coordination and vertical integration. Consequently “in tropical agro-commodity trade, market liberalization and ‘buyer-driveness’ have had a symbiotic relationship”. This refers to Gereffi’s “buyer- or producer-driven” commodity chains, but the application of this concept on manufacturing was viewed as too simple given the specific characteristics of agricultural commodities. (Cramer 1999. in: Van Huellen 2015: 207).

Instead, Gibbon (2001) suggests international commodity traders as a third type of lead firm. According to Gibbon (ibid. 351), trader-driven commodity chains have to match at least two of the following characteristics: (1) “relatively low value-to-weight/quantity ratios, labor-intensive direct raw material production and low entry barriers for primary production” (2) “a globally dispersed and locally discontinuous and seasonal supply pattern, (3) strong tendencies towards market saturation, either due to substitution by other products, new suppliers or low price-elasticity of demand (4) demand (or intermediate demand) side which is either concentrated or segmented with respect to commodity variety”.

Additionally, Gibbon states that international traders need to “offset or hedge risk through a presence in futures, derivatives and financial markets, which can be also sources of profitability in their own right”. This further explains the high levels of concentration among international commodity traders (ibid. 351). The governance towards suppliers is described as limited to price, volume and reliability criteria, and governance is rather exerted through price effects than through market exclusion.

Gibbon’s strong focus on international traders as the single type of lead firms in agricultural commodities was also a source of criticism, as other parts of the commodity chain such as the manufacturing of the commodities into the final form or their sales was neglected (Talbot 2002: 704). Fold (2002: 244) introduces the concept of a “bipolar-buyer driven chain” for the global cocoa-chocolate production network that is “essentially buyer-driven in the sense that agricultural producers are more or less price-takers on the global market”, but includes - apart of international traders - also chocolate manufacturers as lead firms within the chain. According to Fold, the governance of this bipolar chain is determined by a “relatively stable balance in the chain where lead contract firms (grinders) are contained by the commercial (and tactical) practices of lead brand-name chocolate manufacturers”. Fold and Larsen (2011: 44) argue that apart of buyers and manufacturers, retailers play a substantial role within global food value chains and hence should be also considered as a third type of lead firm.

Another strand of the chain and network literature takes up the theoretical concept of “trader-driven commodity chains” in agricultural value chains and links it to the debate on financialization (Newman 2008,2009; Tröster 2015; Newman and Bargawi 2017; Staritz et al. 2018; Purcell 2018; Calsikan 2009; Van Huellen 2015). Financialization can be described as the “increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies (Epstein 2005: 3). In the context of agricultural value chains, it is thus asked how the “benchmark role” of financial

derivative markets within the price formation for cash crops such as cocoa, coffee affects the price setting process and the distributional outcomes in producing countries.

In this context, Caliskan (2010) argues that prices are not a mere interplay between supply and demand, but rather socially constructed with different price forms that are produced by several different actors such as economists or traders, but also by market researches or governments. Bargawi and Newman (2017: 166) suggest to complement the conventional analysis of global value chains with “price chains” that include the different price points for a commodity and institutional factors that affect the price formation. Additionally, there are publications that focus on the “double-role” of Commodity Trading Houses (CTHs) that use financial derivative markets not only to hedge their risks on physical trade, but also as a source of profit generation (Staritz et al. 2018: 818), and on the lack of price-risk management for local actors in producing countries such as farmers (Tröster 2015: 18).

2.3 Public and private governance

Contrary to the extensive amount of contributions on inter-firm governance in chain and network approaches, Horner and Alford (2019: 2) argue that state interventions remain generally undertheorized within chain and network analysis. Against the background of rapid globalization and deregulation in the 1990s and the early 2000s, chain and network literature mostly focused on corporate governance and the power of lead firms and thus did not consider state governance adequately. Horner and Alford (ibid. 7-11) suggest four different roles of the state within a “state-GVC nexus”: Thus, states can intervene as **facilitators** of markets, e.g. through physical or fiscal incentives (e.g. enabling the participation of domestic firms, public funds on research, provision of infrastructure, Special Economic Zones, industrial policy), as **regulators** (state marketing boards, price controls, trade policy, quality controls) but also as **producers** (through state owned firms) or as **buyers** (public procurement).

Smith (2015) argues similarly in terms of the lack of state-theorization within GCC/GVC/GPN analysis, which would be limited to “listing the roles of government agencies”. Taking up on this, Smith proposes a “strategic-relational” understanding of the state, which assumes that states have different strategies to create conditions for capital accumulation within GPNs (ibid. 297). Thus, states can manage “spaces for capital accumulation” through the provision of basic conditions such as the guarantee of private contracts or property rights, but also through market interventions that attempt to stabilize crisis prone markets (ibid. 298-300). For Smith, it is therefore important to understand the social construction of state policy “as the outcomes of struggles within the state”(ibid. 298), out of which subsequently dominating or “hegemonic” policy directions arise (ibid. 299). In short, this implies the importance of the understanding of the socio-economic “embeddedness” of GPNs and suggests to analyze how state interventions (that are a product of different power struggles) regulate the accumulation of capital at different geographical scales.

A thorough theorization of state interventions is also lacking in previous contributions on the cocoa sector, despite manifold literature on the role of parastatals and their liberalization

(Barrientos 2009, Losch 2002, Gilbert 2009). According to Fold and Neilson (2016: 195), the institutional background as a generic fourth dimension of the GCC analysis was mainly neglected in most studies on cocoa GCCs/GVCs. Ofosu-Asare (2011) makes an attempt to theorize the role of COCOBOD under the conditions of Structural Adjustment Programs (SAPs). In concrete, he argues that Ghana's resistance against the complete dismantlement of its state marketing board while agreeing to a partial liberalization can be considered as a middle way between economic structuralism (and thus strong state control of the economy) and the "laissez faire" approach of neo-liberalism. Ghana's "COCOBOD light" from the 1990s onwards would be therefore best described as a "neo-structural" development approach. Unlike structuralism, neo-structuralism (Leiva 2008; Kirby 2009) would "admit the importance of market forces, private enterprises and foreign direct investment (FDI)" but still favors the need for the state to govern the market (Ofosu-Asare 2011: 49). According to neo-structuralists, "systemic competitiveness is essential for a successful competition in the global markets", that enable the country to attain a "high road of globalization" that couples economic growth with social equity.

Within chain and network approaches, private governance has been extensively discussed with respect to inter-firm governance on commercial aspects such as technical standards or quality requirements, as already described above (Gereffi 1995; Gereffi et al. 2005; Gibbon and Ponte 2005; Gibbon et al. 2008). However, from the 1990s onwards, the raise of certification schemes related to ethical aspects of trade also promoted the idea of private sustainability governance, which became an increasingly important factor within global supply chains and also in chain and network literature (Wahl and Bull 2014: 585). This is also reflected in a number of studies on private sustainability initiatives that mainly focus on sectors such as apparel or agriculture. However, a common "starting point" of those studies, which would be a general definition what "private governance" actually stands for, is somehow lacking so far. Wahl and Bull (ibid.) define private regulation as an alternative to the state regulation, which is "developed and administered by companies, industry associations or NGOs", in order to "safeguard economic, ecological or environmental sustainability in producer countries and along the value chain". Yet, as Vogel (2008: in: ibid.) notes, clear theoretical boundaries between private (non-state), voluntary regulation on the one hand and public (state), mandatory regulation on the other hand are often not tenable when taking a closer look at the actual standards. As most academic studies on private governance are either embedded in the research on Corporate Social Responsibility (CSR) or on supply chain management, they mostly focus on the concrete implementation and effects of a single standard, thus with limited theoretical (and comparative) contributions (ibid. 588-597).

Henson and Humphrey (2010: 1628) argue that different debates on private governance are somehow "clouded", in the sense that an important background analysis on the different institutional forms, promoters and main drivers of private governance are mostly lacking in the discussion on "rights" and "wrongs" of private standards. Additionally, the authors point out the importance of looking beyond the "standard landscape", by linking the ongoing change of different standards to broader trends of the value chain such as shifting consumer demands and/or regulatory and technological evolutions (ibid. 1630).

With a special focus on agricultural sectors in Africa, Blowfield and Dolan (2008) refer to potential limitations of private governance and its idea of creating “ethical” conditions for trade. In this context, the authors claim that – in contrast to the notion proclaimed by CSR proponents - monitoring and auditing tools are not inherently neutral practices and their success does not only depend on overcoming technical constraints as often claimed. On the contrary, private governance would face structural limitations in the sense that they can e.g. only reach permanent and formal workers (ibid. 8). Despite using a variety of formats on “stakeholder engagement”, CSR would furthermore rather lead to a disempowerment of producers as their welfare is consequently defined by consuming decisions in the Global North rather than by local struggles (ibid. 3). Blowfield and Dolan (ibid. 5) are also taking into account the aspect of self-interest within CSR initiatives, as “standards can constrain behavior of companies, at the same time they allow them to perform certain actions power on the basis of self-interest”.

2.4 Synopsis

Among the different strands of chain and network literature, this thesis will use the GPN approach, as it more thoroughly considers non-firm actors and institutional contexts and allows to use an “institutional lens” (Henderson et al. 2002). Since this thesis has a strong focus on prices, the analysis also goes beyond conventional consideration of a production network and thus takes into account the institutional factors of price formation and creation of different stages of cocoa price setting (Newman and Bargawi 2017). With regard to private governance, the GVC concept of “governance as normalization” (Gibbon and Ponte 2008) with its conceptualization of private sustainability governance as a fluid form of addressing sector specific problems fits best to changing sustainability discourses in the global cocoa sector.

3 Methods

For the assessment of the impact of different private and public regulations on cocoa farmers' incomes, the thesis uses quantitative data related to cocoa prices as well as qualitative data in the form of semi-structured interviews with cocoa sector experts. Out of the 28 expert interviews, 24 interviews were conducted during a research stay in Ghana and in Côte d'Ivoire in August and September 2019.

3.1 Price data

Prices are a key pillar for the incomes of cocoa farmers. It is thus important to analyze farm-gate prices received by smallholders, but also to consider national export prices and global prices from which the producer prices derive (for further explanations see section 4.4.1). This allows to analyze the extent to which domestic export prices depend on global prices and related fluctuations but also to examine how domestic distribution of export earnings is mirrored in farm-gate prices received by smallholders.

Data on seasonal cocoa farm-gate prices for Ghana and Côte d'Ivoire were provided by the ICCO and reflect the yearly minimum prices of 14 cocoa seasons (2006/07 until 2019/20) which are announced at the beginning of every harvesting season on October 1. The data on export prices includes the average monthly prices for Ghanaian and Ivorian cocoa exports between 2000 and 2018. Since there are no official export prices publicly available, the export prices were calculated the basis of unit values of EU 27-imports of raw cocoa (HS180100) from Ghana and Côte d'Ivoire (Eurostat 2019). While these prices do only consider the exports to EU destinations, they can be still seen as a useful approximation to Ghanaian and Ivorian export prices, since the EU is the biggest export destinations for both countries. Additionally, the monthly average cocoa futures prices from the London ICE between 2000 and 2018 were taken into account (Reuters 2019), in order measure the correlation between London ICE and export prices in Ghana and Côte d'Ivoire and thus the dependence of national pricings systems on financial derivative markets.

But only considering price data cannot adequately explain which role public and private governance initiatives play with respect to smallholders' incomes, especially since it does not give any indication of other indicators such as productivity or quality and the actual price setting process behind prices at the different stages global cocoa GPN. For this reason, the thesis uses qualitative interviews with different sector experts from public and private sector and civil society actors in the global cocoa GPN.

3.2 Semi-structured interviews

A major strength of qualitative research is that it allows to generate a range of different angles and perspectives on the research topic (Dannecker and Vossemer 2014: 154). This is also highly relevant in the case of the global cocoa GPN, where many different actors have an impact on the incomes of cocoa farmers. Qualitative interviews can be thus used to

collect and analyze “interpretations of situations, motives for action, self-interpretations, experiences and everyday theories of certain actors, groups or organizations” (ibid.)

There are different types of qualitative interviews, such as open interviews, biographical interviews, semi-structured (or guideline) interviews or focus group interviews. This thesis uses semi-structured interviews, where different topics and questions are generally (pre)structured along a specific guideline, but the interviews remain flexible in terms of the time frame and with respect to the formulation of the questions and the order of topics (ibid. 159). This allows to get the assessment of different actors on the impact of public and private governance on cocoa smallholders’ incomes and thus to compare the results. At the same time, it can be still paid attention to the personal and institutional background of the interview partner which therefore enables to consider the “angle” from which the interview partner is assessing the questions related to the research topic.

3.2.1 Preparation

Before starting to work on the master thesis, I was already familiar with the research topic since I had written a research paper on the global cocoa sector which also included content on the Ghanaian and Ivorian cocoa sector. According to Englert and Dannecker (2014: 239-40), detailed knowledge on the research topic in advance of the selection process of interview partners is not necessarily an advantage, since it also bears the risk of “narrowing the perspective and also of being too uncritical towards dominant paradigms within the research area”. However, in my case it certainly helped to have prior knowledge on the cocoa sector in order to identify institutions and actors that could be relevant to answer the research questions. The research paper was furthermore useful in order to practice semi-structured interviews but also allowed using the results of the interviews from the research paper for this thesis (Interviews 1;2;3;4). In this context, two chocolate manufacturer from Germany and Austria, one representative from a third-party certification scheme in Austria and one cocoa sector expert from a German NGO were interviewed.

Six categories of potential interview partners were identified in order to address the research questions, namely representatives of (1) farmer-based organizations, (2) state marketing boards (3) sustainability schemes multinational grinders/traders and chocolate manufacturers (4) third-party certification schemes (5) multi-stakeholder sustainability initiatives and (6) academia, civil society and media.

In order to operationalize the research questions in the form of a concrete questionnaire, thematic blocks as recommended by Dannecker and Vossemer (2014: 160) were used. These thematic blocks included (more general) introductory questions at the beginning of each block and (more detail-oriented or sensitive) sub-questions at the end of a thematic bloc.

The final questionnaire contained four major thematic blocks, which included:

(A) Interviewee's role and perception on global and national cocoa sector
(B) Perception on the impact of public governance on price/productivity/quality in the respective country
(C) Perception on the impact of private governance in the form of sustainability initiatives on price/productivity/quality
(D) Perception on public-private interplay with respect to governance on cocoa farmers' income

After all, as the research stay showed, it happens that the questionnaire has to be modified during the research stay based on new developments and knowledge. Against the background of the announcement of the introduction of the LID (COCOBOD 2019a) by the Ghanaian and Ivorian governments in July 2019 right before the beginning of the research stay, the thematic block on public governance had to be revised before the first interviews to take into account this new development.

During the research stay, in total 15 interviews in Ghana and nine interviews in Côte d'Ivoire were conducted. These included representatives from four chocolate manufacturers and four multinational grinders/traders, two multi-stakeholder sustainability platforms, 3 third-party certification schemes, two government representatives (one from each country), one NGO, four farmer-based organizations and three researchers and one journalist.

3.2.2 Analysis

The interviews were either recorded or written notes were taken, which was mostly the case because interview partners did not want to be recorded. As the first interviews showed that all interview partners wanted to stay anonymous, an "anonymization by default" approach was applied where it was assumed that all interview partners want to stay anonymous.

After the transcription of the interviews, the transcripts were inserted in "cases x categories matrix" (see Table 1) according to a topic-related coding (Kuckartz 2012: 6-7). The cases represent the different interviews, while the categories derived from the four thematic blocks of the questionnaire (see section 3.2.1 above) and additionally list one section for further remarks (see Table 1). Within the insertion of interview transcripts into the coding matrix, relevant text passages from the respective transcripts were identified with reference to the five thematic blocs. This furthermore enabled to compare the interview results with each other.

Table 1: Matrix for analytical coding of the semi-structured interviews

	Theme A	Theme B	Theme C	Theme D	Theme E
	Global and national cocoa sector	***Impact public governance***	***Impact private governance***	***Public-private interplay***	***Other remarks***
Interview 1	Text passages from Interview 1 to *"global and national cocoa sector"*	Text passages from Interview 1 to *"impact public governance*"	Text passages from Interview 1 to *"impact private governance"*	Text passages from Interview 1 to *"public-private interplay"*	Text passages from Interview 1 to *"other remarks*
Interview 2	Text passages from Interview 1 to *"global and national cocoa sector*	Text passages from Interview 1 to *"impact public governance"*	Text passages from Interview 1 to *"impact private governance*	Text passages from Interview 1 to *"public-private interplay"*	Text passages from Interview 1 to *"other remarks*
…..					

Note: Adapted by author based on "cases x categories" matrix within content analytical coding, Kuckartz (2012)

3.3 Reflections on research stay and limitations

A major challenge during the research stay was the initial establishment of contact with potential interview partners. While communication through e-mail in advance of the research stay turned out to have severe limitations in terms of receiving responses, the direct contact through phone calls at the very beginning of the research stay was more feasible. Generally, the "snowball-system" (Englert and Dannecker 2014: 254) and the underlying assumption that "one contact leads to another" had only limited applicability in the case of this thesis due to the wide range of interview partners. For instance, an interview with a chocolate manufacturer could potentially lead to a new contact with another chocolate manufacturer, but only in rare cases it would lead to a new contact to for example farmer-based organizations or researchers. Consequently, a substantial amount of time of the research stay had to be invested in the establishment of contacts with interview partners. In both countries, the respective first two weeks were characterized by waiting on interview requests as often potential interview partners agreed on an interview but were either absent on conferences, field trips in cocoa regions or on holiday, which consequently resulted in only a few interviews in the first weeks. In contrast, final two weeks of the research stay in each country were mostly characterized by multiple interviews on one day, which posed organizational challenges including the avoidance of a hectic interview atmosphere.

The interviews mostly took place in the offices of the interviewed person. While some of the interviews were two hours long, others lasted for less than 15 minutes. It was also often the case that several interviews were postponed spontaneously or did not take place at all. One major realization of the research stay was that it is important to constantly take into account the time constraints of interview partners and to appreciate their goodwill in trying to find time slots for an interview. This was especially crucial for finding a balance between following-up on an interview request on the one hand (especially against the background of a limited

research stay) and respecting the time constraints of potential interview partners on the other hand. In this context, it was helpful to get advice from local friends in order to assess if and how many times it was appropriate to follow up on interview requests.

With regard to the different interview partners, one major limitation is certainly that – despite the conducted interviews with representatives of farmer-based organizations (FBOs) - cocoa famers were not directly interviewed. It would be certainly problematic to assume that FBOs are “the” voice of cocoa farmers and furthermore to neglect the different interests and power dimensions within FBOs. Against the background of this thesis and the limited period of the research stay it was not possible to include research stays on the countryside that would have required a longer preparation time. While the two months for the research stay have been are a relatively long period and thus a great opportunity in the context of a master thesis, the duration of the research stay still evoked limitations with respect to the analysis of the research area as a whole and consequently lead to a specific representation of interview partners.

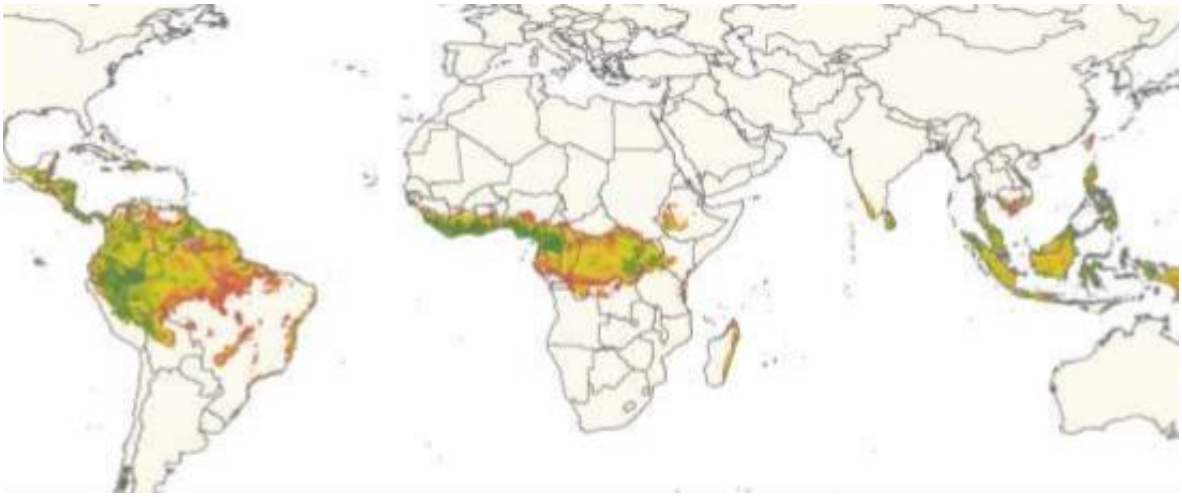
A further limitation of the research stay and the thesis as a whole arises with respect to the type of knowledge it produces. According to Haraway (1988: 476), the production and interpretation of knowledge is always linked to the social localization and context-specific privileges of researchers. Consequently, researchers should acknowledge that their perspective *per se* cannot be considered as neutral and thus the research findings are always “situated” according to the researcher. In my case, the situated interpretation already started before the research stay when I was introduced into the research subject by reading mostly publications from European or North American researchers on “the” cocoa sector in Ghana and Côte d’Ivoire which certainly created a very specific image and narrative on the topic. It furthermore also determined which kind of knowledge the research aimed at producing and made me using a specific language. Receiving a research scholarship that enables to go as a white European man to another continent investigating a research topic that has not been a part of my life reality furthermore certainly entailed a difference of self-perception and external perception by interview partners. This is especially the case regarding the fact that most of the interviewees have been familiar with the topic for a very long time and most particularly the farmer-based organizations are directly affected by the topic, whereas in contrast I just recently “discovered” the issue for myself. It is thus important to consider the thesis not as a neutral assessment but rather as a specific type of knowledge produced from a privileged position which is not affected by the “problem area” that is investigated.

4 The global cocoa sector

4.1 Production areas and varieties

Cocoa trees need nutrient-rich soils, an average temperature between 24 and 28 °C, a relative humidity of 80% to 90% and at least 1,500 mm annual precipitation, evenly distributed throughout the year. In consequence of its specific climate requirements, the cocoa tree can only be grown in the “cocoa belt” along the equator (Hütz-Adams et al. 2016a: 6). The “cocoa belt” is located between latitudes 20° North and 20° South, areas between 10° North and 10° show the best thrive of the plant (see Figure 1).

Figure 1: "Cocoa belt" according to suitability of cocoa production in different areas



Source: Bunn et. al 2018, *cocoa suitability score*. = low = middle = high

On average, a cocoa tree yields the first fruits after 3 to 4 years. Usually, the trees reach their highest production after 5 to 10 years, and after a time span of around 20 years the plant starts to decrease its production (ibid.). The fruits of the cocoa tree are cocoa pods. These pods are harvested and cut open by hands with machetes. One pod usually contains around 30 to 40 bitter tasting beans, surrounded by a sweet and juicy pulp (see Figure 2). In order to reduce the bitter taste of the beans and to develop the typical chocolate taste, the beans are fermented, which takes around 10 days. In this process, the astringency (which makes the beans taste bitter initially) is reduced and the increasing acidity intensifies the cocoa aroma (Alberts and Cidell 2016: 126).

Figure 2: Picture of a ripe cocoa pod and selected cocoa beans with pulp from around 10 pods

Source: Author, pictures taken in Ndouci, Côte d'Ivoire (07/09/2019)

There are three varieties of cocoa beans - Criollo, Forastero and Trinitario. Criollo means "native", a name that growers in Venezuela gave the bean in order to differentiate it from the "foreign" Forastero bean type that was imported from other regions. Trinitario constitutes a hybrid bean, which is a mix of Criollo and Forastero (Ofosu-Asare 2011: 189). Forastero is understood as the "standard" or "bulk" variety, accounting for 93% of the overall global production in 2017 (Hütz-Adams et al. 2016a: 6). On the contrary, Criollo and Trinitario beans are considered as high quality fine flavor cocoa (FFC), due to the high fat proportion of more than 50% within the beans. The overall success of the Forastero is also explained by its relative resilience towards production obstacles. Despite being also prone to several diseases such as the "witches broom" in Latin America or the "swollen shoot virus disease" that is predominant in West Africa, the Forastero is still more robust than the two fine flavor varieties Criollo and Trinitario, which react very susceptible to any kind of diseases, pests or drought. Currently, Criollo and Trinitario varieties are mostly limited to production areas in Latin America (Ofosu-Asare 2011: 190-195).

4.2 Historical patterns of cocoa production and consumption

The production of cocoa originates from Central America, where the Olmec Indians cultivated the crop already around 1200 B.C. The first proper cocoa plantations were established by the Mayas around 600 A.D. (Dand 2011: 2). The Mayas were also the first to make a drink from ground cocoa beans mixed with water and chili. Throughout the following centuries, the cocoa plant spread to the Aztecs who named the drink "chocolatl" and used it mainly as an energizer. Additionally, the Aztecs also used cocoa beans as a currency. By the beginning of the 16th century, the cultivation of the crop had already spread all over the Northern part of Central America and to large parts of Central and Western Amazonia (today's northern part of South America) (Ofosu-Asare 2011: 163-165).

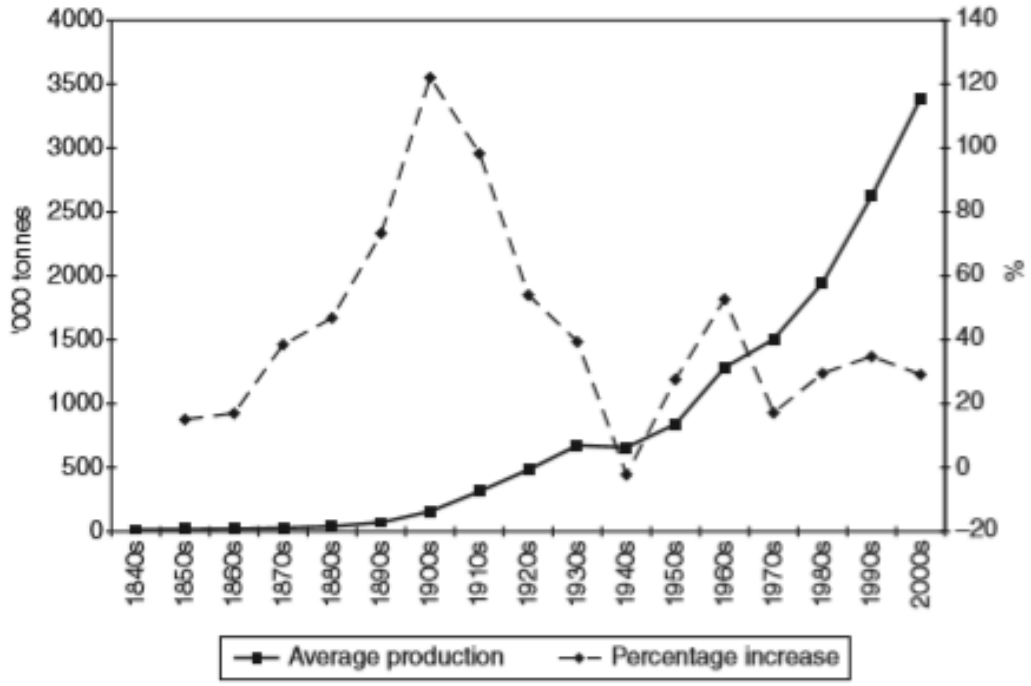
In the aftermath of the conquest of the Aztec empire by the Spanish Conquistador Hernan Cortes in 1521, dried cocoa beans were taken to the Spanish Court. The Spaniards

subsequently spread the cocoa bean to different islands around the world, such as to Trinidad in the Caribbean, but also to the West African island Fernando Po (today known as Bioko) and to the Indonesian islands Java and Celebes (Dand 2011: 3), collecting taxes on production and trade of the beans (Polemans and Swinnen 2016: 14). Anyhow, throughout the entire sixteenth century, the Spaniards kept the drink from the rest of Europe and preserved it for domestic social and religious elites. In the following century, the beverage slowly spread throughout the European continent, and by the mid of the 17th century, the establishment of "Chocolate Houses" popularized the drink even more in several European countries (Ofosu-Asare 2011: 168). Throughout the 18th century, chocolate factories producing an increasing variety of drinking chocolate were opened in many European countries such as in Great Britain, France, the Netherlands and Switzerland, and also in the USA the first chocolate manufacturers were established.

The advancing industrialization in the 19th century led to different innovations in the production methods, such as the steam engine replacing manual bean grinding by mechanical grinding. Additionally, the product range of chocolate was increasingly diversified. In 1828, the Dutch entrepreneur Coenraad van Houten developed a technique to extract cocoa powder from the processed cocoa. The mix of cocoa powder with water enabled the production of larger quantities of chocolate beverages with less input of cocoa beans, which made drinkable chocolate become a mass product. In 1847, the British chocolate company "Fry and Son" produced the first chocolate bar by mixing cocoa butter and chocolate liquor, which was followed soon by the introduction of milk-blended chocolate in 1875. The expanding market of eating chocolate also led to the formation of two different types of manufactures - companies that specialize in the processing of cocoa beans, and companies that produce actual chocolate – a differentiation which remained a characteristic feature of the cocoa-chocolate production network until the present (Dand 2011: 10; Polemans and Swinnen 2016: 14).

In the mid of the 19th century, the global cocoa production underwent a rapid growth. Data on global production is available from 1840 on (see Figure 3). Between the year 1840 and 1880, the annual global production of cocoa had more than doubled from 14,000 tons to 31,000 tons. During the following five decades, the world production increased significantly by twenty-fold reaching 672,000 tons in 1930. At the turn of the century, the increase of production was particularly strong, with overall production growth rate of 120% between 1900 and 1910.

Figure 3: Global cocoa production (in 1000 tons) and growth rate (per decade), 1840-2009

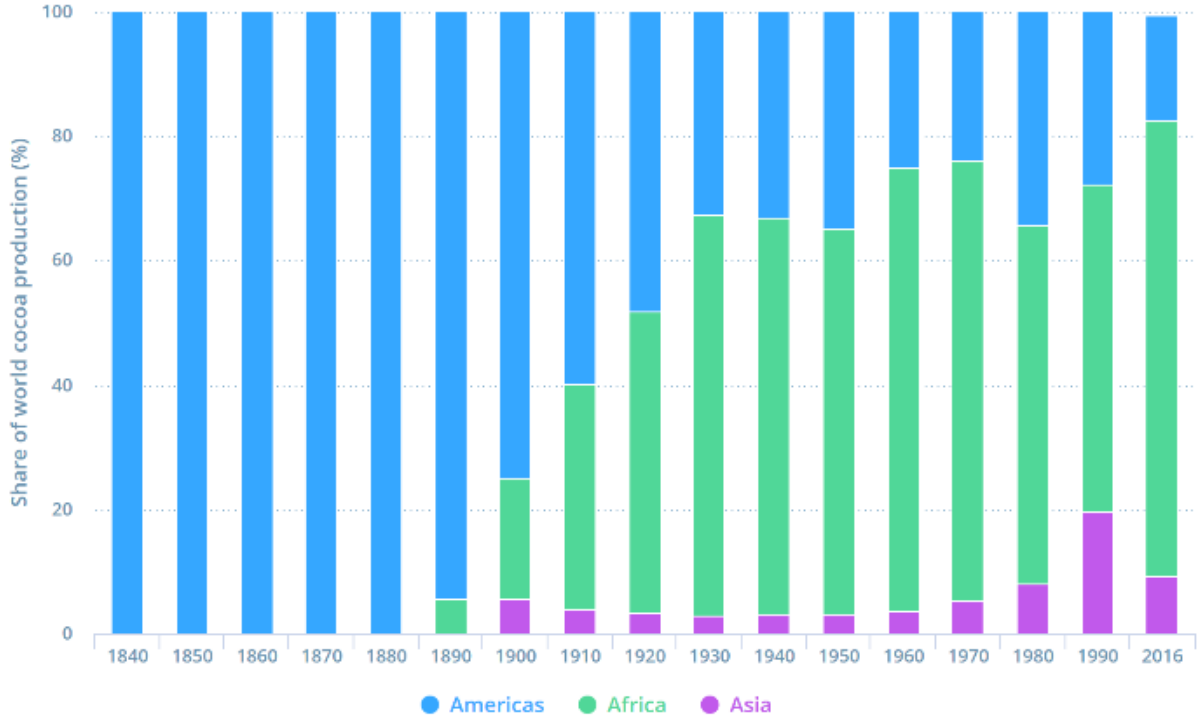


Source: Dand (2011)

Clarence-Smith (2016:58) characterizes the period between 1880 and 1914 as the “great chocolate boom”, which was mainly a result of a strong increase in the demand of chocolate products by the growing class of industrial workers in Europe and the US. Falling production and transport costs complemented the accessibility of chocolate by large masses. In order to keep pace with the demand, the global cocoa production had to be expanded significantly.

Figure 4 shows the global production increase that can be largely linked to the rise of cocoa cultivation in Africa. Until the 1880s, cocoa was produced exclusively in Latin America (mainly in Venezuela, Ecuador and Trinidad). Nonetheless, up from the 1890s, Africa’s share of the global cocoa production rose exponentially, as the cocoa production grew almost twenty-fold in the region until the 1930s.

Figure 4: Market share (in %) of different regions on global cocoa production, 1840-2016



Source: Dand (2011)

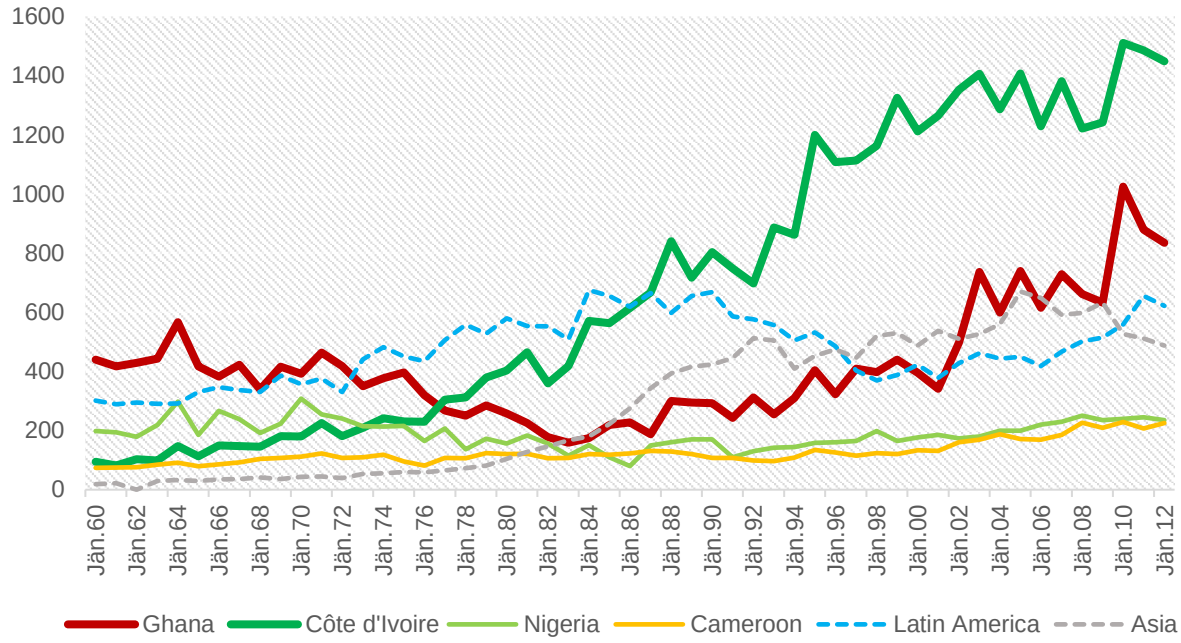
This sudden rise in West African production was a consequence of the colonization in this region during the end of the 19th century. Colonial ambitions of different European powers led to the violent occupation of large territories on the continent, which is often described as the "Scramble for Africa". Ghana became a British Colony in 1878 and parts of today's Nigeria were colonized in 1886. Cameroon was declared a German colony after the Berlin Conference in 1884, and Côte d'Ivoire became a French colony in 1893 (Ofosu-Asare 2011: 174). Although cocoa had been already grown from the 1820s onwards on several West African islands such as Sao Tome and Principe, it was the colonization of the mainland that put the cocoa cultivation on a commercial basis. The British Colonies Gold Coast (now Ghana) and Nigeria introduced cocoa in 1879, followed by Cameroon in 1900 and Côte d'Ivoire in 1919 (Dand 2011: 16).

The rapid shift of the "cocoa frontier" (Ruf 1995. in: Fold and Neilson 2016: 199) from Latin America to West Africa in the first half of the twentieth century was also related to several diseases that raged in Latin American's major production countries. In this context, pests such as the "monlia pod rot" in Ecuador or the "Witches' Brooms" in Brazil caused significant production setbacks throughout the 1920s (Dand 2011: 15; Hütz-Adams et al. 2016a: 39). Simultaneously, Africa became the largest producing region, accounting for at least half of the global cocoa production since then. In this context, Dand (2011: 66) argues that the rapid expansion of the cocoa cultivation in West Africa was also enabled by the movement away from the more disease prone Criollo and Trinitario bean types in favour of the more robust and productive Forastero type.

Figure 5 presents the cocoa production among major production regions and within West African producing countries. While Ghana used to be the world market leader in the mid of the

20th century, Côte d'Ivoire took this role over in 1976. Both countries have expanded their production multiple times since the end of the 1980s. In other West African producing countries, the cocoa cultivation grew more modestly (such as in Cameroon) or – in the case of Nigeria - stagnated since the country's independence. Since the 1980s, cocoa production also grew in Asia, mainly due to the expansion in Malaysia and more recently in Indonesia.

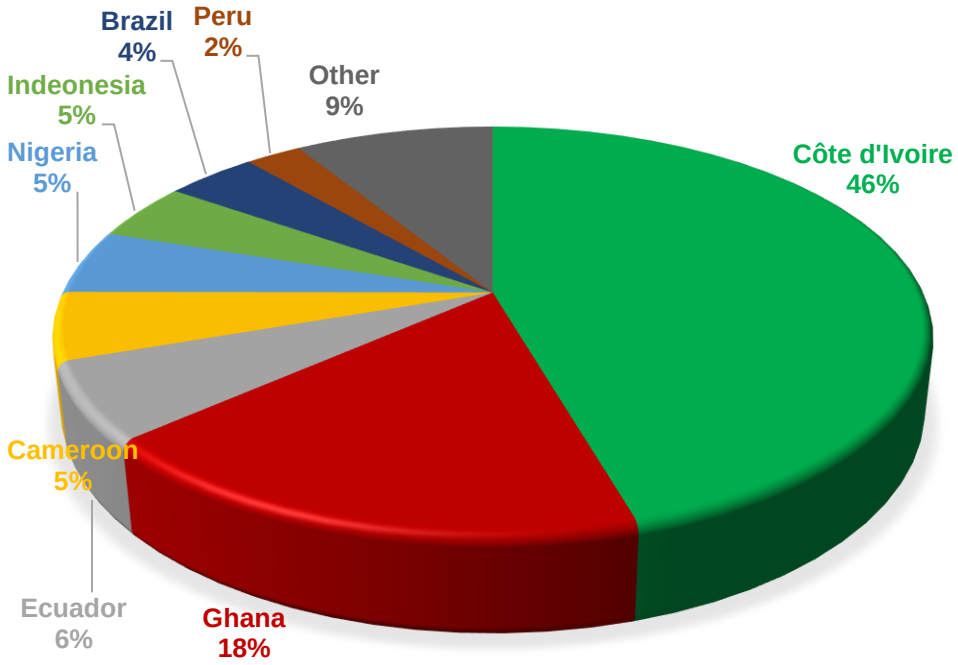
Figure 5: Cocoa production (in 1000 tons) in selected countries/areas, 1960/61 – 2012/13



Source: Author, based on data from Gilbert (2016)

As illustrated in Figure 6, West Africa is currently the main cocoa producing region, mostly due to Côte d'Ivoire's (46%) and Ghana's (18%) high shares of global production, which account for two thirds of the world market in the cocoa season 2018/19, whereas the shares of Nigeria and Cameroon (5% each) are comparably marginal. Besides, Latin American countries such as Ecuador (6%), Brazil (4%) and Peru (2%) have a substantial cocoa production, whereas in Asia, Indonesia (5%) is the biggest cocoa producing country.

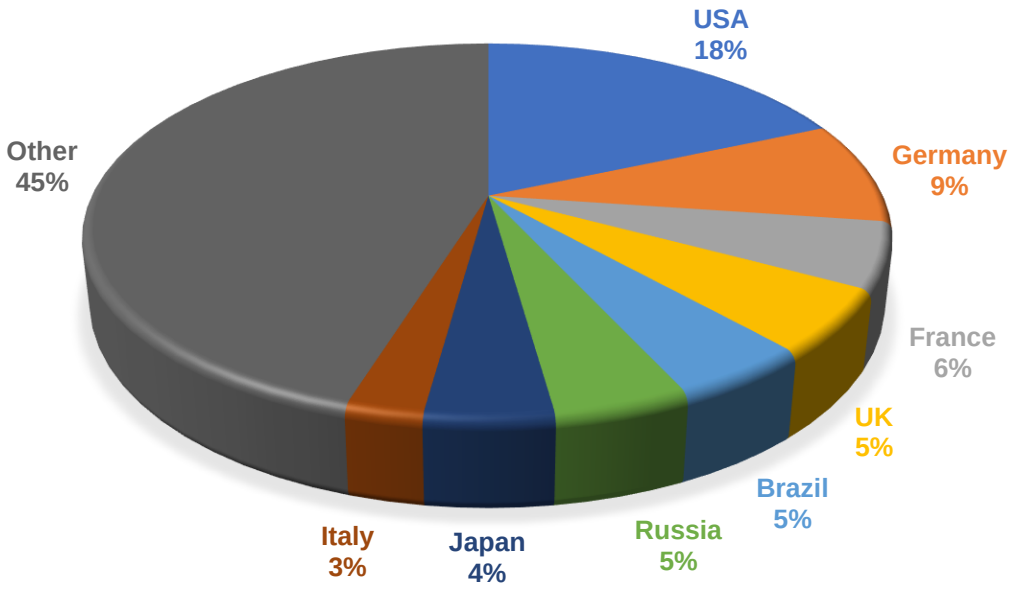
Figure 6: Annual share of global cocoa production among major producing countries, 2018/19



Source: Author, based on data from ICCO (2019)

Contrary to the production, cocoa is mainly consumed in the Global North. As Figure 7 points out, the US is by far the biggest consuming country of cocoa products, followed by Germany, France and the UK. Although the cocoa consumption of China and India grew in the past years, these countries still play a minor role on a global scale. Brazil is the only relevant producing country where cocoa is also consumed a lot (Hütz-Adams et al. 2016a: 7).

Figure 7: Annual share of global cocoa consumption among major consuming countries, 2015/16

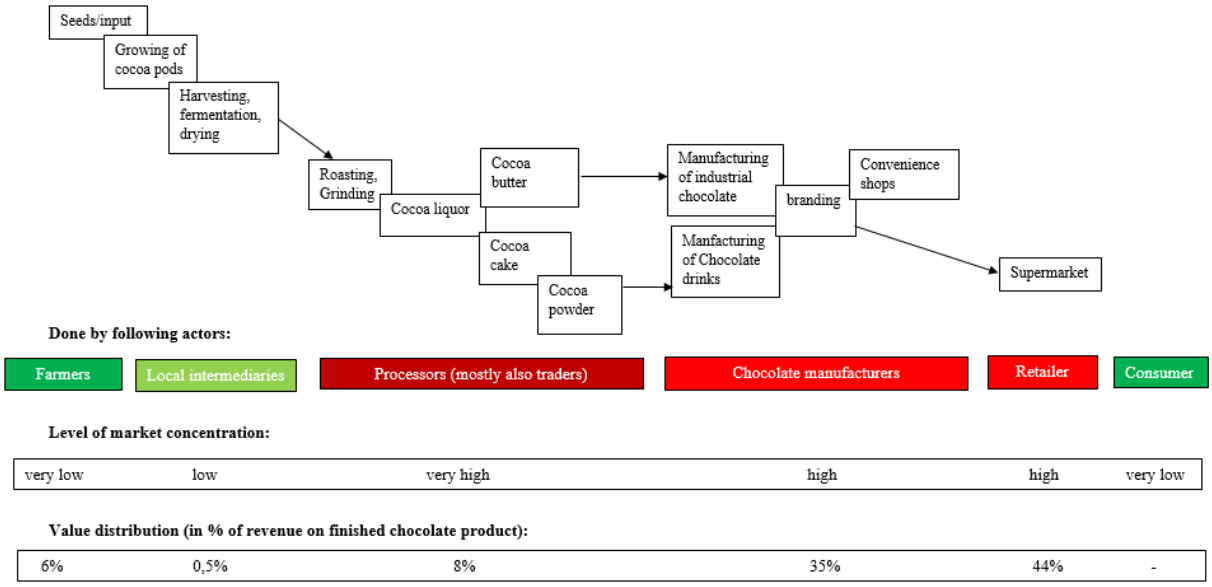


Source: Author, based on data from Hütz-Adams (2018)

4.3 The cocoa-chocolate Global Production Network

The chocolate-cocoa Global Production Network begins with cocoa farming, whereby predominantly small-scale farmers grow cocoa trees. In this process, the farmers use inputs such as seeds, fertilizers and pesticides. After picking the pods, the farmers ferment and dry the cocoa beans inside the pods (also known as “post-harvesting”). Subsequently, farmers receive a *farm-gate price* by selling the beans to cooperatives or local traders. These “local intermediaries” resell the beans to international traders or directly to processors (that are located either within the production country or in major consuming countries). Within the different processing steps, the beans are cleaned, roasted and finally grinded into cocoa liquor. The cocoa liquor can be either pressed into cocoa cake or into cocoa butter. Cocoa cake constitutes the basis for cocoa powder, which can be used for drinking chocolate or as flavor in the food industry. Cocoa butter is crucial for chocolate manufacturing. Processors sell their semi-finished cocoa products (cocoa butter, cocoa cake, cocoa power) to chocolate manufacturers, that produce either drinking chocolate or solid chocolate, by mixing cocoa liquor with milk, sugar and cocoa butter. Subsequently, the chocolate products are either sold to supermarkets or within the manufacturer’s own convenience shops (see Figure 8).

Figure 8: Production steps, actors, market concentration and value distribution in the global cocoa sector



Source: Author, based on Neilson et al. (2018) (for production steps), Oomes et al. (2016) (for market concentration) and Hütz-Adams 2018 (for value distribution).

4.3.1 Cocoa farmers and local intermediaries

According to Fold and Neilson (2016: 197), around 90 percent of the global cocoa production is done by small-scale farmers that are operating on parcels with less than 2 hectares. It is estimated that overall, around five million smallholders produce cocoa. The cultivation of cocoa in large-scale plantations is fairly limited to Latin America. As cocoa trees are prone to pests and diseases, small-scale farming constitutes a less risky form of production than large plantations (Hütz-Adams et. al 2016a: 6). Anga 2016 (in Hütz-Adams 2016a: 6) notes that

the annual average yield of smallholders is around 500kg per hectare. This output has stagnated since the beginning of the 1990s.

At the same time, only about 20 percent of cocoa farmers are organized in groups or cooperatives, despite several efforts made by governments, NGOs and companies to support farmers to form groups and cooperatives (ibid. 13). On average, the share of smallholders of the price for the final chocolate product is very low. Fountain and Hütz-Adams (2015) estimate that this value is only 6% currently.

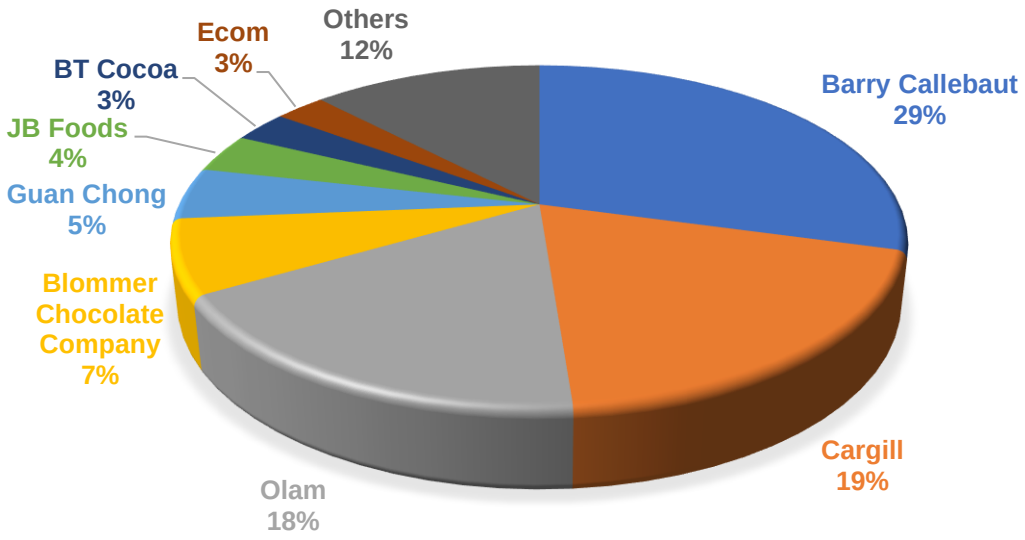
Local intermediaries play an important role in transferring the cocoa from farmers to exporters or international buyers. In most cocoa producing countries, a different set of local intermediaries such as farmer cooperatives, small traders or agents acting for lager trading companies offer different sales channels to the farmers (Laven et al. 2016). Only in Ghana, the local sales channel is limited to one type of intermediary (for a more detailed description of local intermediaries in Ghana and Côte d'Ivoire see section 5).

4.3.2 International traders/ grinders and chocolate manufacturers

The past two decades were characterized by major shifts in the composition of international cocoa traders. On the basis of increasing economies of scale, multinational grinders tend towards an upstream integration. Therefore, the traditional "functional" role of international traders has largely disappeared. While some of them gave up their business, others have become important grinders themselves (Fold and Neilson 2016: 201; Barrientos 2009: 91). According to Fold and Neilson (2016: 201), this is due to the fact that multinational grinders increasingly purchase through their own subsidiaries in producing areas, which accelerates the crowding out of traditional traders even further.

In the capital-intensive cocoa grinding sector, a general tendency towards a higher concentration could be observed within the past two decades. In 2015, the three largest grinding companies Barry Callebaut, Cargill and Olam International accounted for roughly 65% of the global grinding capacities (see Figure 9), whereas the number of smaller companies operating in the grinding sector has decreased significantly in the last years (Hütz-Adams 2018: 6).

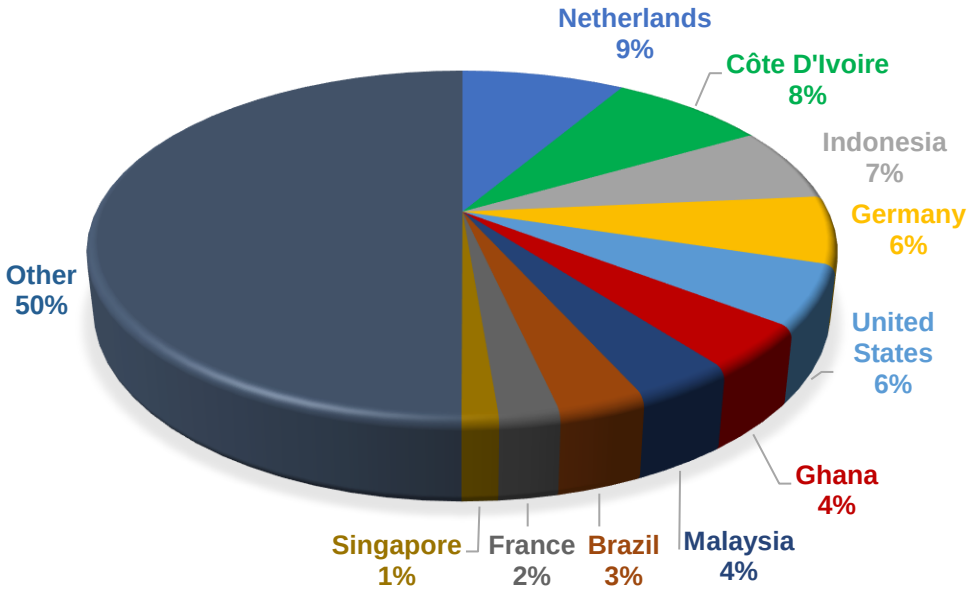
Figure 9: World market shares (in %) of the largest grinding companies, 2015



Source: Author, based on data from Hütz-Adams (2018)

Regarding the spatial dispersion of grinding activities, Grumiller (2018: 21) states that grinding in producing countries has expanded in recent years. Due to several tax and other investment incentives in different producing countries and given decreasing transportation costs for intermediate products, approximately 50% of the global production is processed by grinders located in origin countries. Figure 10 shows that the Netherlands are the country with the largest grindings, as they accounted for around 9% of global grindings in 2018/19 (mainly in the grinding hub in Zaanstreek close to Amsterdam). Among cocoa producing countries, Côte d'Ivoire (8%), Indonesia (7%), and Ghana (4%) can be mentioned as important grinding locations (Fold 2016: 198).

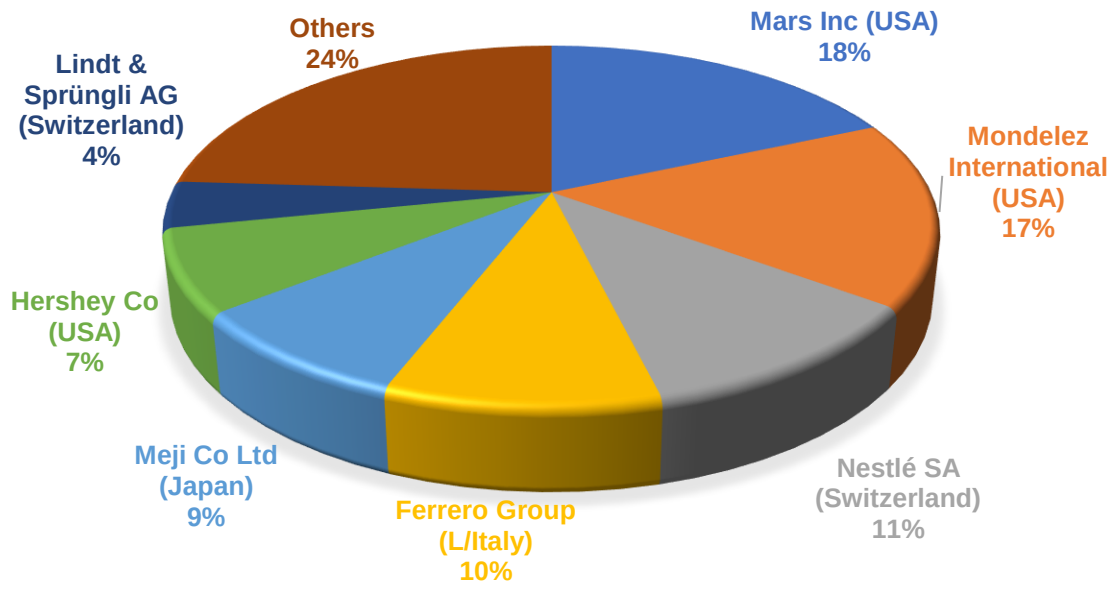
Figure 10: World market shares (in %) of top grinding countries, 2018/19



Source: Author, based on data from ICCO (2019)

The biggest chocolate producers are either giant corporations in the global food industry like Nestlé or Mondelez, or companies specialized in chocolate-based products such as Mars or Ferrero (Fold and Neilson 2016: 202). Contrary to the processing of cocoa, where "origin grinding" has increased significantly in recent years, chocolate manufacturing either remains almost exclusively located in consumer countries in the EU or the US (Grumiller 2018: 22) or recently emerges in growing end markets such as in China (Neilson et al. 2018: 408). In this context, Neilson et al. (ibid.) argue that despite improvements in transport and storage, the importance of milk and thus the proximity to dairy still plays a role for the location of chocolate manufacturers. Similarly as in the grinding segment, chocolate manufacturing is characterized by a high degree of market concentration. According to Hütz-Adams (2018: 8), the top four chocolate manufacturers combine around 55% of the global market share (see Figure 11).

Figure 11: World market shares (in %) of the largest chocolate manufacturers, 2015



Source: Author, based on data from Hütz-Adams (2018)

4.3.3 Retailers and supermarkets

Within major end markets for chocolate products, the retail sector is by far the largest sales channel, as it represents around 70% of total sales in Western Europe and North America (FAO and BASIC 2020: 50). Furthermore, the retail and supermarket segments in major chocolate consuming countries are generally highly concentrated. In Germany, which is the second largest consuming country of cocoa products, only five companies account for roughly 80% of the retail market (Hütz-Adams 2018: 15). On a European level, the largest 10 retailers amount to roughly 50% of food sales (FAO 2020: 51).

4.4 The cocoa world price

4.4.1 Price formation and financial derivative markets

As shown in Figure 8, the global cocoa-chocolate GPN includes different production stages. Depending on these production stages and the location, different actors in the GPN pay/receive different prices such as the farm-gate price, the export price, the price of semi-finished products, the chocolate price for the final product and the retail price consumers which consumers pay. However, all different price points are influenced by the same “starting point” for the pricing of raw/unprocessed cocoa beans, which can be understood as an indicative cocoa world price.

Although there are different variants and different levels of quality, Gilbert (2016: 308) argues that cocoa is a relatively homogenous product, which allows one to speak of a single cocoa world price with “Fair Average Quality” (FAQ). At the center of the global pricing mechanism is the exchange with cocoa futures and options on the two major commodity derivative markets, the Intercontinental Exchange (ICE) US in New York and the ICE Europe in London (ibid. 308; ICE 2020). On these two major commodity exchanges, futures and options for

different commodities such as cocoa, coffee or wheat are traded. A future includes a purchase and a sales contract. A purchase contract obliges the actor to purchase a specified quantity of a commodity at a specified price on a specified date (long position). A sell contract obliges the actor to sell a certain quantity of a commodity for a specific price at a specific time (short position). The exchange issues a corresponding sale contract for each purchase contract. Towards the end of the term, both contracts are usually closed out, i.e. physical delivery does not take place, but only the price difference between the contracts is settled (Hütz-Adams 2018: 18). Market actors can consequently secure ("hedge") the prices for their physical transaction on the futures markets.

In the global cocoa sector, futures have three different functions:

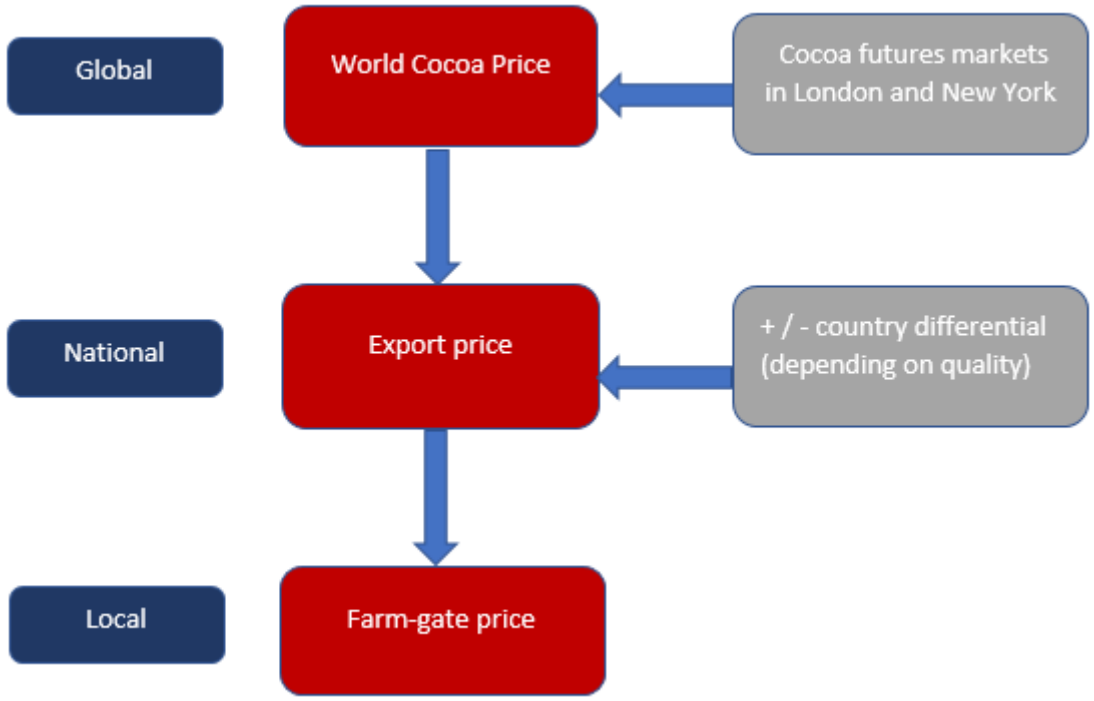
First, cocoa futures work as a price insurance (as described above), as they allow physical traders (such as exporters, processors or chocolate manufacturers) to hedge their risk by fixing the price for a future delivery (Oomes et al. 2016: 31). The ICE New York as well as the ICE in London both trade contracts for cocoa futures only for five delivery dates per year: March, May, July, September and December (ibid.).

Second, the futures markets also serve as a "quality benchmark", as the trade beans on the commodity exchanges underlay certain criteria, which are also part of standardized contracts of the Federation of Cocoa Commerce that are used for the beans transaction (Hütz-Adams 2018: 17; Tröster et al. 2019: 12)

Third and most important for the cocoa world price formation, cocoa futures prices are also used as a price benchmark or rather as a basis for the negotiation of the physical trade of cocoa between sellers and purchasers on spot markets. According to Oomes et al. (2016: 31), this is due to the fact that these standardized futures "carry out prices to all buyers and sellers, which makes the price setting process much more visible and transparent". Consequently, the potential premiums or discounts of the physical transactions are priced against the futures prices. In the case of the West African cocoa sector, the prices on the ICE in London are in general used as a benchmark, whereas the ICE in New York serves as a reference for markets in Asia and Latin America (Interviews 1, 3, 4). Since 1960, the ICCO calculates a daily indicator price by combining the average of the quotations for the nearest three trading delivery dates on both futures markets, creating a "cocoa world price" (Gilbert 2016: 309).

Figure 12 shows a simplified illustration of the price transmission in the global cocoa sector. Hence, the cocoa world price should not be understood as a mere aggregation of "local prices" in cocoa producing countries such as the farm-gate prices and export prices. In contrast, the price chain works upstream, where the two major cocoa derivative markets form the benchmark for export prices and subsequently for farm-gate prices, which makes farmers rather "price-takers".

Figure 12: Price chain for the global cocoa sector



Source: Author

4.4.2 The development of the cocoa world price

Figure 13 shows the historical development of the cocoa world price in real terms (adjusted for inflation of the US-Dollar) from 1850 to 2013. In this context, it has to be added that this "real" cocoa price has limited validity for cocoa producing countries, as it is not adopted to domestic currencies. Yet, it can be used as an approximation for global trends. Generally, it can be stated that current real prices are roughly on the same level as during the 1850s, despite relatively high price levels before World War I and from the 1950s until the beginning of the 1980s.

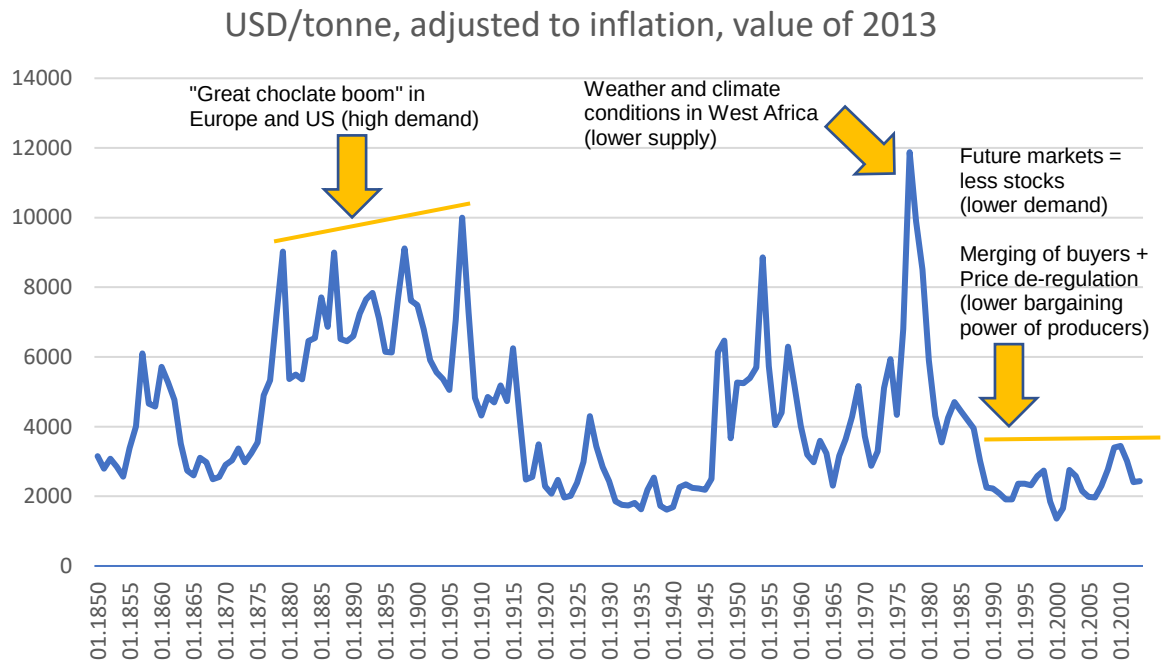
In the period between 1880 and 1914, which was described above as the "Great chocolate Boom" (Clearance-Smith 2016) the cocoa world price grew by 4.85% annually in real terms, which can be closely linked to the drastic increase in demand in Europe and the US. In the subsequent 40 years, World Wars I and II decreased the global demand and consequently the prices drastically. Notwithstanding, Gilbert (2016: 320) argues that the price decline already started after the price peak in 1907 (10.000 USD per ton).

According to Hütz-Adams (2018: 18), the price explosion of the 1970s (12.000 USD per ton in 1977) mainly leads back to droughts and forest fires in West Africa, whereas the declining prices in the 1990s can be linked to three different factors. First, increased crop yields evoked an oversupply. Second, merging activities of different large buyers lead to an increased bargaining power of the demand side. Additionally, efficient derivative markets made

stockpiling less important. Consequently, reduced stock levels plus additional cocoa on the market resulted in lower prices.

Another explanation for the relatively low real prices stagnating between 2000 USD and 3000 USD per ton from the 1990s onwards could be derived from a change of price governance. This is because the liberalization or dismantlement of national state marketing boards in West African producing countries and the abolishment of the international price regulation by the ICCO weakened the bargaining position of cocoa producer countries.

Figure 13: Cocoa world price 1850-2013 (in US-Dollar), adjusted to inflation (2013 value)



Source: Author, based on different data sets from Gilbert (2016: 311; 328-332).

4.4.3 Financialization

From the perspective of large grinding/trading and chocolate manufacturing corporations, trading with futures constitutes a feasible option to hedge against price risks in the future. As a futures contract is only enabled if there is a counterpart willing to “bet” against the expectation of the commercial actors, non-commercial actors in the form of financial speculators play an important role to provide liquidity for the futures markets (Hütz-Adams et al. 2016a: 16).

However, since speculative trading has increased around four times between 1986 and 2005 (Ohemeng et al 2016), there has been an academic debate on the question whether the growing share of non-commercial actors moves the cocoa futures markets away from fundamentals and consequently distorts prices in the form of increased volatility. It is thus asked whether futures markets still mirror price expectations from physical market actors or if the futures markets are rather driven by financial interest of speculators that have no medium- and long-term interest in the amount of physical available cocoa (Oomes et al. 2016: 31; Hütz-Adams et al. 2016a: 16; Purcell 2018: 909).

In this context, several studies point out the increased impact of non-commerical actors on cocoa futures marekts. For instance, the total trading volume of cocoa futures markets is about ten times higher than the current world production (Oomes et al. 2016: 31). At the same time, non-commercial actors' share on cocoa derivatives markets rose to almost two thirds, and their increasing interest in cocoa futures and options is also mirrored by the four-fold increase of non-commerical open-interest positions since 1995. In this context, it can be argued that the increase of speculative trading underlines the move away from traditional hedging of risks to cocoa futures as an asset class. According to Tröster et al. (2019: 15), commercial actors such as grinders/traders are increasingly using cocoa derivative markets for profit generation beyond physical trade, either through speculation based on their advantaged market knowledge or through offering structured hedging products. Additionally, index trading, which is a type of speculation whereby financial investors merely bet on the rise of prices ("long position"), is seen as a potential reason for price bubbles. Gilbert and Pfuderer (2014: in Tröster et al 2019: 13) argue that the price bubble of cocoa futures in 2007 as well as price trends between 2008 and 2010 were closely linked to index positions. Additionally, Tröster et al. (2019: 14) also relate the price decline in 2016/17 to a sudden shift of many non-commercial traders from a buying positions (long position) to selling position (short position).

The question whether financial investors do increasingly exert influence on the price setting mechanism in the global cocoa sector can be linked to a broader academic debate on financialization, meaning that financial motives increasingly dominate the real economy. Regarding the financialization of commodity futures markets, Gilbert and Pfuderer (2014: 123) introduce a narrower characterization of financialization by distinguishing between investing and speculating in commodities and investing in commodities as a "commodity asset class". Whereas the former describes "traditional" speculation, the letter outlines the increasing importance of commodities as an asset class within index funds. This specification can be relevant as index funds genuinely invest with expectations of increasing prices.

Purcell (2018: 907) mentions several steps towards a financialization of commodity futures markets since the early 1990s. The launching of the Goldman Sachs Commodity Index (GSCI) as a first index of commodities, which marked the starting point for index trading, attracting increasingly passive institutional investors such as pension funds speculating on raising commodity prices. This process was furthermore accompanied by a successive

loosening of position limits on commodity derivatives, multiplying the amount of index-based vehicles (ibid. 907). As a consequence, institutional holdings in commodity futures rose from $15 billion in 2003 to over $200 billion in 2008 (Newman and Bargawi 2017: 175).

As result of a simultaneous boom and bust cycle among several commodities across energy, metal and in agriculture in the year 2007/08 with comparably high volatility, there has been an increasing amount of studies investigating whether financialization has distorted commodity prices, including potential implications for a re-regulation of commodity markets. However, it can be stated that there is no final consensus whether the increasing amount of non-commercial actors can be linked to a higher volatility and thus to price distortion (Chang and Xiong 2014: 420).

4.5 Governance of the cocoa Global Production Network

4.5.1 Public governance in cocoa producing countries

The strongest domestic regulations were established in cocoa producer countries in West Africa. After their independence around the 1960s, Côte d'Ivoire, Ghana and the two smaller producing countries Nigeria and Cameroon continued operating with the institutional setting which was established by the colonial authorities (Gilbert 2009: 195). These institutions were either marketing boards (in case of the former British colonies Ghana and Nigeria) or so called "caisse systems" (in case of former French colonies Côte d'Ivoire and Cameroon). On the basis of national stabilization funds, these regulatory systems were primarily guaranteeing stable prizes for farmers within a harvesting season. Additionally, the regulation assured a certain level of bean quality and provided services to farmers such as crop inputs (seeds, fertilizers) (ibid. 195). These interventions were financed by collecting substantial taxes on the bean production. The major difference between the marketing boards and the "caisse system" was that the former also organized the physical trade of the beans, whereas the latter left physical handling to private firms.

By the mid of the 1980s, the strong state regulation came under pressure due to several reasons. As the cocoa world price was decreasing at that time (as shown in Figure 13), the balancing mechanisms of the price stabilization were perpetuated by an increasing absorption of the national reserve funds, ultimately resulting in their insolvency. Furthermore, the board and caisse institutions were criticized for their lack of transparency regarding taxes and actual marketing costs, and it was argued that farmers would receive a higher bean price under a more liberalized marketing system.

In the context of a general global ideological and policy shift towards economic liberalization, major donor institutions such as the World Bank and EU made financial support conditional on a liberalization of the institutional framework in these relevant countries, considering the overcoming of those structures as a major tool for efficiency and eventually higher producer prices. Consequently, major deregulations of the cocoa market structure took place in Nigeria (1986), Cameroon (1991, 1994), Ghana (1992) and Côte d'Ivoire (1994-1999) (ibid. 195). Whereas Ghana kept a "light version" of its marketing board by only lifting its monopoly on

domestic trade, the other countries abolished their regulative institutions completely. Eventually, Côte d'Ivoire re-introduced a modified form of the caisse system in 2012. This makes Ghana and Côte d'Ivoire currently the only cocoa producing countries with a strong public governance of the cocoa sector and a central regulatory institution (COCOBOD for Ghana and CCC for Côte d'Ivoire), including stabilization of farm-gate prices (for a more detailed description of public regulation in Ghana and Côte d'Ivoire see section 5).

In Nigeria and in Cameroon in contrast, where the cocoa sectors remained fully liberalized, market interventions by public actors such as different ministries are often uncoordinated on a national level and are limited to certain initiatives on productivity and quality enhancement. Consequently, there is no state regulation of farm-gate prices (Hütz Adams et al. 2016a: 29-33). Recently, there were discussions in both countries on reintroducing a state-backed minimum price for farmers, which however did not translate into any policy due to a change of government in Nigeria and due to the resistance of domestic traders in Cameroon (Interview 3).

In contrast to the four major producing countries in West Africa, other cocoa producing countries located in Latin America or in Asia historically never regulated their cocoa sector with respect to prices or other market interventions and at present, state involvement is limited to rather loose strategies on production enhancement. In Ecuador for instance, the government wants to strengthen the incomes of farmers by increasing the production of the higher valued Fine Flavor Cocoa (FFC) as Ecuador already accounts for two thirds of the global FFC production. In other Latin American cocoa producing countries such as in Brazil or in Peru, state interventions are limited to initiatives on productivity enhancement (Hütz-Adams et al. 2016a: 38-42). In Indonesia, the central government tries to harmonize different existing initiatives on productivity increasements (ibid. 36).

4.5.2 Transnational public governance

Efforts on a transnational coordination of the global cocoa sector started in the early 1970s under the auspices of the United Nations Conference of Trade and Development (UNCTAD). Against the background of volatile cocoa world prices, the first International Cocoa Agreement (ICCA) in 1972 aimed at introducing mechanisms to control global prices within a certain price range. The principal idea of the price range was on the one hand to prevent low prices for producing countries, and on the other hand to avoid too high prices for importing countries. A central mechanism for the price management was the controlling of the supply of cocoa beans on the basis of large buffer stocks. In theory, this should have enabled a balanced expansion of the cocoa industry and a controlled rise in export earnings for producing countries. In order to implement the agreement, the International ICCO was founded one year later, consisting of the largest cocoa producing countries as well as of the major cocoa importing countries. The International Cocoa Agreement (ICCA) from 1972 was subsequently renewed by six further agreements in 1975, 1980, 1986, 1993, 2001 and finally in 2010 (Van Huellen 2015: 233).

Throughout the 1980s, the buffer stock-based price regulation of the ICCAs came under heavy pressure (Ul Haque 2004: 15). According to Gilbert (1996: 4), this situation had arisen through an ongoing need for an updating of the stabilization range as well as due to the high cost of buffer stocks. This had become obvious when the different ICCAs neither prevented the price rise in the 1970s, as there were no stocks available to flood the market, nor could the third and fourth agreements condemn the price decrease throughout the 1980s due to a lack of stock capacity (ibid: 6; Ul Haque 2004: 15). The lack of financial resources was especially obvious throughout the fourth agreement up from 1986, as the ICCO "inherited" large amounts of stocks from the previous agreement and it was subsequently impossible to mobilize more financial means to increase the total stock capacity (Gilbert 1996: 7). Internal conflicts between member states on the setting of the price range (Côte d'Ivoire and the US already left the agreement in 1980) finally led to a full abolishment of buffer stocks following up on the fifth agreement in 1993. Ever since, the ICCO (based in Abidjan, Côte d'Ivoire) serves as discussion forum by organizing multi-stakeholder events such as the "World Cocoa Conferences" and as a provider of industry data. In addition to the ICCO, the Alliance of Cocoa Producing Countries (COPAL) (based in Lagos, Nigeria), forms another transnational organization, with member states such as the major 4 West African producing countries and Brazil. Similar to the ICCO, COPAL's activities are limited to the provision of research data and the organization of discussion forums (COPAL 2020).

4.5.3 Private governance since the 2000s

The overall decrease of public regulation in the global cocoa GPN in the 1990s was soon followed by an emerging trend towards stronger private (firm) governance on commercial and technical standards in the early 2000s, especially related to quality issues (Fold and Neilson 2016: 203; Daviron and Gibbon 2002: 138).

But at the same time, private firms in the global cocoa sector did also introduce regulatory sets on sustainability governance, with a special focus on ethical codes related to CSR. Fold and Neilson (ibid. 196) however argue that the only common feature of those regulatory sets is their framing by a corporate discourse on "sustainability".

Thorlakson (2018: 1656) makes an important contribution in categorizing three different "eras" of regulatory sets of private sustainability governance in the global cocoa sector:

(1) (multi-stakeholder) **industry initiatives era** (2000-2008)
(2) **independent certification era** (2009-2014)
(3) **own supply chain era** (since 2015)

In order to understand the logic behind these three different regulatory sets, it is useful to trace the reasons for their initial introduction. Thorlakson (ibid.) identifies two major developments as the starting point of the "**industry initiatives era**" – the fear of supply scarcity of buyers and the disclosure of child labor in West Africa. Against the background of pests and disease outbreaks in the 1990s and the fear of supply scarcity, around 100 major global cocoa processing and chocolate companies formed the **World Cocoa Foundation (WCF)** in 2000, aiming at raising productivity in producing countries. Another turning point were reports

by British media in the same year that revealed the widespread child and slave labor in West African cocoa producing countries, drawing attention on the responsibility of chocolate manufacturers on labor standards within their own supply chains (Fold and Neilson 2016: 204). As a reaction, the US congress initially aimed at developing a "slave free" chocolate label. Anyhow, after the resistance of chocolate manufacturers, the US legislation reconciled with the industry on a voluntary agreement known as the "Harkin-Engel protocol", which included chocolate manufacturer's commitment for the development of an industry-wide standard that would prevent child and slave labor until 2005. As an implementing organization of the Harkin-Engel protocol, the **International Cocoa Initiative (ICI)** was founded. ICI's measures were similar to WCF's measures focused on projects that aimed at raising the productivity of farmers. However, the initial narrative of eradicating child and slave labor in 2005 was quickly revised by the target of eliminating child and slave labor by 50% in 2008, a goal which was neither reached. (Thorlakson 2018: 1657).

Due to the mixed results of WCF and ICI in terms of implementing the requirements of the Harkin-Engel protocol, major chocolate manufacturers increasingly focused on **independent certification** schemes that were implemented by NGOs. While the Fairtrade Labelling Organizations International (FLO) already introduced the certification of cocoa in 1996, it was mainly the introduction of cocoa certification by Rainforest Alliance in 2006 and by UTZ Certified in 2007 that fostered a boom of independent certification schemes from 2009 on. This was also driven by so called "100% commitments" of large buyers such as Mars (in 2009), Ferrero and Hershey (both in 2012), which were promising to source exclusively certified cocoa by 2020. Between 2009 and 2012, **UTZ, Fairtrade and Rainforest Alliance** could double their margins of certified cocoa each year, already reaching 25% of global production in 2013 (Fold and Neilson 2016: 205). In addition to prevent child labor and raise productivity among farmers, the three certification schemes also introduced environmental aspects such as the prevention of deforestation and (in the case of Fairtrade) worker's rights within their schemes.

Since 2015, in addition to the three independent certification schemes, **in-house sustainability schemes** became a common practice of major grinders/traders and chocolate manufacturers, which is underlined by the existence of several programs among grinders such as **Cocoa Promise (Cargill), Cocoa Horizon (Barry Callebaut) or Growcocoa (Olam/Blommer)** likewise among large chocolate manufacturers such as **Cocoa Plan (Nestle), Cocoa Life (Mondelez) or Sustainable Cocoa Initiative (Mars).** Despite to be also known as "in-house certification", Fold and Neilson (2016: 205) argue that these company-based sustainability schemes do not necessarily include external auditing (which is common in certification). Instead, they can be understood as "complex partnerships with local actors, NGOs, research institutes, governments and development agencies", whereby the topics that are addressed range from social aspects such as child labor prevention and gender equality to more technical issues in the form of productivity enhancement, input provision or farm management.

Thorlakson (2018: 1658) argues that chocolate manufacturers' move towards "in-house" sustainability schemes was mainly motivated by the fact that lead firms perceived that

independent certification does not necessarily drive sales, especially considering the higher costs of certified cocoa. In contrast, Fold and Neilson (2016: 205) identify the fear of supply scarcity by multinational grinders and chocolate manufacturers as a major drive to implement company-owned sustainability schemes. In a phase of relatively high cocoa world prices between 2014 and 2016, an industry-wide discussion on a potential upcoming “Chocolate crisis” occurred, as it was assumed that aging trees and the lack of new “cocoa frontiers” will prevent the global supply to keep pace with the increasing global demand, especially from emerging markets in Eastern Europe and in Asia. Therefore, multinational grinders and manufacturers seek to work directly together with cocoa farming communities by establishing “exclusive supply chains”.

Table 2 shows the three different regulatory sets of private sustainability governance. It has to be noted that the evolvement of a new regulatory system did not result in the abolishment of previous activities. In contrast, major buyers continued funding the World Cocoa Foundation (WCF) and the International Cocoa Initiative (ISI), and they also increased their sourcing of certified cocoa by independent certification schemes, despite the implementation of their own in-house sustainability schemes.

In 2017, major grinders/traders sourced significant shares of their cocoa either through independent certification or through their own sustainability schemes (Barry Cargill 42%, Callebaut 36%, Olam 26%), and the share of certified cocoa among chocolate manufacturers was even higher (Mondelez 35%, Nestlé 43%, Mars 50%, Hersheys 75%) (Fountains and Hütz-Adams 2018: 41).

Table 2: Different regulatory sets of private sustainability governance

Regulatory system	*Multi-Stakeholder Industry Initiatives (since 2000)*	*Independent certification (since 2009)*	*In-house sustainability schemes by large buyers (since 2015)*
Implementation body	World Cocoa Foundation (WCF) International Cocoa Initiative (ICI)	Rainforest Alliance UTZ certified (merge with Rainforest Alliance in 2019) Fairtrade	Multinational grinders/traders (Cargill, Barry Callebaut, Olam) Chocolate manufacturers (Nestlé, Mondelez, Mars)
Motivations	Supply scarcity US. legislation on child and slave labor	Lack of results by multi-stakeholder initiative Product differentiation	Lack of results of independent certification, Supply chain control
Targets	• Child and slave labor prevention • productivity	• Child and slave labor prevention • productivity • prevention of deforestation • workers' rights (for Fairtrade)	• Child and slave prevention • productivity • prevention of deforestation • input provision • farm management • gender equality

Source: Author, based on Thorlakson 2018 and Fold and Neilson (2016)

4.6 Synopsis

The analysis of the global cocoa sector illustrated the broader historical and institutional context of this thesis. Cocoa cultivation in the Global South has always been closely linked to consumption trends in the Global North, exemplified in the West African cocoa sector which is both a colonial legacy and a product of the "great chocolate boom" at the end of the 19th century. On the one hand, today's cocoa GPN is characterized by a low share of smallholders on the final product price, with prices linked to financial derivative markets and - in a historical perspective - exceptionally low cocoa world prices. On the other hand, the grinders/traders and chocolate manufacturers segment is increasingly concentrated. In recent years, the same firms used different institutional forms of private sustainability governance to address sector specific "problems" such as child labor or deforestation. Yet, Ghana and Côte d'Ivoire are not only by far the biggest cocoa producing countries, but also remained or reintroduced their state marketing boards in contrast to the overall trend of public deregulation in the past decades.

5 The cocoa sectors in Ghana and Côte d'Ivoire

5.1 The Ghanaian cocoa sector

5.1.1 History

As mentioned in section 4, cocoa was introduced in West Africa at the end of the 19th century, when colonial powers rapidly expanded the bean production in the region. In the first half of the 20th century, the cocoa market in the Gold coast (Ghana's name before its independence in 1957) was organized around a set of middleman and brokers who transported the cocoa from the farm-gate to the port without any state intervention. The system evoked strong dissatisfaction among farmers, as exporters practiced price collusions among each other and local middleman used their powerful position to set low farm-gate prices, which resulted in cocoa hold up by farmers in 1937 and in a call for a stronger regulation of the buyer's oligopoly and the actions of middlemen (Van Huellen 2015: 227). After all, it was Britain's entrance into World War II and the related need for revenues for its war expenses that led to a regulation of the cocoa market in the Gold Coast. In 1940, the West African Producer Control Board was established. The board had a mandate on the central control of exports and on the fixing of price margins for internal traders (that now had to be approved as "Licensed Buying Agents" (LBAs)) and farmers, and thus to control the collection of export duties for the colonial government. After the war, the institutional setting remained, despite its renaming in Cocoa Marketing Board (CMB) in 1947 (ibid. 228)

In 1957, Ghana was the first country in Sub-Sahara Africa to gain independence. The new president Kwame Nkrumah kept CMB's regulatory structure and even extended its responsibilities by abolishing the system of private buying agents in favor of a state monopoly on internal trade. Nkrumah considered the cocoa sector as a major source of revenue to finance his plans for a state-led industrialization of the economy. As a result of the high taxation of around 30% of the cocoa exports and low farm-gate prices, the sector became increasingly unattractive for farmers (Ofosu-Asare 2011: 87).

Nkrumah loss of power in the course of a military coup in 1966 meant a turn away from socialism and Ghana experienced the first (yet comparably limited) donor-driven liberalization of the cocoa sector, when the International Monetary Fund (IMF) provided a loan under the condition of the suspension of CMB's subsidies for cocoa inputs that were provided to farmers (Van Huellen 2015: 231). The cutting back of subsidies, but also the overall low farm-gate prices from the Nkrumah era might explain Ghana's production decline from the end of the 1960 onwards and the loss of its role as the biggest cocoa producer to Côte d'Ivoire in the mid of the 1970s.

Among other things such as a food crisis and a high inflation, the deceasing commodity prices in the 1980s and the resulting shortage of state revenues forced Ghana to take credits from the World Bank and the IMF in 1983. As policy conditionality for the credits, the Ghanaian government had to cede its monopoly on the setting to a multi-stakeholder forum in the form of the Producer Price Review Committee (PPRC). Additionally, the Cocoa Marketing Board (CMB) was dismantled in favor of the Ghana Cocoa Board (COCOBOD). In the following years, COCOBOD had to reduce its staff from by 70% from 142.000 employees to

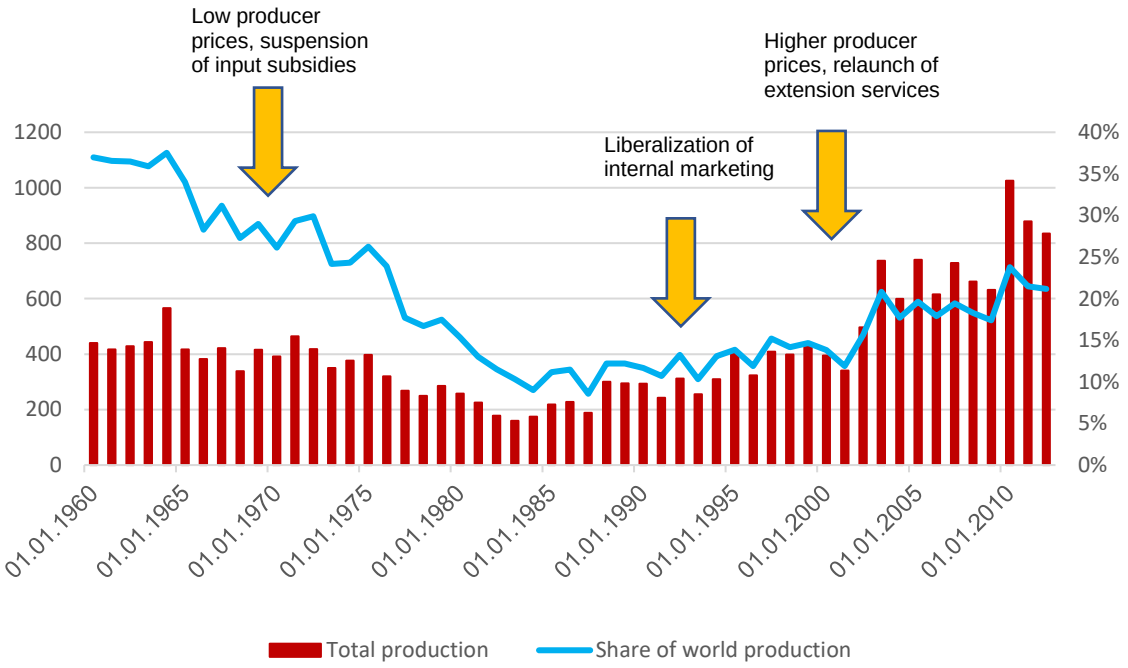
42.000, whereby it also came to light that around 10.000 non-existing workers ("Ghost workers") were on COCOBOD's payroll. At the same time, COCOBOD intensified again its support for farmers including extension services and input provision (Ofosu-Asare 2011: 121).

Despite initial ideas of donors on a complete abolishment of the marketing board, the Ghanaian government could successfully "resist" the full liberalization of its cocoa sector as it happened in other producing countries in the region such as in Côte d'Ivoire and Nigeria and in Cameroon. However, in 1993 the government had to liberalize its internal marketing, as the monopoly of the state-owned Produce Buying company (PBC) was given up and private Licensed Buying Companies (LBCs) were allowed to carry out the internal trade of the cocoa beans (Gilbert 2009: 297). The most recent regulatory modifications took place during the cocoa sector reform in 2000/01. The occurrence of electronic trading platforms allowed the state-owned export monopoly Cocoa Marketing Company (CMC) to implement a forward selling system of large shares of the annual crop. Moreover, COCOBOD attempted to raise producer prices by guaranteeing a farm-gate price of 70% of the annual export earnings (Van Huellen 2015: 234). This was seen as a major shift in the producer price policy, given the fact that since independence, annual farm-gate prices rarely exceeded 50% of the export earnings (Ofosu-Asare 2011: 87). Additionally, the cocoa sector reform included the relaunch of the state provision of extension services to farmers.

The regulatory shifts are also reflected in the Ghana's production pattern. Figure 14 illustrates that since independence, the overall production and especially Ghana's share on the global production steadily decreased until the mid-1980s, which can be linked to the low producer prices and the lack of an input provision. The renewed increase in production since the cocoa sector reforms in 2000 supports the notion that extension services and farm-gate prices have a crucial impact on overall production patterns.

In 2018, cocoa beans accounted for 9% (or 1,9 billion USD value) of overall Ghanaian exports. Additionally, the share of "origin grinding" and the related exports of semi-finished cocoa products rose from around 15% in 2006/07 to 23% of overall cocoa exports in 2016/17 (ICCO 2019: 14), which is mainly related to fiscal incentives by the Ghanaian government within export-processing zones (EPZs) (Grumiller 2018: 28). In total, the cocoa sector comprises 12% of the annual export earnings (OEC 2020a). In the 2015/16 season, the main destination for Ghanaian cocoa exports was the EU-market (53%), followed by Asia (27%) and North America (11%) (COCOBOD 2016: 9). The relative importance of cocoa for Ghana's economy has somehow declined as exports of other commodities such as Gold (49% of export earnings) and Crude Oil (23%) have increased throughout the past years (OEC 2020a).

Figure 14: Ghana's annual cocoa production (in 1000 tons) and share of world production (in %), 1960-2012

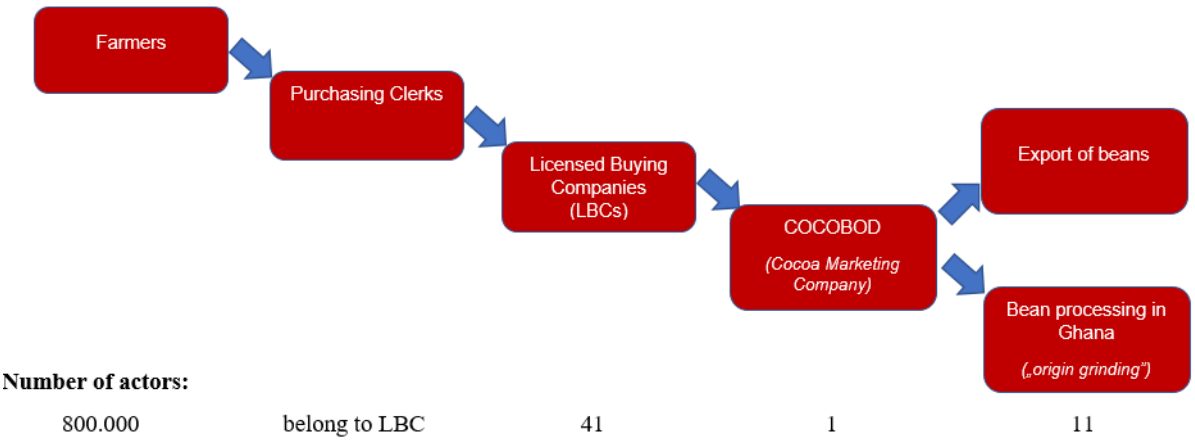


Source: Author, based on data from Gilbert (2016)

5.1.2 National production network

Due to more favorable climatic conditions, cocoa is exclusively grown in the southern part of Ghana. Figure 15 demonstrates the domestic production network of raw cocoa beans. The beans are grown, harvested, dried and fermented by roughly 800.000 farmers. Subsequently, the so-called Purchasing Clerks (PCs) collect the beans in one of the 3000 different buying stations that are placed in cocoa villages throughout the country. The PCs then transport the beans to Licensed Buying Companies (LBCs). LBCs, which are initially hiring the Purchasing Clerks, consequently employ hauliers who bring the cocoa to large warehouses in the three national ports in Tema and Takoradi (both sea ports at the southern coast) and to Kumasi, which is the only inland port. At the three different ports, the hauliers hand over the beans to the Cocoa Marketing Company (CMC), which is a subsidiary of COCOBOD that enjoys the exclusive right on the export of cocoa beans in Ghana. Afterwards, CMC either sells the cocoa beans directly to international buyers or to companies that process beans within the country.

Figure 15: Production network of raw cocoa beans in Ghana

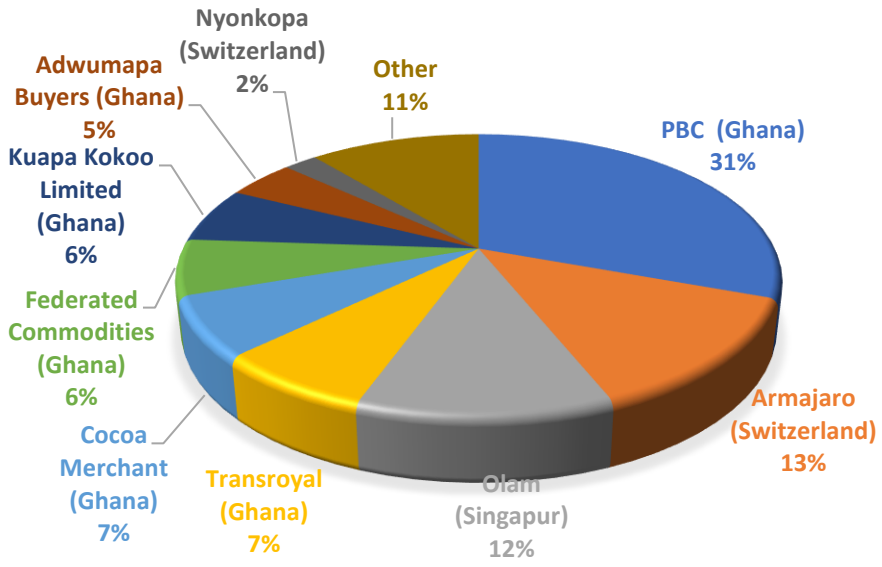


Source: Author, based on Interview 11 and Laven et al. 2016

The different actors within the network trade within tight guidelines set by the state-owned export monopoly. At the beginning of the season, CMC announces the time schedule and the volume for the cocoa delivery by the LBCs to the different ports (Van Huellen 2015: 273). With exception of the Purchasing Clerks, CMC furthermore controls the price margin for the different actors within the production network. In this context, CMC provides loans (below market rates) to the LBCs in advance of the delivery of cocoa, whereby LBCs are not allowed to purchase cocoa from the farmers below the yearly producer price share and they are also not encouraged to buy it above this level (Laven et al. 2016: 26). Hence, LBCs can still compete on their operational costs (for purchasing clerks), their volumes (in terms of delivery reliability) and on quality assurance and transport speed.

The composition of LBCs has substantially changed since the liberalization of the internal marketing in 1993, when the monopolist position of the state-owned Producer Buying Company (PBC) was lifted. In 2000, the PBC was also partially privatized. Today there are 41 active LBCs, mostly Ghanaian owned firms, with PBC being still the largest internal trader in terms of volume (see Figure 16). However, in recent years, multinational Commodity Trading Houses (CTHs) such as Olam, Ecom (through Aramjaro), Barry Callebaut (through Nyonkopa) and since 2017 also Cargill (not yet listed in the Figure 16) have entered the internal trading in Ghana.

Figure 16: Market share (in %) of LBCs in Ghana, 2015/16



Source: COCOBOD 2016

Due to their strong financial resources, LBCs owned by international traders have advantages in terms of the cash flow provided to farmers, which makes it easier for CTHs (or their respective subsidiaries) to bind farmers to them. A member of a farmer-based organization explains that

> *"PBC used to be special, as it was seen as very reliable as the government was a lender of last resort for it. Nowadays, farmers want to have the money immediately. With the recent trend of traders having their own LBC, these LBCs are financially stronger than PBC"* (Interview 12)

Despite their role as agents of LBCs, Purchasing Clerks have substantial bargaining power and profit opportunities, both towards LBCs and especially towards farmers. This is mainly owed to the fact that there are two buying seasons throughout the year, based on the two harvesting cycles (one main season from autumn to spring and a mid-season for light crops in the summer). While LBCs are legally not allowed to deliver beans in the off-season, famers still harvest parts of their crop between the seasons. This allows the PCs to pay less for the beans during that time and also to require fees from farmers for the bean storage (Van Huellen 2015: 271-272).

The unfavorable position towards PCs can be also explained in the overall low level of organization among farmers. A member of an umbrella organization for farmer-based organizations estimates that

> *"currently, there are only 100.000 out of 800.000 cocoa farmers organized in a cooperative"* (Interview 13)

which implies that 12,5% of the Ghanaian cocoa famers are part of an organization. Another factor that has an influence on the distributional outcomes in the domestic production network is the processing of beans in Ghana, also known as "origin grinding". This is not mainly

driven by COCOBOD but rather forms a part of an industrialization strategy by the Ghanaian government, which aims at raising the share of origin grinding from currently 23% to around 50% of all Ghanaian cocoa beans. In this context, the government attracted processing companies to operate in Ghana by offering tax suspensions, but also through a 20% discount on light crops that are used for origin grinding, which ultimately lowers CMC's revenues and consequently also the incomes of LBCs and farmers (Grumiller et al. 2018: 17-18).

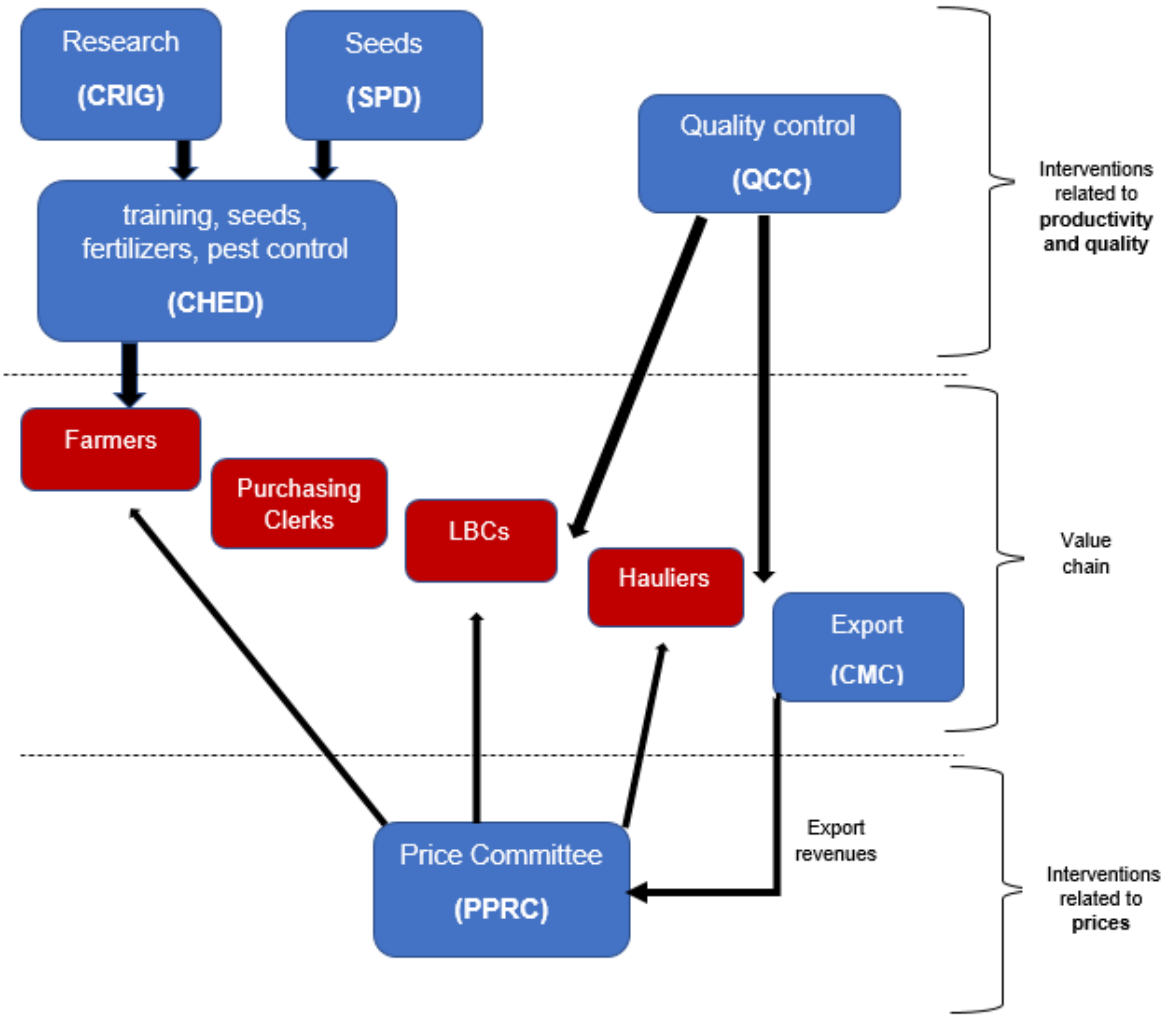
5.1.3 Institutional framework

Besides the active integration into the domestic production network through CMC's export control, COCOBOD intervenes in the production network through different subsidiaries that are influencing the productivity and the quality of cocoa beans. The **Cocoa Research Institute of Ghana (CRIG)** conducts research on crop varieties, pest and disease management and fertilizers. Additionally, the **Seed Production Division (SPD)** produces cocoa tree seeds for the replantation of cocoa farms. The two latter institutions provide their findings and inputs to the **Cocoa Health and Extension Division (CHED)**, which works directly together with cocoa farmers. CHED provides technical and managerial training to smallholders through so-called *extension officers* that are delegated to cocoa villages. As a member of a farmer-based organization explained, the CHED carries out mass spraying against diseases twice a year and distributes free seeds and fertilizers that are subsidized by 50% (Interview 7). CHED also implements the rehabilitation of diseased trees and replantation.

On top of productivity measures, COCOBOD carries out quality assurance through its subsidiary **Quality Control Company (QCC)**. In this context, QCC performs quality checks on the district level when the beans reach the LBCs and for a second time in warehouses at the different ports before the beans are exported. These post-harvest measures aim at guaranteeing a standardized bean quality (Hütz-Adams et al. 2016a: 26-27).

Next to interventions on productivity and quality, the Ghanaian government also intervenes into the price-setting by defining margins for different actors. Within the **Producer Price Review Committee (PPRC**), a multi-stakeholder committee comprising different within the production network and government bodies including COCOBOD, the annual shares on export earnings gained by CMC are defined. Figure 17 illustrates the interventions by the Ghanaian government related to productivity and quality as well as the interventions related to prices.

Figure 17: Interventions by the Ghanaian government in the domestic cocoa sector



Source: Author. = government body

Given the importance of the price-setting for distributional outcomes, it is useful to take a closer look at the distribution of the export earnings and the functioning of the Producer Price Review Committee (PPRC).

Before the beginning of the harvesting season that starts in October, CMC already sells around 70% of the forecasted harvest to international buyers via forward contracts. The remaining 30% are sold on spot in the following months (Hütz-Adams et al. 2016a: 26). The price of the forward sale contracts is benchmarked against the current price of cocoa futures in London. Based on this, CMC negotiates an additional country differential with international buyers. Taking into account CMC's monopoly position for the selling of Ghanaian beans as well as the importance of the large Ghanaian market and Ghana's comparably high quality standards, CMC has a certain bargaining power towards international buyers. However, this bargaining power is also limited as buyers know that CMC needs the forward sales as collateral for low-interest rate credits from international banks, which subsequently serve as CO-COBOD's working capital for the following months Additionally, CMC's central sales system

generates foreign exchange for the Ghanaian government, as the forward sales are executed in USD (Van Huellen 2015: 258).

Based on the average price of forward sales by CMC, COCOBOD calculates its export revenues for the next season by including the forecasted crop size for the remaining spot sales (calculated by the Statistical Division of COCOBOD) and the projected exchange rate (Ghanaian CEDI to USD, calculated by the Bank of Ghana) for the upcoming season (ibid. 266-267). These three variables generate the Gross FOB[2] value which serves as a projection for the export revenue for the next season:

> ***Gross FOB (in CEDI)*** *= (Forward Sales (USD/ton)) * (crop size for entire season) * (exchange rate CEDI-USD)*

In a next step, COCOBOD takes the Gross FOB value and generates a Net FOB value by deducting industry costs (for productivity measures such as CHED, SPD, CRIG) from the Gross FOB:

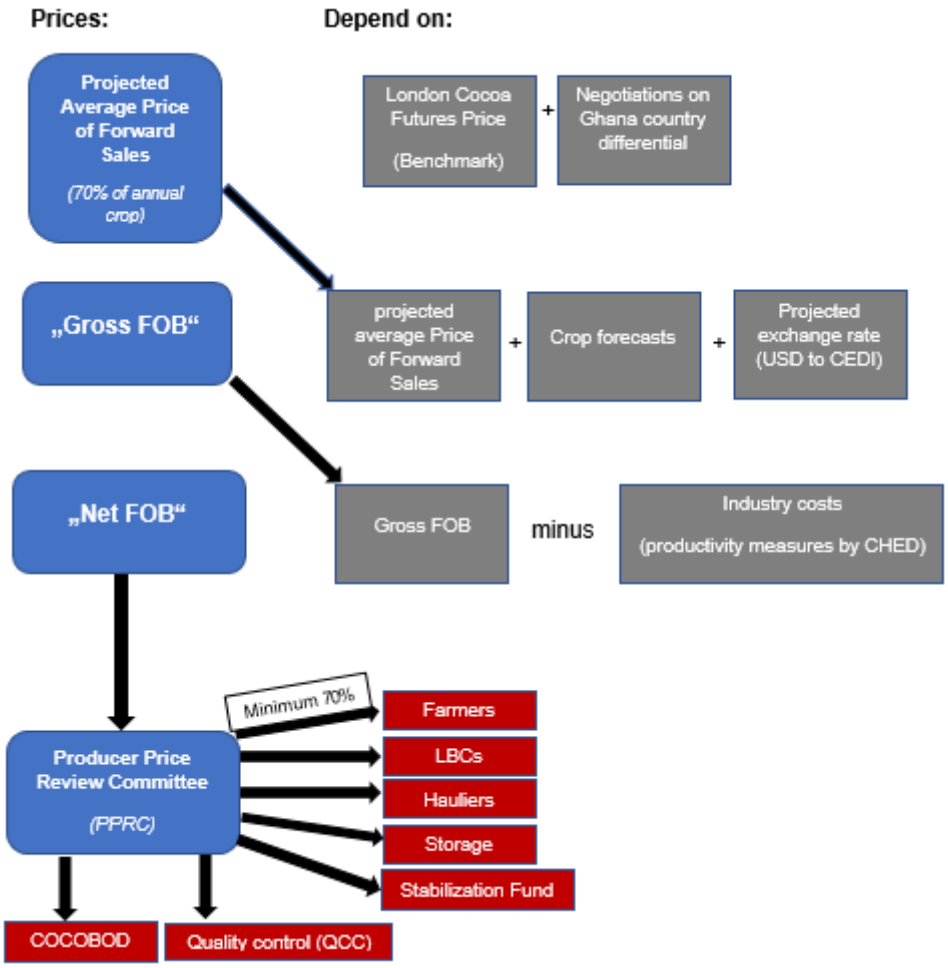
> ***Net FOB*** *= Gross FOB – Industry cost*

The net FOB value serves as a negotiation basis for the Producer Price Review Committee (PPRC). Within the PPRC, representatives of the Ghanaian government (ministry of Finance and the Ministry Economic Planning), the Bank of Ghana, COCOBOD and several of its subsidiaries (QCC and CMC), as well as representatives of actors within the production network such as hauliers, LBCs and farmers (which are represented through the Cocoa, Coffee, Shea nut Farmer Association (COCOSHE)) are part of the negotiations rounds (Laven et al. 2016: 24). In advance of the negotiations, all stakeholders have to submit an approximation of their costs and have to give a suggestion for the required margin of the net FOB. Since the cocoa sector reform in 2000, it is a formalized rule that farmers receive a margin of at least 70% of the net FOB, which is also written into the Ghanaian constitution. This seasonal minimum price is also backed up by a reserve fund. However, in the case of large price volatility, the minimum farm-gate price can be downgraded in the mid-season during summer, which only happened once in 2007/08 (Van Huellen 2015: 266). In case the realized export prices are higher than expected, farmers receive a bonus. This has happened already twelve times since 2000, with rather small bonus of around 3% of the producer price on average (Tröster et al. 2019: 17). The remaining revenues are mostly assigned to COCOBOD and LBCs. Laven et al. (2017: 25) state that out of the 2011/12 net FOB, farmers received 76%, LBCs 8%, hauliers 3%, COCOBOD 9% for its operating costs and another 3,5% for its subsidiaries CMC and QCC and for the stabilization fund (0,5%).

[2] FOB Price = “Free on Board Price” or “Freight on Board” Price. Indicates that the shipping cost are not included in the price and consequently have to be incurred by the buyer.

The entire domestic price chain is exemplified in Figure 18.

Figure 18: Price Transmission of cocoa export prices in Ghana



Source: Author, based on Van Huellen 2015: 266-267

5.2 The Ivorian cocoa sector

5.2.1 History

Cocoa was already introduced in Côte d'Ivoire in the beginning of the 20th century, but the overall production was very low until the 1950s. In 1955, the French colonial authorities set up the caisse system in order to stabilize prices and revenues. In comparison to the marketing boards in British colonies, the caisse management was not directly involved in physical trade and rather controlled the different private actors within the production network (farmgate buyers, wholesalers/"traitants", exporters) through buying quotas. After Côte d'Ivoire's independence in 1960, the institutional setup was continued under the name CAISTAB. The CAISTAB also fixed annual prices for each stage of the domestic marketing network through its administrative scheme called bareme (Losch 2002: 208-210).

Unlike the ongoing policy changes Ghana, the institutional framework of the Ivorian cocoa sector remained mostly unmodified throughout the first three decades after independence. This was closely linked to Côte d'Ivoire's first president Félix Houphouët Boigny, who stayed in power until 1993. The stabilization of producer prices was seen as a major pillar of Boigny's efforts to gain electoral support by growers, apart of facilitating farmer's access to new land for plantations and promoting the immigration of plantation workers from neighbor countries. In combination with a high world price in the 1970s, these factors led to a strong increase in cocoa production throughout this decade, with annual growth rates of up to 8%, and Côte d'Ivoire overtook Ghana as the largest cocoa producer in 1976. This period is also often referred to as "Ivorian Miracle", with the country being one of the strongest economies in the region. In this context, CAISATB's role in stabilizing and raising the producer prices at that time is still perceived as very positive among farmers, as interviews with a farmer-based organization revealed (Interview 19).

With falling cocoa world prices in the 1980s, the Ivorian government somehow changed its strategy by trying to exert more influence on the global market. As the Ivorian government perceived ICCO as unable to react on price drops, the country left the International Cocoa Agreement (ICCA) in 1980 and started to take unilateral actions by holding back its cocoa exports from the international market for several times throughout the 1980s. The longest boycott of export shipments lasted 27 months from 1987 to 1989. This "cocoa war" finally culminated in high losses for the CAISTAB, as European buyers accumulated large bean stocks and were therefore able to wait until Ivorian beans were released again, despite Côte d'Ivoire's position as world market leader. As a consequence, the caisse system, which was dependent on incoming revenues, could not hold its system of guaranteed prices anymore. Therefore, CAISTAB had to reduce the annual farm-gate price for the first time since 25 years (Losch 2002: 211-12). As the budgetary losses of CAISTAB affected the entire Ivorian economy, the government had to rely on credits by international donor organizations, which were linked to the obligation of the liberalization of the Ivorian economy and also of the cocoa sector.

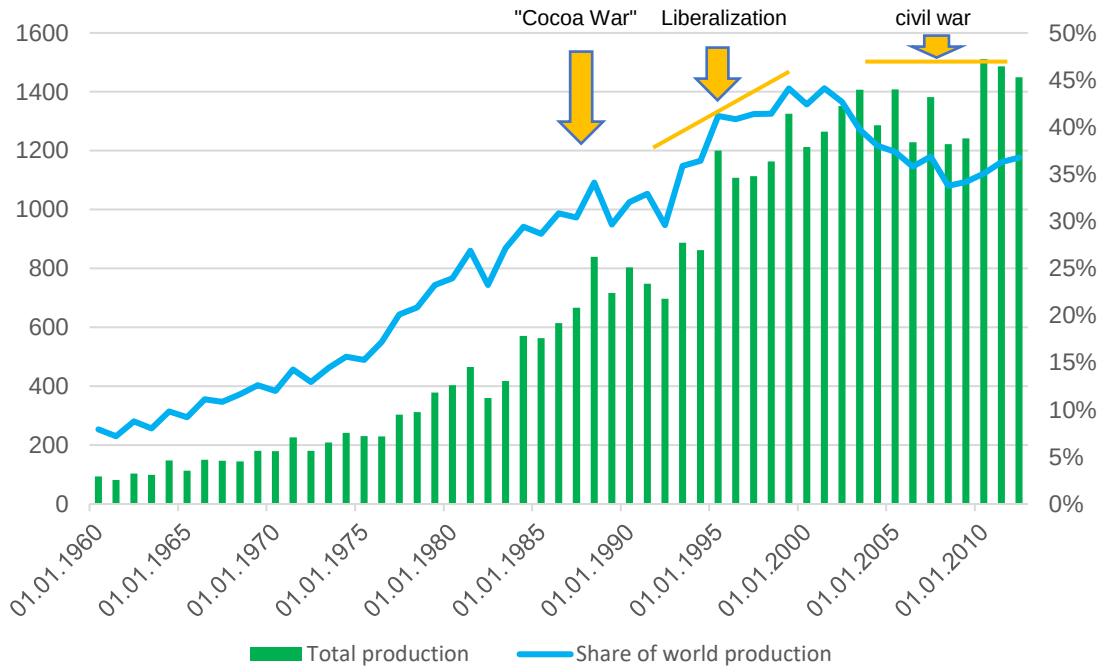
Despite strong resistance by the Ivorian government, the cocoa sector was liberalized in several steps throughout the 1990s. In a first step, the internal marketing system was deregulated by abolishing buying quotas and the related allocation of export revenues through the bareme in 1991. In a second step in 1995, the minimum farm-gate price was transformed into an "indicative price". Additionally, the state control on export quotas was also removed by introducing an auction system for exports. Moreover, the overall sales contingent managed by CAISTAB was limited to 15% (Losch 2002: 213-14). The final step of the reforms took place on an overall institutional level, when CAISTAB was dissolved in 1999 and replaced by the Nouvelle Caistab. According to Gilbert (2009: 299), the new system was actually more complicated despite its goal of providing a less bureaucratic management, as it consisted of five different institutions, separately responsible for competition policy, external marketing, price stabilization, investments in the cocoa sector and financial support for cooperatives.

The military coup in 1999 and armed conflicts between groups from the northern and the southern part of the country between 2002 and 2010 also affected the cocoa sector, as cocoa from the northern part was mostly exported via neighbor countries and it was reported that in both parts, revenues from cocoa exports were used to fund the conflict parties (Vellema et al. 2016: 233). The latest reforms were driven by conditions for a debt relief by the IMF for the new government of president Alassane Quattara in 2011, who launched a cocoa reform that included the re-establishment of fixed minimum price for farmers through a forward auction of export licenses. Additionally, stricter quality controls were introduced as the quality of Ivorian beans had decreased since the 1990s. As a regulatory body, the *Conseil du Café-Cacao* (CCC) was established (Laven et al. 2016: 26).

Figure 19 shows the Ivorian cocoa production and its share on the global market since 1960. The strong growth, both regarding production and relative world market share still continued during the liberalization in the 1990s, with Côte d'Ivoire accounting for nearly half of the world production around 2000. Nonetheless, the civil war led to a stagnation in the 2000s, which can be also explained by the fact that parts of the production were smuggled to Ghana and Burkina Faso.

Cocoa has still a strong role within the Ivorian economy. In 2018, the export of raw cocoa beans accounted for 28% of overall exports and another 11% of exports consisted of products from processed cocoa. In 2016/17, the share of semi-finished cocoa products on cocoa exports accounted for around 27% of all cocoa exports (ICCO 2019: 13). Similar to Ghana, the major export destination is the EU-market (60% in 2017), but in contrast the second largest importer of Ivorian beans is North America (23%) followed Asia (7%) (FAO and BASIC 2020: 157). As a major difference compared to Ghana, other products play a comparably minor role among overall exports in Côte d'Ivoire, with cashew nuts and crude oil accounting for 9% of exports (OEC 2020b). It is estimated that in 2015, the cocoa sector contributed around 15% to the overall GDP (Hütz-Adams et al. 2016b: 9)

Figure 19: Côte d'Ivoire's annual cocoa production (in 1000 tons) and world market share (in %), 1960-2012

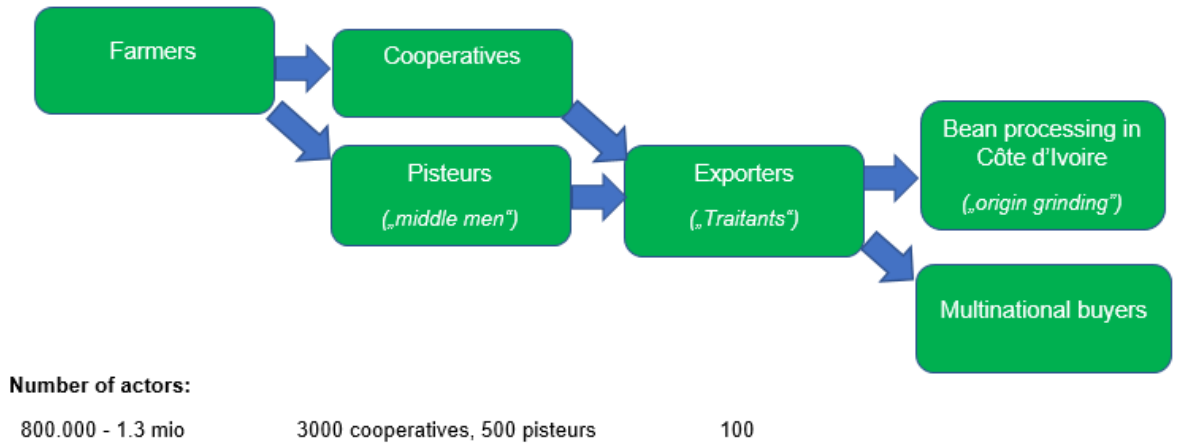


Source: Author, based on data from Gilbert 2016

5.2.2 National production network

Figure 20 shows the production network of raw cocoa beans in Côte d'Ivoire. Similar to Ghana, the majority of the cocoa production in Côte d'Ivoire is located in the southern part of the country due to particularly favorable growing conditions. It is estimated that around 800.000-1.3 million smallholders produce cocoa (Hütz-Adams et al. 2016a). Farmers either sell the raw cocoa to cooperatives or more frequently to middle-men, so called "pisteurs". As a third option, some farmers also sell their beans directly to local processors. In the case of exported beans, cooperatives or pisteurs subsequently sell the beans to around 100 different Ivorian or international export companies, which thereafter sell the beans to multinational grinders/traders that either directly process the cocoa in Côte d'Ivoire ("origin grinding") or outside the country (Interview 27; Grumiller et al. 2018: 11; Laven et al. 2016: 31).

Figure 20: Production network of raw cocoa beans in Côte d'Ivoire



Source: Author. Based on Interview 27 and Laven et al. 2016

Despite around 3000 active cooperatives, only a minority of the Ivorian cocoa famers are members of a farmer organization. A member of a farmer-based organization estimates that around 20% of smallholders belong to a cooperative (Interview 19). The decision through which channel smallholders sell their beans is often based on their need for cash, as an Ivorian market researcher claims:

> *"Farmers either sell to cooperatives or pisteurs. Cooperatives sometimes give inputs or social services to farmers, whereas pisteurs are sometimes a better option if you need quick cash. The problem with pisteurs is that in practice, they often pay below the minimum price. This is very hard for CCC to control."* (Interview 27)

Another advantage of pisteurs towards cooperatives is their ability to source beans from remote areas, as cooperatives often do not have the means to provide transport to their members (Hütz-Adams et al. 2016a: 24).

The largest export companies are organized in the Groupement des exportateurs (GEPEX) that represent around 80% of the total export volume (Hütz-Adams et al. 2016: 11). Since the liberalization of the Ivorian market in the 1990s, joint ventures of foreign traders with local firms largely drove out independent local exporters (Grumiller et al. 2018: 11). Laven et al. (2017: 34) state that the market share of the latter has decreased from 43% in 1997/98 to less than 30% in 2010/11. As a main driver for the local grinding sector, the Ivorian government granted discounts on the export of processed beans under the scheme of the droit unique de sortie (DUS) (Grumiller et al. 2018: 11).

5.2.3 Institutional framework

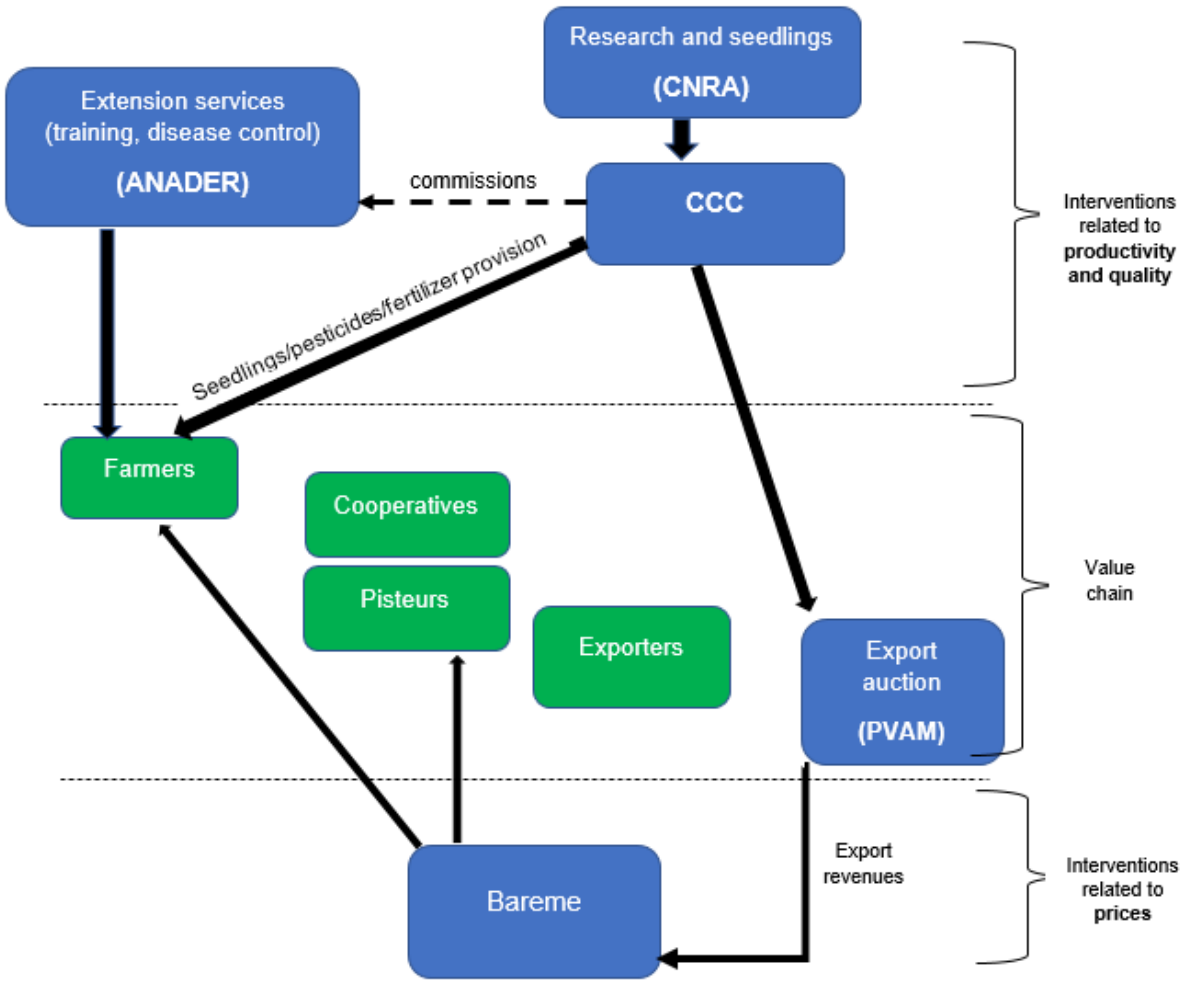
With the establishment of the *Conseil du Café-Cacao* (CCC) in 2012, the Ivorian government aimed at counteracting the overall quality loss of Ivorian beans since the liberalization and also to maintain Côte d'Ivoire's position as the world market leader. These ambitions are exemplified in the implementation of the *2QC programme* (*Qualité, Quantité, Croissance* -

Quality, Quantity, Growth) which was launched in 2014 for a ten-year period, with a financial volume of 450 billion CFA Franc (700 mio EUR) (Grumiller et al. 2018: 11-12). The 2QC program is financed and coordinated through a public-private partnership platform, consisting of 75 different members, whereby CCC pledged to finance one third of the overall program.

The majority of the funds will be used for productivity enhancement (75%) and farmer's community development (24%) (Hütz-Adams et al. 2016b: 14). Despite the fact that CCC carries out the provision of inputs to farmers, the implementation of some of CCC's policies is carried out by different separate entities. The *Agence Nationale d'Appui au Développement Rural* (**ANADER** – National Agency for the support of rural development) is responsible for extension services, including Good Agricultural Practices (GAP), support for cooperatives and disease control. Despite being partly owned by the Ivorian government, ANADER works on a contract basis for CCC. The *Centre National de Recherche Agricole* (**CNRA** - National Agricultural Research Centre) is responsible for research on cocoa varieties and provides cocoa seedlings to CCC. Additionally, the *Fonds Interprofessionnel pour la Recherche et le Conseil Agricoles* (**FIRCA** - Interprofessional Fund for Research and Agricultural Extension Services) manages the different funds to form a development cooperation for the cocoa sector (Hütz-Adams et al. 2016b: 14).

Unlike the Ghanaian authorities, the Ivorian government does not directly intervene in the physical trade of cocoa beans. Yet, CCC controls the prices within the domestic production network through its export forward sales auction PVAM (*programme* de *vente anticipée* à la Moyenne) (see Figure 21). The auction system was already introduced for a short period during the 1990s, and its re-introduction in 2012 was an essential part of the cocoa reform.

Figure 21: Interventions by the Ivorian government in the domestic cocoa sector



Source: Author. = government body

The domestic price chain in Côte d'Ivoire is illustrated in Figure 22. In advance of the auction, CCC sets a reference price based on the ICE cocoa futures prices in London, that considers the country specific "origin differential" and the exchange rate from British Pound (GBP) to the local currency CFA Franc (as London Cocoa Futures are traded in GBP) (Tröster et al. 2019: 18). The forward auction takes place twice-daily, beginning at the end of January until the end of August, whereby 70-80% of the upcoming season's volume are sold (Laven et al. 2016: 33). Based on the defined reference price and their own bids, export companies acquire export permits (*engagement*) which allow them to source a certain quantity of cocoa beans on the Ivorian market.

> *"If you buy forward as an exporter on the auction, that means you have an "engagement" which is an obligation to buy a specific volume at that price"* (Market researcher, Interview 26)

Exporters are subsequently "unlocked" (*"déblocage")* for a specific forward contract, for which they also need to confirm their permits by showing a forward contract for the respective quantity with their customer (Tröster et al. 2019: 18).

Based on the average price of auctioned export permits, the projected crop size of the remaining spot sales and the projected exchange rate conversion, CCC calculates the average CIF price[3] and consequently the expected export revenues for the upcoming crop season. Within the barème scheme, CCC allocates the expected export revenues between farmers, cooperatives, middlemen (pisteurs), but also collects a significant share for its own operating costs and taxes. The barème is published at the beginning of the crop season in October. CCC guarantees the payment by exporters and thus the share of the different actors within the production network on the basis of inspections on different marketing stages.

> *"The "engagement" is an obligation to pay that price from the forward auction. CCC is checking whether this engagement is put into practice. They have agents who control in the regions and at the port."* (Trader of an international company, Interview 21)

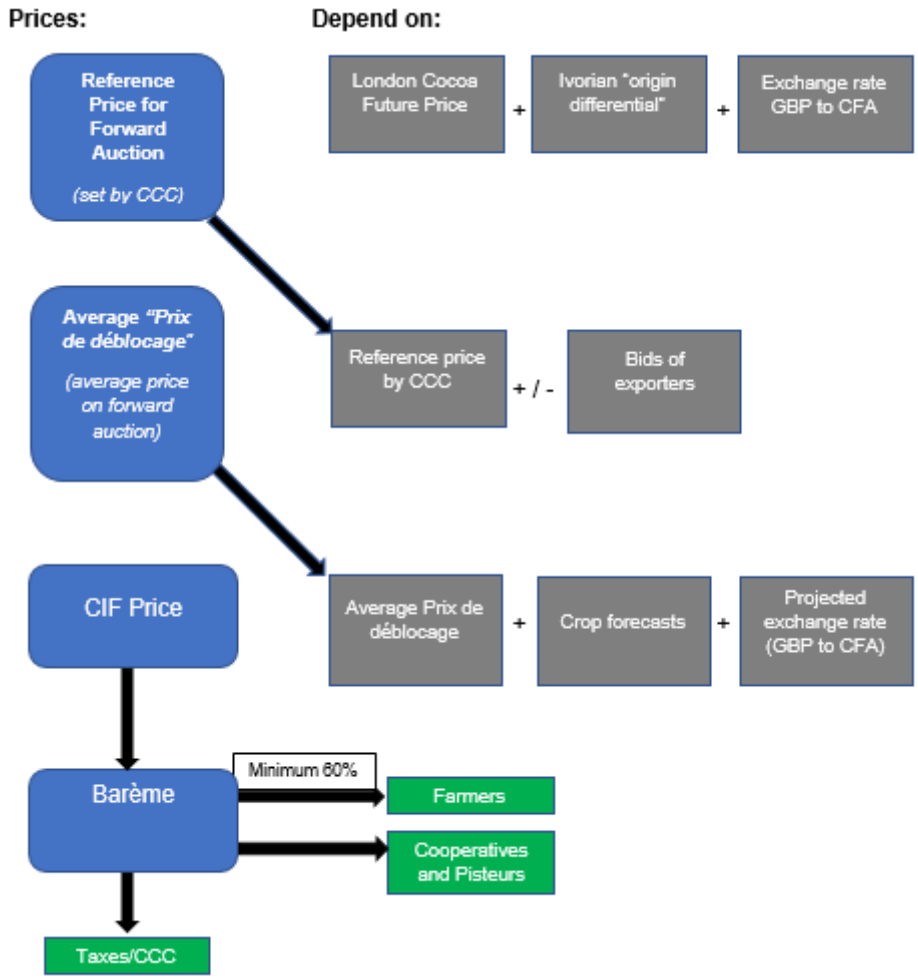
It is a formalized rule within the barème scheme that farmers receive a guaranteed minimum of 60% of the CIF price for the upcoming season, and not below 50% in times of falling global prices. In some occasions however, the minimum price can be also downgraded during the season, which happened in the course of the global price crisis in 2017.

It was not possible to receive data on the exact allocation of the barème during the interviews. Hütz-Adams et al. (2016b: 10) estimate that CCC collects around 22% within the barème for its own expenses and tax collection. Taking into account the 60% share of farmers, this would mean that the different domestic traders receive around 18%.

In order to ensure the minimum farm-gate price throughout the crop season, CCC set up a stabilization fund to balance potential price fluctuations. According to Laven et al. (2016: 34), the fund can contain up to 70 billion CFA Franc (120 million USD).

[3] CIF= Cost, Insurance, Freight. Unlike FOB prices, CIF prices include also the transport costs of the export transaction

Figure 22: Price Transmission of cocoa export prices in Côte d'Ivoire



Source: Author, based on Interviews 21;23;26; Tröster et al. 2019

6 Comparing public and private regulations and governance in Ghana and Côte d'Ivoire

6.1 Impact of public regulation on smallholders' incomes

6.1.1 Quality and productivity

Both the Ghanaian and the Ivorian governments pursue quality assurance of cocoa beans within their domestic sector. However, the quality management is more extensive in Ghana due to COCOBOD's direct involvement in the physical trade of beans (see section 5.1.3) and since COCOBOD has its own subsidiary responsible for quality assurance (QCC). In Côte d'Ivoire, CCC intensified quality management only very recently in the course of the sector reforms of 2012 and especially with the introduction of its 2QC program in 2014 (CCC 2014). While QCC is inspecting the bean quality twice (first at the storage of LBCs at local buying stations and then again at the port storage) within the domestic production network, CCC sends agents for quality checks to buying stations at ports (Interview 21). As different publications show, cocoa beans from Ghana show a significantly higher quality and thus receive a premium from international buyers, which is directly associated to the government's quality management (Kolavalli et al. 2012; Van Huellen 2015; Hütz-Adams et al. 2016a; Laven et al. 2016). This is also confirmed by several multinational grinders/traders and by chocolate manufacturers (Interviews 6; 14; 21; 22). At the same time, grinders/traders stated that the quality of Ivorian cocoa and thus also the "country differential" for Ivorian beans compared to Nigeria or Cameroon has increased in recent years, which they relate to the quality checks of CCC (Interviews 21; 22; 24).

But since the quality management in both countries is limited to ensuring a certain quality standard and does not include for instance direct price premiums for farmers for the delivery of beans with higher quality, quality control does not automatically mean that farmers receive higher prices for their cocoa beans. For instance in Ghana, LBCs are not encouraged by COCOBOD to pay more than the annual minimum price. In consequence, farmers benefit only from the quality management of the parastatals if the quality premiums on cocoa exports also translate to higher minimum farm-gate prices (see section 6.1.2). This is to a certain extent the case as farmers' minimum prices are set related to a share of export prices (see below), but individual farmers cannot get higher prices due to increased quality in both systems given the prevalence of the sector-wise minimum prices and that buyers generally do not pay more to farmers. It depends therefore ultimately on the power of farmers in price setting institutions in both countries if they can ensure that they get a higher share linked to quality improvements.

As described in sections 5.1.3 and 5.2.3, both in the Ghanaian and the Ivorian cocoa sector, state interventions on productivity enhancement of smallholders - through the provision or subsidization of seedlings, fertilizers and pesticides and through the provision of trainings for farmers - are an important part of the institutional framework. In this context, several studies however point out that the productivity schemes of both parastatals face severe limitations to support cocoa smallholders, in terms of their general capacities to raise productivity among farmers as well as with respect to their ability to support all cocoa farmers equally (Hütz-

Adams et al. 2016a; Laven et al. 2016, Anaman 2019). As stated by several interview partners, this is mainly due to the fact that farmers that are not part of a cooperative are generally more difficult to reach for the extension officers (Interviews 7; 8; 13; 19). Given the low degree of organization among cocoa farmers, which is estimated below 20% both in Ghana and Côte d'Ivoire (Interviews 13; 19; 24), a large proportion of smallholders is disadvantaged in terms of the distribution of the productivity support schemes. Since the productivity measures are financed fully (in the case of Ghana) or partially (in Côte d'Ivoire) through the collection of taxes deducted from the export earnings (as described in section 5.1.3. and 5.2.3), the extension services subsequently reduce the minimum-producer price, which means that cocoa farmers pay by default for services which they may not benefit from. However, the interviews with sector experts indicated that there are also two major differences between the impact of COCOBOD's and CCC's measures on productivity:

Firstly, COCOBOD's extension services are perceived as generally supportive for cocoa farmers and it is also relatively clear among stakeholders which kind of support farmers can expect from CHED (50% subsidies on fertilizers, twice a year mass spraying), as stated by representatives from famer-based organizations (Interview 7; 13) and from an LBC (Interview 14). In Côte d'Ivoire in contrast, the productivity measures by CCC seem to reach only very few farmers and it is also not clear what the support schemes exactly consist of (Interviews 19; 27). This may also explain why the average productivity on cocoa plantations is found to be higher in Ghana compared to Ivorian cocoa farms. According to Fountain and Hütz-Adams (2019), a sample of different studies on cocoa farmers' productivity suggests that the average productivity is 22% higher in Ghana (509 kg/ha) than in Côte d'Ivoire (417 kg/ha). Thus, cocoa farmers in Ghana tend to be more able to improve their income situation through the government support schemes than smallholders from Côte d'Ivoire.

Secondly, the inefficiencies of the productivity support schemes seem to be better tackled by COCOBOD, which aims to improve the efficiency and the coverage of its extension services, whereas CCC reduced its productivity measures recently. Since COCOBOD's extension services (which are implemented through the subdivision CHED) were criticized by different stakeholders with respect to the low number of extension officers (Interview 12) as well as for disadvantaging female and muslim farmers (Anaman 2019: 30) and farmers with smaller areas (Interview 9) within their provision of inputs, COCOBOD seems to acknowledge these shortcomings and plans to improve the distribution system. In this context, COCOBOD aims at improving the extension officer/farmer ratio (and thus the number of farmers that are trained by one extension officer) from currently 2000 farmers per extension officer to 500 farmers per trainer (Interview 8). Additionally, COCOBOD aims at founding 500 cooperatives in order to reach more farmers with their extension services (ibid.).

In contrast to that, CCC has reduced its productivity measures in recent years. This can be linked to two major issues. CCC's attempt to avoid a global oversupply of cocoa, and compared to the cocoa sector in Ghana, a lower accountability of the parastatal towards cocoa farmers with respect to the comprehensiveness of their productivity measures. Hütz-Adams et al. (2016a: 24) note that the distribution of free inputs was already low before the price

drop in 2016/17, with a very low rate of renewing cocoa plantations where it would take 40 years to renew all plantations. Against the background of sharp decline of the cocoa world price in 2016/17, CCC has identified an oversupply as a major reason for the price drop given Côte d'Ivoire's position as the largest producing country and the strong increase of domestic production in the years before the price drop. CCC consequently stopped all rejuvenation of farms and the planting of seedlings until further notice (Interview 23; Fountain and Hütz-Adams 2019: 2). Thus, the raise of cocoa farmers' productivity through the 2QC program does not seem to be a priority in Côte d'Ivoire anymore, as CCC tries to avoid another oversupply. This notion is shared by a sustainability manager of a chocolate manufacturer who works in both countries:

> *"CCC does not talk anymore on this 2QC project. Generally, they (farmers) do not see them (CCC) in the communities. CCC is less visible than COCOBOD"* (Interview 24).

A member of a farmer-based organization explains that CCC's impact on productivity enhancement is perceived as very marginal among Ivorian cocoa farmers:

> *"It's basically this: We (the farmers) are alone. Yes, every season there is a service by the governments for fertilizers. But only certain cooperatives benefit from this."* (Interview 19)

As an Ivorian cocoa market researcher states, the low interest of CCC in founding new cooperatives as well as the limited support for cocoa farmers related to their productivity can be additionally explained by the lack of accountability of CCC towards cocoa famers. In contrast to Ghana, there is no NGO or other civil society actor that investigates the effects of the 2QC program on cocoa farmers (Interview 19).

> *"In Ivory Coast, there is no local NGO controlling the government regarding the cocoa sector. Also, the government does not really support actively the formation of new cooperatives."* (ibid.)

6.1.2 Price setting and stabilization

As described in sections 5.1.3 and 5.2.3, the prices of cocoa exports from Ghana and from Côte d'Ivoire are determined through a forward sales mechanism, whereby the majority of the country's annual crop is sold in advance of the harvesting season. This subsequently allows the two parastatals to determine a seasonal minimum price received by cocoa farmers, which is a unique feature compared to other cocoa producing countries with no form of minimum prices for smallholders.

In order to analyze the impact of public price governance on the incomes of cocoa smallholders, it is thus important to first analyze the cocoa export prices of both countries, since these export earnings form the basis for the domestic distribution of shares through price setting institutions in both countries. Hence, the minimum farm-gate prices received by cocoa famers are calculated through a fixed share on average export prices (see sections 5.1.3 and 5.2.3).

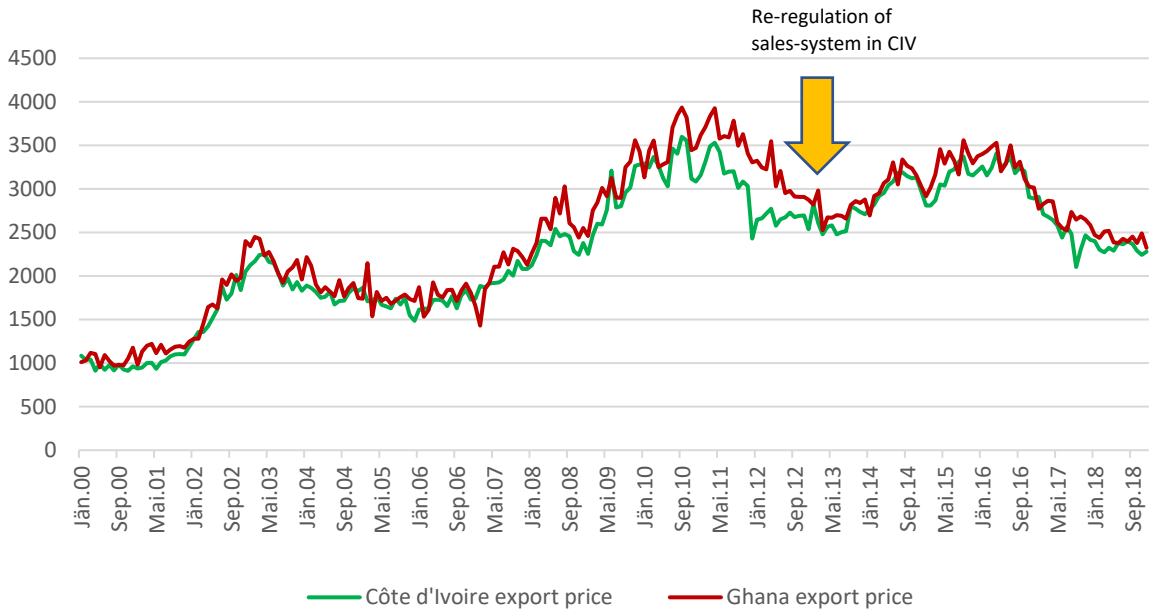
Figure 23 illustrates the monthly export prices of cocoa beans from Ghana and Côte d'Ivoire to European destinations between 2000 and 2018. During this period, both COCOBOD and CCC could fetch a "country differential" in comparison to liberalized cocoa markets, as Ghana (12%) and Côte d'Ivoire (6%) earned significantly higher average export prices than in cocoa producing countries with liberalized export marketing system and less quality control such as Cameroon[4] (Eurostat 2019). Another key similarity between the cocoa export prices of both countries is their strong dependence on financial derivative markets, as Ivorian export prices corresponded 91% and Ghanaian export prices corresponded 90% with monthly prices of London ICE cocoa futures between 2000 and 2018[5]. This is not surprising since the London ICE is used as a benchmark within both pricing mechanisms (Interview 3), as already described in sections 5.1.3 and 5.2.3. Thus, the cocoa export prices of COCOBOD and CCC are also exposed to the fluctuations of the London ICE.

However, when looking at the average export earnings of the two countries, it can be stated that the cocoa export prices of Ghana (2476 USD per ton) were significantly higher than in Côte d'Ivoire (2316 USD per ton) between 2000 and 2018, although the average price difference decreased from 8% until 2012 to a 4% average difference since the re-regulation of the Ivorian sales system. The higher average price of Ghanaian cocoa can be explained on the one hand by CMC's bargaining power towards international buyers (see section 5.1.3), which does not apply to the Ivorian sales system as CCC only sets a reference price for the auction (Van Huellen 2015: 261). On the other hand, the (still) higher bean quality in Ghana also contributes to higher export prices compared to Côte d'Ivoire, although, as explained in the previous section, multinational grinders/traders state that this difference has become smaller in recent years due to the 2QC program (Interviews 18; 21).

[4] In Cameroon, the average price of cocoa exports amounted 2204 USD between 2000-2018 (Eurostat 2019)

[5] The correlation coefficient export prices with ICE London cocoa futures between 2000 and 2018 accounts for 0,91 in Côte d'Ivoire and 0,90 for Ghana. Data for ICE London cocoa futures was conducted from Bloomberg Professional Services (2019)

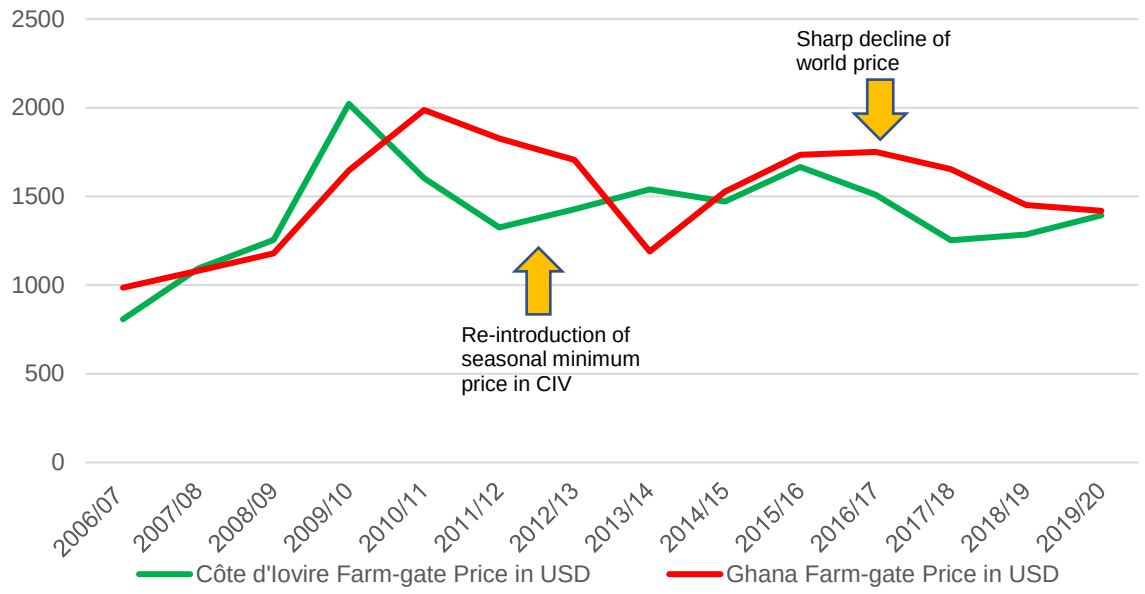
Figure 23: Monthly export prices (in USD) for Ghana and Côte d'Ivoire, 2000-2018



Sources: Author, data from Eurostat (2019) (mirror data from EU import prices)

The higher average export prices in Ghana thus allows COCOBOD to pay higher minimum producer prices compared to Côte d'Ivoire, which gets reflected when looking at the average farm-gate prices of both countries converted to USD (see Figure 24). Between the seasons 2006/07 and 2019/20, average minimum producer prices in Ghana (1522 USD) were 8% higher than in Côte d'Ivoire (1414 USD). It is additionally questionable whether farmers in Côte d'Ivoire actually receive these minimum prices for their cocoa sales, since Ivorian market experts indicated that CCC struggles to monitor whether the payments from pisteurs to farmers account for the minimum price which was set (Interviews 26; 27). Stakeholder in Ghana in contrast mentioned that, despite several exceptions, in most cases LBCs pay the defined minimum price to farmers (Interviews 7; 13). In addition to this, the Ghanaian system allows farmers to benefit from small bonus payments if the realized export earnings are higher than expected, which happened in 12 seasons in the past two decades with an 3% bonus on top of the minimum producer price. In Côte d'Ivoire, such a bonus system does not exist.

Figure 24: Annual farm-gate price (in USD) for Ghana and Côte d'Ivoire, 2006/07-2019/20



Source: Author, based on data provided by ICCO (for farm-gate prices in local currencies) and Investing.com (2020a;2020b) (for average exchange rate USD- GH CEDI and USD – CFA Franc)

Higher producer prices in Ghana than in Côte d'Ivoire may be also explained to a certain extent through a slightly stronger inclusion of cocoa farmer issues into the domestic price-setting process. In Ghana, the Cocoa, Coffee and Shea nut Farmers Association (COCOSHE) represents cocoa farmers within the price-setting process by sending two representatives to the Producer Price Review Committee (PPRC). While COCOSHE presents expected cost structures for the upcoming season on behalf of cocoa farmers during the meetings, several interview partners from farmer-based organizations in Ghana stated that COCOSHE's impact on the price negotiations however is fairly limited compared to other members of the PPRC (Interviews 9;12). In Côte d'Ivoire in contrast, the role and the extent of participation of farmers within the price-setting is less transparent. A member of a farm-based organization claims that cocoa farmers' concerns are not included into the price-setting process by CCC and thus have no impact on the height of the producer price. *"It's the government who decides within the barème. We are not all part of this system."* (Interview 19)

On top of the differences in terms of the height of producer prices, the Ghanaian system is also more able to stabilize the producer prices, both within a season in case of a price drop and between cocoa seasons. This was especially obvious in the course of to the sharp decline of the cocoa world price in 2016/17 and the following years when the price stabilization mechanism by the parastatals came under strong pressure. While COCOBOD remained the minimum price during the entire 2016/17 season, CCC transmitted the lower export earnings to cocoa farmers by reducing the farm-gate minimum price during the mid-season by almost 36% (Hütz-Adams 2018: 12). This means that Ivorian farmer had to sell their beans at a roughly one third lower value than initially announced by CCC before the harvesting season. An Ivorian government representative explains the collapse of the producer prices in march

2017 relates to the larger amount of farmers CCC would had to subsidize and with the more flexible sales system in Ghana (Interview 23).

> *"In comparison to Ghana (800 000 tons), we (Côte d'Ivoire) trade with a significantly higher annual volume (2 000 000 tons). So it was harder for us to stabilize the price. They (Ghana) sell less and through CMC they can sell quicker, therefore they are able to react faster to market trends.* (ibid.)

In addition to that, the low ability of CCC to stabilize producer prices is also explained by its dependency on the market behavior of private export companies within the auction system. During the forward sales for the 2016/17 season, many local exporters speculated on an increase of the cocoa world price and thus became insolvent after the world price drop, as they could not sell their cocoa to international buyers on the same level on which they had initially acquired the beans during the forward auction. Subsequently, CCC had to sell the beans at a significant lower price level compared to initially realized auction prices, which culminated in an overall loss of 199 billion CFA Franc (360 mio USD) for CCC. (Hütz-Adams 2018: 12; Tröster et al. 2019: 22). It was subsequently argued that CCC's criteria for the allocation of export licenses are too vague as well as that CCC is unable to anticipate the actual volume of next year's crop (KPMG 2018: 60). Furthermore, the actual extent of CCC's stabilization fund and its functional capability to stabilize Ivorian producer prices remains unclear, as many interview partners claimed that there is no public information on the stabilization fund and its potential role during the price drop (Interviews 23; 26; 27).

COCOBOD in contrast also remained the minimum producer price within in the following season on the same level in nominal terms (7600 Ghanaian Cedis per ton), and was thus able to stabilize the producer prices in nominal terms in the two following two seasons on the pre price-crisis level, despite a slow recovery of the cocoa world price in the meantime. According to a representative of the Ghanaian government, the producer price stabilization was at the expense of the entire volume of the stabilization fund (300 mio Ghanaian Cedis, 66 mio USD) and additionally enabled through budget cuts on other expenses of COCOBOD (Interview 8).

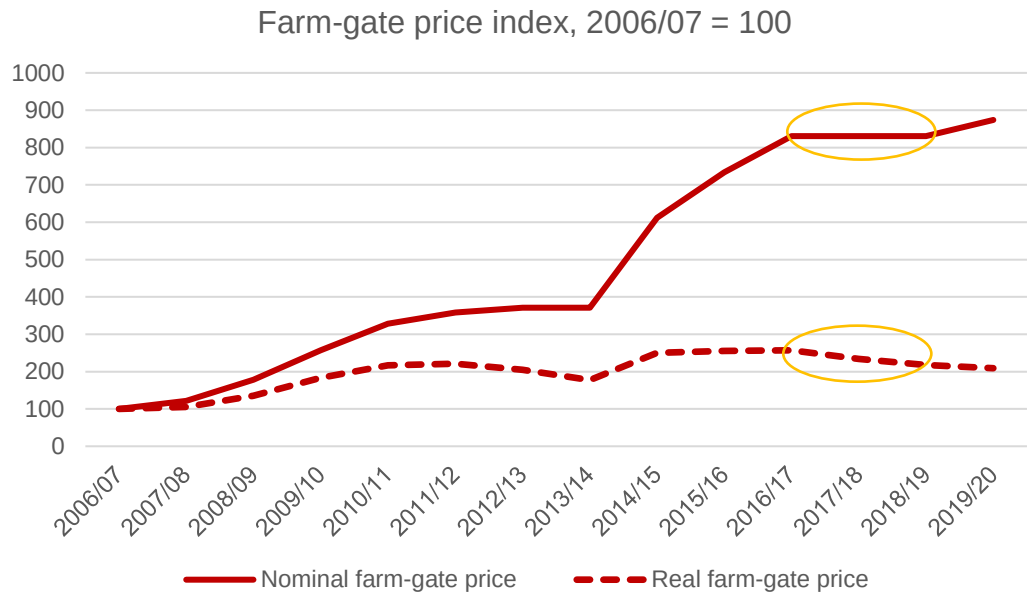
> *"The situation was very bad in early 2017, as the FOB price (export revenues) was very close to the minimum price at that time. We used the stabilization fund in order to fill that gap, but it was not enough. The government had to take money from other sectors in order to stabilize the minimum price. On top of that, there was a wide-ranged cut in the COCOBOD budget. Also the budget of LBCs was cut. So everybody except the cocoa farmers was affected due to the price crisis.* (ibid.)

But in this context, it also has to be considered that COCOBOD's stabilization of producer prices in nominal terms was accompanied by an extraordinary high inflation rate that lowers the real prices received by cocoa farmers. Between 2006 and 2020, the average annual inflation rate in Ghana was at 10% and thus exceeded the annual average inflation rate in Côte d'Ivoire (1,5% during the same period) by far (World Bank 2020a; 2020b).

As Figure 25 and 26 illustrate, COCOBOD managed to hold the minimum-price in nominal terms between the 2016/17 and 2018/19 seasons while CCC reduced the nominal farm-gate

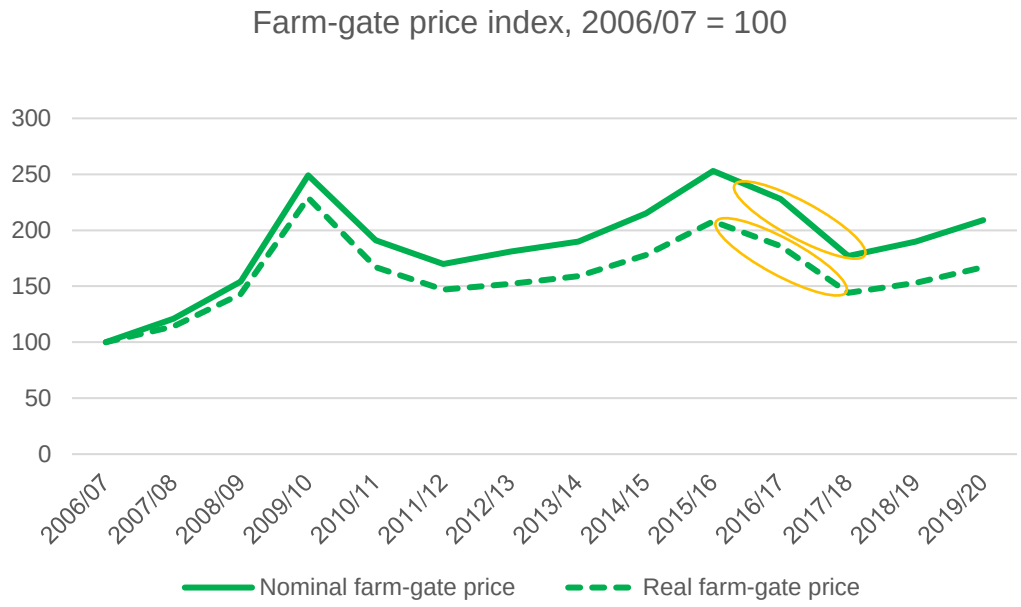
price. But when adjusting to inflation, real farm-gate prices decreased during these three harvestings seasons by -18% in Ghana and real losses for cocoa farmers were nearly equally high as in Côte d'Ivoire (-20%) at that time. The high inflation in Ghana is also problematic for the income situation of cocoa farmers with respect to the cost structure cocoa farming, as "*prices for inputs increased as well due to inflation"* (farmer-based organization, Interview 13). As a member of Ghanaian farmer-based organization puts it, *"regarding inflation, we are helpless"* (Interview 7). Thus, the advanced price stabilization by COCOBOD does ultimately only have only a slightly higher impact on a more stable incomes for cocoa farmers in Ghana compared to farmers in Côte d'Ivoire.

Figure 25: Real and Nominal Farm-gate prices in Ghana, 2006/07-2019/20



Source: Author, based on data provided by ICCO (for farm-gate prices) and World Bank (2020a) (for inflation rate)

Figure 26: Real and Nominal Farm-gate prices in Côte d'Ivoire, 2006/07-2019/20



Source: Author, based on data provided by ICCO (for farm-gate prices) and World Bank (2020b) (for inflation rate)

6.1.3 Comparison of results

The two sections above have shown that in both countries, the respective parastatals strongly regulate domestic cocoa sectors through quality control, productivity measures and price interventions, but overall COCOBOD has a stronger impact on raising and stabilizing the incomes of cocoa farmers (see table 3).

Quality assurance and related higher export revenues are more significant in Ghana, but the impact on smallholders' incomes depends on the extent to which the "country differential" translates to higher farm-gate prices. Since this is negotiated in the distribution of the annual export earnings, the exact impact of quality related policies on farmers' incomes is difficult to examine. Higher farm-gate prices in Ghana compared to Côte d'Ivoire however indicate that Ghana's higher "country differential" on exports is actually beneficial for the incomes of smallholders.

The public provision of extension services is also stronger in Ghana. Higher yields can lead to increased incomes among farmers who receive those benefits, but the scope and comprehensiveness of extension services face severe limitations in both countries. This is especially problematic since all farmers pay by default for the extension services (through the tax collection on export earnings within the "Net FOB" system in Ghana and the "Bareme" in Côte d'Ivoire), but do not necessarily receive the support.

As mentioned before, minimum farm-gate prices in Ghana are higher than in Côte d'Ivoire, and additionally for some harvesting seasons farmers in Ghana receive a modest ex-post premium by COCOBOD. Both COCOBOD and CCC are isolating the prices received by

cocoa smallholders for a given season from world price fluctuations, which stabilizes the incomes of cocoa farmers. In the case of Côte d'Ivoire, the seasonal producer price stabilization however faced limitations under the pressure of the world price drop in 2016/17. COCOBOD recently also aimed at stabilizing producer prices between different seasons in nominal terms. Yet, due to strong inflationary pressures on Ghanaian consumer prices, this does not prevent a loss in real terms for cocoa farmers. Despite the efforts to shield their producers from the cocoa world price fluctuations, farmers in both countries perceive themselves as mostly "price takers" with limited inclusion in the domestic price-setting in Ghana and no inclusion in Côte d'Ivoire

Table 3: Impact of public governance on cocoa smallholders' incomes in Ghana and Côte d'Ivoire

	COCOBOD	CCC
Quality interventions	**Bean quality inspections on district level & at port**	**Bean quality inspections at port**
Impact on smallholders' incomes	limited Higher farm-gate prices for farmers through *significant* "country differential" on exports No direct premiums for better quality	very limited Higher higher farm-gate prices for farmers through *modest* "country differential" on exports No direct premiums for better quality
Productivity interventions	**Free seedlings & pesticides & trainings, subsidized fertilizers (50%)** **Rejuvenation of aged farms**	**Free seedlings & pesticides & fertilizers & trainings** ***No* rejuvenation of aged farms**
Impact on smallholders' incomes	limited Higher yields for farmers but *not all* farmers are reached Farmers that are not reached still pay indirectly for services through taxes	very limited Higher yields for farmers but *very few* farmers are reached Farmers that are not reached still pay indirectly for services through taxes
Price interventions	**Guaranteed seasonal minimum price** **Stabilization fund to back up intra-seasonal producer prices** ***Potential small* price premiums for farmers after seasons**	**Guaranteed seasonal minimum price** **Stabilization fund to back up intra-seasonal producer prices** ***No* price premiums for farmers after seasons**

	COCOBOD	CCC
	very strong	strong
Impact on smallholders' incomes	Higher producer price compared to Côte d'Ivoire (+8%) Price stabilization for producers during all seasons and recently price stabilization between seasons in nominal terms *Strong* inflationary pressures on farmers" incomes	Lower producer price compared to Ghana (-8%) Price stabilization within most seasons but price reduction for producers during world price drop Low inflationary pressures on farmers' incomes

6.2 Impact of private governance on smallholders' incomes

As already mentioned in section 4, various forms of private sustainability measures have been emerging in the past two decades. This section gives an overview of the three different types of private governance in the Ivorian and Ghanaian cocoa sector – namely multi-stakeholder industry initiatives, third-party certification schemes and in-house sustainability schemes of large buyers – and asks what their impact is on productivity, quality and prices received by cocoa farmers.

6.2.1 Multi-stakeholder industry initiatives

Since the beginning of the 2000s, there are two major multi-stakeholder industry initiatives active in Ghana and in Côte D'Ivoire - the International Cocoa Initiative (ICI) and the World Cocoa Foundation (WCF).

The two initiatives serve as an implementation body of the Harkin–Engel Protocol against child labor, and they are both financed by multinational cocoa grinders/traders and chocolate manufacturers, either through basic fees or through contributions on program activities (Interview 20; Fold and Neilson 2016: 204). Some grinders/traders and chocolate manufacturers consider their financial contributions on program activities by multi-stakeholder initiatives as part of their own in-house sustainability initiatives (Interview 5; 20), as an ICI representative explains.

> *"There is a basic fee of the 9 industrial players that are supporting us, but also companies can pay for our services to work on child labor within their own standard."* (Interview 20)

ICI's initial goal was the abolishment child labor until 2005, a target which was revised and postponed for several times in the following years (Whoriskey and Siegel 2019). Currently, the goal is to reduce child labor by 70% by 2020, with reference to the level of 2001 (Interview 20). The current budget consists of around 10 mio USD (Interview 20). Despite the implementation of some "farmer- field schools" in order to increase crop yields, ICI's actions are mainly focused on education and on awareness raising on child labor (Hütz-Adams 2010:48).

In contrast, the WCF has a stronger focus on productivity enhancement and its programs have a significantly higher financial volume. Currently, WCF has five major programs, of which two (*Cocoa Livelihoods Programme and African Cocoa Initiative II*) are mainly focusing on improving the incomes of smallholders in Ghana and Côte d'Ivoire. According to own indications, the two programs aim at reaching 200.000 farmers with a financial volume of 82 mio USD (WCF 2018). As WCF representatives in Ghana explained, the major focus of these programs is to increase the yield on existing areas - *"the biggest goal is efficiency"* (Interview 5). Within its programs, the foundation works together with both governments (COCOBOD in Ghana, and in Côte d'Ivoire with ANADER) but also with certification schemes such as Rainforest Alliance or NGOs like Solidaridad. The productivity measures are implemented by the firms that are members of the WCF:

> *"The WCF does not directly implement its initiatives, it rather gives consultancy to the companies that are implementing it, mainly through technical advice. It provides for instance inputs like seedlings."* (Interview 5).

Additionally, the involved companies decide on the crop selection within the diversification scheme:

> *"Income is mainly improved through productivity. But also through diversification. For instance in the Cocoa livelihoods Program. This can be cassava or plantains – the company decides which other crops are grown."* (ibid.)

According to a Ghanaian government representative, the WCF also serves as an "agenda setter" for the in-house sustainability schemes of large buyers.

> *"Generally, the companies look what the WCF does and try to adjust their own programs based on this."* (Interview 8)

6.2.2 Third-party certification

There are two major third-party certification schemes in Ghana and Côte d'Ivoire. Fairtrade International and Rainforest Alliance (RA), which merged with UTZ certified under the name of Rainforest Alliance in September 2020. While both Fairtrade and RA have in common to include productivity schemes and to contain the payment of premiums to farmers, they considerably differ in terms of their size, their certificate holders and with respect to price stabilization measures.

Fairtrade certifies 7% (for 2016) in Côte d'Ivoire and around 10% (for 2018) in Ghana (Hütz-Adams 2018: 10; Interview 16). The involved cocoa producer cooperatives are audited through Fairtrade's subsidiary "FLOCert", which also certifies other crops such as coffee, cotton or bananas. Fairtrade is the only certification scheme which guarantees a minimum price for producer and a also a fixed minimum premium – both were augmented in October 2019 by 20% to 2400 USD per ton and 240 USD respectively. During the price drop in 2016/17, the minimum price was paid to Ivorian farmers as the cocoa world price dropped below the minimum price of 2000 USD (Interview 2). The use of the premiums depends on the decision of the producer cooperative, and thus parts of the premium can be reinvested into

productivity measures. As the cooperatives are certificate holder, Fairtrade can only reach farmers who are part of a producer organization, whereby cooperatives pay for the certification depending on their size. One major challenge of Fairtrade is that a significant share of the certified produced cocoa does not get sold as certified if the cooperatives do not find buyers for the respective quantity. According to a member of a farmer-based organization, this applies to roughly 70-80% of Fairtrade certified beans in Ghana. (Interview 14).

> *"This is a big problem. The premium is taken to pay for the certification. But if the cocoa doesn't get sold as certified, the farmer association still has to pay for the certification"* (Representative of a farmer-based organization, Interview 12).

In contrast to Fairtrade, Rainforest Alliance is significantly larger, with a combined market share (including UTZ) of 60% in Côte d'Ivoire and 36% in Ghana with respect to the overall production (Hütz-Adams 2018: 10). In contrast to Fairtrade, the certificates of RA do not have to be hold necessarily by producer cooperatives. Instead, the certificate can be also implemented by domestic buyers such as through LBCs in Ghana. The standard also includes compliance with certain environmental standards and labor rights. Audits are implemented by companies such as Africert, Nepkon or Controll Union (Interview 10). In contrast to the minimum premium of Fairtrade, the RA premium is directly negotiated between the certificate holder and the multinational buyer and thus differs for each transaction. The negotiated premiums are on average lower than the Fairtarde premium, as for instance the average premium in Ghana for UTZ certified in 2017 was at 93 USD (Interview 10). During field research in August and September 2019, interviews with stakeholders revealed that an introduction of a minimum premium for the new standard was under discussion (Interviews 10;25), but after all, these ideas did not materialize in the new standard. In contrast to Fairtrade, most of the certified cocoa gets also sold under the certification label. According to representatives of RA in Ghana, this accounts for roughly 90% of RA cocoa (Interview 10), which may be also related to the fact that mostly buyers hold the RA certificate and thus a default in the case of no available buyer is less likely.

6.2.3 In-house sustainability schemes

This study considers the in-house sustainability initiatives of the largest multinational grinders/traders and chocolate manufacturers, which are *Cocoa Horizons* (Barry Callebaut), *Cocoa Promise* (Cargill), *GrowCocoa* (Olam), *Cocoa Plan* (Nestlé), *Cocoa Life* (Mondelez) and *Sustainable Cocoa Initiative* (Mars). Except Olam's GrowCocoa initiative, which is only active in Côte d'Ivoire, all of these sustainability initiatives work with cocoa farmers in both countries. As a key common characteristic among all initiatives, productivity enhancement of smallholders is mentioned as a major goal (GrowCocoa 2019; Cocoa Horizons 2019; Interviews 6; 14; 18; 21; 22; 24).

However, there are also several differences between the activities of the different initiatives related to quality measures, the inclusion of premiums and the communication of their sustainability initiative towards customers. With respect to bean quality enhancement, only Olam's Growcocoa and Nestlé's Cocoa Plan mention this issue as part of their initiative.

In-house initiatives also differ regarding premiums that are paid to farmers. The Cocoa Horizon the only initiative that claims to pay "*20% of the Cocoa Horizon Premium*" to involved farmers (Cocoa Horizons 2019). Yet, an interview with a related LBC could not clarify whether this premium is actually paid by Barry Callebaut or rather through a third-party certification scheme (Interview 12). The sustainability schemes from Olam, Cargill and Mars stated to pay a bonus to farmers through sourcing of third-party certified cocoa (Grow Cocoa 2019; Interview 6; 18; 24). Thus, this also means that there are no firm-specific premiums paid to farmers participating in an in-house sustainability initiative.

The sustainability schemes are also differently communicated among buyers, since chocolate manufacturers developed their own label which is included into the branding on some of their products. This does not apply to the initiatives of grinders/traders, although one grinder/trader stated to consider the development of its own label in cooperation with chocolate manufacturers (Interview 18). Another difference between grinders/traders and chocolate manufacturers is particularly pronounced in Ghana, where the implementation of their initiative is easier for grinders/traders since they can use their own LBC to implement the activities, whereas chocolate manufacturers have to work with cooperatives or independent LBCs. In Côte d'Ivoire both grinders/traders and manufacturers stated to implement their initiatives through cooperatives (Interviews 21; 24).

Measuring the impact of in-house sustainability schemes is difficult insofar as apart of "success stories" provided by the respective firms, independent are somehow lacking, which might be also related to the fact that they were introduced only in recent years. None of the interviews with grinders/traders or chocolate manufacturers revealed data that shows the precise impact of their sustainability schemes (Interviews 6;11;18;21;22;24), which makes it difficult to assess the exact effects of these schemes in terms of income improvements for involved farmers. The lack of data on impact might be also associated with the fact that the headquarters of these sustainability schemes are located in the capital, whereas the implementing bodies (LBCs in Ghana or cooperatives in Côte d'Ivoire) are in the cocoa regions on the countryside. A member of a farmer-based organization in Ghana explains that there is little transparency with respect to in-house sustainability schemes, especially regarding potential premiums for participating smallholders:

> *"You won't find data on the number of in-house certification, especially on premiums, as they might not have up to date data. They would only mention success stories. This is one key challenge of in-house certification - transparency. It is difficult to get key information."* (Interview 16)

Given the fact that both grinders/traders and chocolate manufacturers established their own schemes, it is also possible that within the sourcing of a certain quantity of cocoa, both firms claim to pay a premium, whereas smallholders only receive the premium once, as a sustainability manager from a Ghanaian branch of multinational commodity trading house explains:

> *"For instance, if Nestlé and Olam work together and they both claim to pay premiums, they actually talk about the same premium."* (Interview 14)

According to a representative of a third-party certification scheme in Côte d'Ivoire, the "double claiming" of paid premiums might also apply to the integration of third-party certification schemes within in-house sustainability initiatives by large buyers:

> *"Usually the premiums are paid ultimately by the manufacturer. But that happens in sustainability. Everyone claims that they are paying the premium".* (Interview 25)

Another debated issue related to in-house sustainability initiatives is the question of the main drivers for firms to introduce their own scheme. According to Thorlakson (2018: 1657), the introduction of in-house sustainability schemes was fueled by high cocoa world prices and expectations of a "chocolate crisis" (see section 4.5.3) and related supply scarcity of cocoa beans at the end of the 2000s. Odijie (2018: 222) argues in this context that at the heart of company's sustainability schemes would lay the prevention of farmers diversifying to other crops such as rubber, mainly by enhancing the productivity of existing cocoa farms. He subsequently states that in contrast to the general perception of private sustainability schemes as "farmer-centered" measures, they should be rather understood as "cocoa centered" in terms of securing a constant supply and the fear of diversification of cocoa farmers in West Africa to other cash crops. In this context, Odijie (ibid. 221) quotes a representative of a multinational chocolate manufacturer who claims that his enemy *"is not my competitor in the purchase of cocoa, but the rubber industry"*. This argument remains valid when looking at the fact that some private sustainability schemes contain crop diversification measures for crops such as cassava, but none of the schemes includes diversification to other export cash crops like rubber or palm oil. Whereas the former is known to be rather a supplement to cocoa farming that already exists on many cocoa farms, palm oil or rubber could potentially drive out cocoa farming in case the obtained prices for these crops are more favorable than for cocoa.

Within the decision of buyers to implement their own sustainability scheme, the fact that they can exert a stronger supply chain control might additionally play an important role, as especially in times of supply scarcity "*it gives them an insurance."* (Sustainability manager of a Commodity Trading House in Ghana, Interview 14). This does not necessarily mean that in-house sustainability schemes lead to "exclusive supply chains", whereby farmers would have to commit to deliver their beans exclusively to one buyer and thus completely depend on them. An Ivorian market researcher for instance claims that such "exclusivity agreements" are prohibited by law in Côte d'Ivoire. Yet, the sustainability schemes somehow bind the smallholder closer to the buyer, which is explained by a sustainability manager of a multinational chocolate manufacturer as follows:

> *"I think that the Ivorian law prohibits exclusive supplying contracts. But in practice, the cooperatives often do not manage to diversify their client base. But sure, in-house certification is also about creating loyalty."* (Interview 24)

6.2.4 Comparison of results

Table 4 lists the different private sustainability initiatives and summarizes their impact on farmers' incomes. In general, it can be stated that private governance initiatives mainly aim at improving the incomes of involved cocoa farmers by offering measures on productivity enhancement, whereas quality measures are not relevant for most standards. Depending on the type of private standard, farmers do also receive price premiums. So far, premiums are only paid by third party-certification schemes. In contrast, in-house sustainability initiatives by grinders/traders and chocolate manufacturers do not contain their own premiums but only include a bonus system with payments through third-party certification. The impact of private sustainability governance on stabilizing incomes of cocoa farmers is very limited, since with the exception of Fairtrade, none of the private governance schemes included price stabilization measures. Some multinational companies offer farmers to diversify their incomes through crop diversification but even though this can have stabilizing impacts on overall household incomes, this does not involve the stabilization with respect to income from cocoa farming.

Table 4: Private sustainability initiatives and their measures on productivity, quality and prices

Type of sustainability initiative	Name	Productivity	Quality	Prices		Additional comments
				Premiums	Stabilization	
Multi-Stakeholder Industry Initiatives	ICI	X				Financed by grinders/trader & manufacturers, ,
	WCF	X	X			Financed by grinders/trader & manufacturers,
Third-party certification	RA	X		X		Merger with UTZ, 09/2020
	Fairtrade	X		X	X	
In-house sustainability schemes	Cocoa Horizon (Barry C.)	X		X		"Barry Callebaut premium" remains unclear
	Cocoa Promise (Cargill)	X		X		Premiums through RA
	GrowCocoa (Olam)	X	X	X		Premiums through RA
	Cocoa Plan (Nestlé)	X	X			
	Sustainable Cocoa initiative (Mars)	X		X		Premiums through RA and Fairtrade
	Cocoa Life (Mondelez)	X				

Note: X = *private initiative includes respective measures on productivity/quality/prices*

6.3 Public-private interplay: synergies or competition?

Several publications about the Ghanaian and the Ivorian cocoa sector reveal that there is a certain tension between the two parastatals on the one hand and private actors on the other hand regarding the setting of standards and the overall regulation of the sector. It is also claimed that the parastatals would observe the increased engagement of international buyers into productivity measures with suspicion. In a comparative study on private sustainability schemes in the cocoa sector, Thorlakson (2018 :1658) states that: "*Manufacturers began running into challenges with producing-country governments as they attempted to roll out some of their sustainability programs without the government's support. As one former trader explained, 'There was a huge tension between government and industry, they just weren't aligned in their initiatives".* Van Huellen (2015: 281) explains that especially in the case of the strongly regulated domestic production network in Ghana, where COCOBOD prohibits multinational buyers from physical trading, buyers would *"attempt to circumvent these limitations by entering into strategic transaction in the form of extension service provision to farmers (usually through NGOs) and, more recently, through certification"* which would thus *"undermine Cocobod's working rules and impose their own product and production standards on cocoa farmers"*

However, interviews with sector experts did not confirm this notion and in contrast rather indicated that both parastatals work together with buyers on raising productivity among cocoa farmers. For instance, parts of COCOBOD's training sessions are directly financed by multinational chocolate manufacturers:

> *"They (international companies) are working directly together with us. All those initiatives are a really good thing. For instance, Mondelez paid for 13 of our extension provisioners."* (Representative of the Ghanaian government, Interview 8)

Apart of manufacturers, also multinational grinders/traders participate in the financing of COCOBOD' extension officers, as a Ghanaian branch of a Commodity Trading House confirmed (Interview 17). This applies also to Côte d'Ivoire, where the 2QC program - CCC's main project on productivity and quality enhancement – is financed by two thirds through external actors, which are - apart of development cooperation actors – also buyers that contribute to the implementation of 2QC (CCC 2014).

Besides, the Ghanaian government plans to include grinders/traders and chocolate manufacturers more strongly into the input provision to farmers in the foreseeable future:

> *"Up from 2021, the private sector should be responsible for the provision of inputs. Currently we are buying the inputs from companies, but up from 2021, we want that to change gradually from year to year, so farmers buy the inputs directly from the company*." (Interview 8)

COCOBOD also guarantees the physical traceability of cocoa beans through CMC and thus enables the product differentiation for grinders/traders and subsequently for chocolate manufacturers:

> *"So they (international buyers) go through the LBCs. At first, there is an agreement between the LBC and the grinder. Then, they take this buying agreement to COCOBOD and make a new agreement with COCOBOD. COCOBOD is monitoring those actions and whether they are in line with COCOBOD practices. So when Touton wants to have that certified cocoa at a specific time, the transaction gets executed. So the separation (of certified beans) is possible"* (ibid.)

Overall, the Ghanaian government perceives the sustainability schemes of private companies as a useful supplement of their own efforts, but considers buyer's total impact as marginal:

> *"COCOBOD is the only institution that has the capability to push productivity sector-wide. But for instance, the private sector is more efficient when it comes to the distribution of fertilizers.* (ibid.)

> *"They (international buyers) do nothing about price stabilization. In general, their impact is limited, as they are only covering a short percentage of all farmers."* (ibid.)

Interviews with private sector representatives in return revealed that they are overall satisfied with COCOBOD's market interventions:

> *"It is a good thing. If we had a strong private sector, we could do it, but the private sector is not ready. So the cocoa sector needs the state for critical issues such as input provision and infrastructure, research, seed gardens, nurseries. The government has a big role in protecting the smallholders"* (Sustainability manager of a multinational chocolate manufacturer, Interview 5)

> *"But I also have to say that despite its inefficiency, COCOBOD is still the best arrangement if you compare it to other countries"* (Sustainability Manager of Commodity Trading House, Interview 14)

Moreover, a member of a farmer-based organization states that in-house sustainability schemes are not a regulatory competition for COCOBOD since they rather supplement COCOBOD's efforts on productivity increases among farmers.

> *"The in-house certification does not undermine COCOBOD's working rules, because COCOBOD is anyway overstretched. Sometimes COCOBOD even requires help."* (Interview 16)

In terms of raising the incomes of cocoa farmers through productivity increases, the parastatals on the one hand and grinders/traders and manufactures on the other hand thus seem to complement each other, as productivity measures by COCOBOD and CCC are not fully comprehensive in reaching all farmers (6.1.1) and buyers can consequently supplement the public provision of extension services with productivity measure of their own schemes.

Interviews with stakeholders did not suggest any public-private cooperation with respect to bean quality management. However, in the case of Côte d'Ivoire, international buyers are indirectly paying for public quality assurance through the support of the 2QC program (CCC 2014).

Despite the strong collaboration of COCOBOD and CCC and private sustainability initiatives on a technical level – including the financing of input provision and the involvement in

domestic trade by international buyers – this thesis argues that there is a confrontation between the parastatals and multinational buyers with respect to raising and especially stabilizing the incomes of cocoa farmers through price setting.

As the analysis in section 6.1.2 has shown, the parastatals are generally able to isolate producer prices from cocoa world price trends within a given harvesting season. However, price stabilization between different seasons faces restrictions since the pricing mechanisms in both countries have to adapt for a new harvesting season to the developments of the London ICE. This leaves farmers' incomes still exposed to price shocks such as in 2016/17. In order to shield producer prices from strong cocoa world price fluctuations, it would be consequently necessary to de-link the determination of farm-gate prices from the London ICE. This would in return mean that also export prices and thus the prices that multinational buyers pay would need to be de-linked from the financial derivative markets. The cooperation between the two parastatals and multinational grinders/traders and chocolate manufacturers gets more difficult in this context. International buyers generally factor out prices as a way to stabilize and increase the incomes of farmers (as shown within the analysis of in-house sustainability schemes, see section 6.2.4), given multinational buyer's interest in the cheap supply of cocoa beans (Odijie 2018). This was exemplified in June 2019 when multinational buyers and the two parastatals could not agree on a common "Floor Price" on cocoa exports that would have guaranteed an inter-seasonal minimum price for cocoa farmers in both counties. Instead, the idea was revised in favor of a general premium on exports which farmers should benefit from (see section 6.4 below). Thus, while on the one hand buyers agreed to pay a premium on cocoa exports on the one hand, they did not consent to de-link export prices (and thus the basis for farm-gate prices) from cocoa futures markets on the other hand. The limitations of COCOBOD and CCC to set a minimum price towards international buyers may be also explained by the dependency of CMC and Ivorian exporters respective on purchases from only few multinational grinders/traders and chocolate manufacturers (see section 4.3.2) and the resulting bargaining power of the latter. It may be furthermore the case that the policy space of COCOBOD and CCC on price setting is additionally limited due to the strong cooperation of the two parastatals with multinational buyers on productivity enhancement of cocoa farmers (as mentioned above in this section).

6.4 From "Floor Price" to "Living Income Differential"

As a reaction to the strong decline of the cocoa world price in 2016/17 and related income losses for smallholders, the Ghanaian President Akuffo-Addo and his Ivorian counterpart Quattara signed the "Abidjan Declaration" in 2018, which is a strategic partnership agreement that aims at harmonizing the cocoa marketing policies of the two countries. Among other topics - such as the cooperation on research, crop protection or the promotion of local consumption - a common strategy on the increase of cocoa producer prices was placed at top of the agenda (Office of the President of the Republic Côte d'Ivoire 2018).

15 months later, in June 2019, the Abidjan Declaration eventually turned from a rather political narrative into a concrete policy initiative, when COCOBOD and CCC announced that

cocoa trading houses, processors and manufacturers accepted a common “Floor Price” of 2600 USD per ton for the 2020/21 crop season (COCOBOD 2019a). This would have meant that, independently of the actual cocoa world price, buyers could have not sourced cocoa below the indicated price. As main beneficiaries of the reforms, cocoa farmers in both countries would have received 70% of the new “Floor Price”, raising their incomes to 1820 USD per ton. However, despite the initial announcement, a technical meeting on details of the implementation one month later indicated that major buyers did not agree on such a general minimum export price. Instead, it was announced that the current pricing system of export prices will be complemented by an additional “Living Income Differential (LID)”, accounting for 400 USD per ton per export contract (COCOBOD 2019; FCC 2019).

Contract Price = ICE London cocoa futures price + country differential + ***LID***

Despite the revision of the initial 2600 USD floor price paid by buyers, COCOBOD and CCC remained their target of paying 70% of the 2600 USD as a minimum price to smallholders. Consequently, for any period in which the export prices do not add up to 2600 USD, COCOBOD and CCC will have to pay the occurring price difference out of their own pocket. In order to bridge these potential gaps, COCOBOD and CCC agreed to set up a separate stabilization fund for each country, administrated by a common Ghana-Côte d’Ivoire Cocoa Initiative Secretariat (Interview 23). For periods when export contract prices reach more than 2600 USD per ton, every additional revenue until 2900 USD per ton will result in bonus payments for farmers or investments in the cocoa sector. It is foreseen that if export contract prices raise beyond 2900 USD per ton, the surplus revenues will flow exclusively into the two country’s new stabilization funds (FCC 2019).

A successful implementation of the Living Income Differential for the 2020/21 crop season would certainly constitute a fundamental change of the distributional outcomes in both producer countries. Compared to the respective minimum farm-gate price of the current 2019/20 crop season, the targeted 1820 USD per ton (70% of 2600 USD) for the 2020/21 crop season would raise the farm-gate price in Ghana by 27% and in Côte d’Ivoire even by 32% (COCOBOD 2019b). Yet, it remains unclear whether COCOBOD and CCC are able to offset the potential price risks, given the fact that – contrary to the initial announcement - the pricing mechanism still depends on the ICE London, leading to the fact that a crucial variable of the price-setting is beyond the control of the parastatals. These developments were described by a sector export in Côte d’Ivoire as follows:

> “*First, it was said that buyers pay at least 2600 (USD per ton). Now it is ‘business as usual’ + 400, and COCOBOD/CCC pay the potential gap.” (Interview 26)*

It is furthermore not yet clear whether the “country differential” of Ghana and Côte d’Ivoire will remain on the same level under the new pricing mechanism, as it was reported that buyers are not willing to pay the usual country differentials in addition to the LID (Aboa and Angel 2020a). In any case, the export earnings by the two countries should not fall below 2600 USD per ton for a longer period in the first years because the newly set up stabilization funds are currently not yet able to absorb any price shocks.

These developments have shown that on the one hand, both parastatals can exert influence on their export prices in terms of setting a higher premium, but on the other hand, COCOBOD and CCC face severe limitations in terms of setting a minimum price for multinational buyers. The LID "compromise" (instead of a minimum export price) is additionally problematic insofar as COCOBOD's and CCC's promise to raise farm-gate prices faces – apart of the ongoing dependence on cocoa futures markets – several agronomic but also political challenges, as stakeholders expressed during the field work. For instance, the sudden rise of farm-gate prices could lead to an oversupply and an associated price drop. As a sector expert in Côte d'Ivoire puts it,

> *"the new Living Income Differential can be interpreted as a signal for farmers to grow more, which could lead to an oversupply. In the end, countries are always the price takers."* (Interview 27)

Given the fact that new cocoa trees need three to four years in order to produce their first fruits (Hütz-Adams et al. 2016a), this scenario is not likely to happen before that time frame, and would also only apply if the global demand does not grow in the same way. At the same time, this delayed response of global prices on production interventions restricts the ability of the two parastatals to take quick counter measures such as reducing the overall production through the suspension of input provision or mass spraying. A Ghanaian government representative claimed that the thread of an oversupply through the LID would only be relevant for Côte d'Ivoire:

> *"40% of our tree stock is anyway diseased or overaged. We don't use new land, we rather recultivate existing land. We also compensate farmers for cutting old trees. So there will be no oversupply. This topic is rather relevant for Ivory Coast"* (Interview 8)

Another option to avoid an oversupply would be the stockpiling of cocoa for a certain time. The potential storage of large production volumes has been already discussed in both countries in the context of a potential set up of an OPEC-like cartel, that could improve their bargaining situation on prices towards buyers. The current initiative by the Ghanaian government regarding a 600 billion USD loan in order to increase its storing capacities underlines these ambitions (AfDB 2019). Nonetheless, important questions whether stockpiling of cocoa beans is feasible within a tropical climate as well as its exact costs still remain difficult to assess, as interviews in both countries did not show any clear indication on this.

Aside of these considerations with respect to a technical and financial feasibility, an even bigger challenge of a stockpiling of larger volumes would arise on a socio-economical level. As mentioned in section 5, the cocoa sector accounts for a large part of export earnings as well as employs up to 800.000 farmers in Ghana and around 1.3 million farmers in Côte d'Ivoire. An extensive stockpiling of cocoa beans would consequently result in a temporary suspension of significant parts of tax revenues, the loss of foreign exchange earnings and would furthermore impede the maintenance of farm-gate prices. This opinion is shared by a public finance expert in Côte d'Ivoire, stating that

> *"a cartel is unlikely, as the costs for stocks are high and meanwhile you have to pay the farmers – so this would evoke massive social pressure."* (Interview 27)

Additional uncertainties on implementation of the Ghana-Côte d'Ivoire Cocoa Initiative arise through the fact that in both countries, presidential elections are to be held at the end of this year, which could have an effect on the implementation process. A sector expert in Ghana claimed that

> *"the problem within such alliances between two countries is that they should also include the opposition. Otherwise such agreements will not be sustainable, rather being modified or cancelled right after a change of government. For a long-term policy, the two main parties in Ghana would have needed to align."* (Interview 15).

An eventual implementation of the LID as announced by COCOBOD and CCC would certainly leverage the impact of public governance on smallholders' incomes compared to the current regulations (see section 6.1.2), since the respective minimum producer prices would increase by roughly one third and thus lead to significantly higher incomes obtained by smallholders. At the same time, the two parastatals exclusively bear the responsibility of guaranteeing higher farm-gate prices also in times of falling cocoa world prices, which may be difficult to ensure for the reasons described above.

7 Conclusion

This thesis has analyzed the impact of public and private governance on stable and higher incomes for cocoa farmers in Ghana and in Côte d'Ivoire by assessing governance initiatives with respect to their impacts on quality, productivity and prices. Theoretically, it used the GPN approach (Henderson et al. 2002) and combined it with an analysis of price formation in agricultural sectors (Bargawi and Newman 2017; Staritz et al. 2018) and the theory of private governance as "normalization" (Gibbon et al. 2008). Methodologically, the analysis built up on domestic cocoa price data and 28 semi-structured interviews with cocoa sector experts in Europe, Ghana and Côte d'Ivoire.

The findings suggest that both parastatals perform quality management, productivity enhancement measures and price regulation and thus have – with slight differences between each other - an overall strong impact on stable and higher incomes of cocoa farmers, whereas private sustainability initiatives are mostly limited to increasing cocoa farmers' incomes through measures on productivity.

COCOBOD's and CCC's quality management leads to "country premiums" and thus to higher export earnings, whereby Ghanaian beans fetch a higher premium than cocoa from Côte d'Ivoire, which also translates to higher farm-gate prices in Ghana. The extent of state-initiated productivity management and thus the impact of higher yields for cocoa farmers is furthermore stronger pronounced in Ghana, which is also related to the fact that CCC recently suspended some measures on productivity to avoid an oversupply. However, smallholders in both countries that are not part of producer organization tend to be less reached by government initiatives.

Smallholders in Ghana generally receive higher prices for their cocoa, which is – in addition to the higher bean quality in Ghana – also explained by the slightly better inclusion of Ghanaian cocoa farmers into the price setting process compared to smallholders in Côte d'Ivoire. Regarding the stabilization of cocoa farmers' incomes, both parastatals are in general able to isolate farm-gate prices from cocoa world price movements for one season, despite the fact that CCC faced more difficulties to maintain seasonal producer prices during the world price drop in 2016/17. The ability to stabilize cocoa producer prices between seasons is very limited in both countries, as they generally have to adapt the producer prices to world price movements and in the case of Ghana stable incomes of cocoa farmers are also hampered by inflationary pressure.

Private governance on smallholders' incomes exists in a set of different organizational forms, which can be used simultaneously or even complementary by international buyers. All private sustainability initiatives have a strong focus on productivity and competitiveness of cocoa farmers in common, while quality management is less pronounced among most initiatives. Furthermore, most private sustainability initiatives factor out pricing within their efforts on raising and stabilizing the incomes of cocoa farmers. Only the third-party certification schemes Rainforest Alliance and Fairtrade contain specific premiums for their farmers, while this is not the case for in-house sustainability initiatives of multinational buyers. Price stabilization measures are furthermore only applied by Fairtrade.

In both countries, multinational buyers are increasingly involved in the governments' efforts to raise productivity of farmers through financial contributions. In the case of COCOBOD, international buyers finance a certain number of extension officers, whereas CCC's major initiative on productivity and quality (2QC-programme) is funded by a public-private partnership. Hence, there is a close cooperation on productivity and quality enhancement between multinational buyers and COCOBOD and CCC, but with respect to raising the incomes of farmers through higher prices, the cooperation of public and private actors is more complex. This was illustrated during the negotiation on a "Floor Price" during the summer of 2019, whereby the initial idea of a general minimum price for export contracts was revised in favor of a 400 USD premium, which leaves the risk of guaranteeing higher farm-gate prices to COCOBOD and CCC. This indicates that on a technical level in terms of quality and productivity, complementarities can be potentially leveraged as productivity enhancement seems to be a "win-win situation" for public and private actors. In contrast, the positions of the producer countries and international buyers concerning higher farm-gate prices are genuinely opposed as buyers seek to maintain the cheap supply of cocoa beans.

The results of this thesis also contain several theoretical implications for chain and network literature. On the one hand, the analysis of Ghana's and Côte d'Ivoire's domestic pricing mechanisms highlighted the ongoing dependence on commodity derivative markets, which ties up to the literature on price formation and the financialization debate related to cash crops in Sub-Sahara Africa. This analysis thus showed that it is important to consider financial markets and financialization when assessing outcomes of chains and networks (Newman 2008;2009; Bargawi and Newman 2017; Staritz et al. 2018; *for cocoa* Van Huellen 2015; Purcell 2018, Tröster et al. 2019). Nevertheless, the case of Ghana's and Côte d'Ivoire's LIDalso shows in this context that cash crop producing countries are not necessarily mere "price takers". While it may be difficult to de-linking national prices from financial markets, countries with a large world market share can still negotiate substantial price premiums from international buyers.

The results furthermore underlined Henson and Humphrey's (2010) notion of a "clouded" private governance perception, especially in the debate on sustainable cocoa in Ghana and Côte d'Ivoire. While the different private sustainability standards and certifications are often interconnected with each other, it is particularly difficult to distinguish the different institutional forms, but also to identify the proponents of the respective private sustainability initiative and ultimately also to assess the impact of the individual schemes in terms of stabilizing and raising the incomes of cocoa farmers.

Furthermore, the "structural limitations of CSR" (Blowfield and Dolan 2008) in the case of cocoa in the main producing countries Ghana and Côte d'Ivoire seem to be largely the exclusion of prices within the sustainability efforts of multinational buyers. The results have shown that most private sustainability initiatives focus on an increased yields through productivity gains but factor out higher prices. Since the devastating effects of the cocoa world price drop in 2016/17 have shown that stable and high prices are key for the livelihoods of cocoa

farmers, the exclusion of prices within most private governance initiatives limits their impact on the income situation of cocoa farmers.

The thesis also hopes to contribute to the yet limited conceptualized role of the state in chain and network literature (Horner and Alford 2019), and in particular to the public-private interplay within GPNs. In this context, the two case studies underlined that an analysis of governance intersections have to consider different regulatory sets, as this thesis suggests that the two parastatals cooperate closely with private firms in terms of productivity and quality interventions within the domestic production network, but the interaction has a different articulation when it comes to the coordination of prices within the cocoa GPN. This is mainly linked to the fact that the different regulatory sets are outcomes of different struggles (Smith 2015) between several actors in the GPN and underlying power asymmetries, which is particularly the case in terms of price-setting power as this thesis has shown. Thus, public-private interplay has to be analyzed on different regulatory layers and can be simultaneously characterized by cooperation in some areas while containing confrontation in others.

Regarding developments in Côte d'Ivoire and in Ghana, the next months will show whether the LID will be implemented by COCOBOD and CCC as promised. Of particular interest will be the announcement of the annual seasonal minimum producer prices on the first of October 2020, which will indicate whether the promise of 1820 USD per ton as a new farm-gate price can be hold and thus if cocoa famers will benefit significantly from the new pricing mechanism. This is especially questionable against the background of the COVID-19 crisis and related sales reduction (Aboa and Angel 2020b). In any case, the policy initiative already evoked a debate on a "living income" for farmers as a top priority in the sector and in international sustainability discourses. Furthermore, the results of the presidential elections in Côte d'Ivoire and in Ghana that are scheduled for the end of 2020 can have a potential impact on the further institutional design of the new pricing mechanism.

In the medium-term, regulatory shifts in major cocoa consuming regions could additionally affect the governance on the incomes of cocoa famers. An actual materialization of initiatives on supply chain laws such as in Germany (Rühmkorf 2020; BMZ 2020) or on a European level (Fox 2020) would certainly constitute a "game changer". More concrete, the establishment of legal due diligence on human rights for buyers within their sourcing of raw materials would certainly have wide-ranged implications for European chocolate manufacturers, and could consequently add to an expansion of private sustainability initiatives that aim at improving the income situation of farmers. However, as the thesis has shown, private initiatives will only meet the obligations of such supply chain laws in terms a stable and high income for cocoa farmers if they also include pricing.

Against the background of growing private governance initiatives but also considering the latest developments on the LID, two major issues are important in future research related to the Ghanaian and Ivorian cocoa sector. Firstly, there needs to be more research on the impact of the different private governance initiatives that goes beyond the statements of participating firms. This is especially crucial since sustainability labels are increasingly communicated to consumers, whereby the parallelism of manifold initiatives challenges the notion of

“consumer sovereignty”. Secondly, the current discourse on the LID and the related debates on a potential “cocoa cartel” or “COPEC” *(derived from the oil cartel OPEC)* with possible inclusion of other West African cocoa producer countries to reach a common pricing strategy (Whitehouse 2019) needs a further investigation regarding the chances but also obstacles of such alliances. While research has somehow lost the interest into soft commodity cartels since the decline of International Commodity Agreements in the 1990s (Gilbert 1996), the current initiative by Ghana and Côte d’Ivoire underlines the importance to reconsider the scientific analysis of producer cartels for cash crops and their limitations.

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9 Annex

Annex I: List of interview partners

Number	Date	Country	Interview partner
1	01.04.2019	Austria	Chocolate manufacturer
2	04.04.2019	Austria	Certification scheme
3	06.06.2019	Germany	Cocoa export from NGO
4	06.06.2019	Germany	Chocolate manufacturer
5	06.08.2019	Ghana	Multi-Stakeholder Sustainability Platform
6	13.08.2019	Ghana	Chocolate manufacturer
7	13.08.2019	Ghana	Farmer-based organization
8	14.08.2019	Ghana	Government organization
9	15.08.2019	Ghana	NGO
10	16.08.2019	Ghana	Certification scheme
11	16.08.2019	Ghana	Grinder
12	16.08.2019	Ghana	Farmer-based organization
13	19.08.2019	Ghana	Farmer-based organization
14	20.08.2019	Ghana	Grinder/Trader
15	22.08.2019	Ghana	Researcher
16	23.08.2019	Ghana	Certification scheme
17	26.08.2019	Ghana	Chocolate manufacturer
18	26.08.2019	Ghana	Grinder/Trader
19	06.09.2019	Côte d'Ivoire	Farmer-based organization
20	09.09.2019	Côte d'Ivoire	Multi-Stakeholder sustainability Platform
21	10.09.2019	Côte d'Ivoire	Grinder/Trader
22	10.09.2019	Ghana (phone interview)	Chocolate manufacturer
23	11.09.2019	Côte d'Ivoire	Government organization
24	12.09.2019	Côte d'Ivoire	Chocolate manufacturer
25	13.09.2019	Côte d'Ivoire	Certification scheme
26	13.09.2019	Côte d'Ivoire	Researcher
27	16.09.2019	Côte d'Ivoire	Researcher
28	29.04.2020	Côte d'Ivoire (phone interview)	Journalist

Annex II: Guideline for a semi-structured interview with a representative of a multinational Trader/Grinder

What is your position in the company?

What are you responsible for?

(i) How do you act in the global cocoa sector?

1) Which role does your company play in the global market?
2) In which countries are you operating?
3) Where are you mainly sourcing from?

What is the scope of your actions in Ghana and Côte d'Ivoire?

1) In which areas in G or CI do you work?
2) Are there differences between the two countries? (regarding quality, price, regulatory environment?)

(ii) How do you asses the public price setting of COCOBOD and CCC?

1) What is the impact of domestic price regulation done by COCOBOD and CCC?
2) How do you asses the minimum price system?
3) How do you see state interventions on quality and productivity?
4) Which kind of positive or negative impacts do these interventions have? Which kind of challenges does it pose for your sourcing practices?
5) What do you think of the upcoming living income differential?

(iii) Scope of own sustainability project:

1) What are the major objects of the sustainability initiative?
2) Which actions are taken to reach your project goals?
3) How do you monitor the success of your project?
4) Which criteria was used to choose your project partners (cooperatives)? Do you also reach farmers that are not part of a cooperative?
5) Do the cooperatives have to pay for the certification?
6) What is the time frame and the financial scope of your project? How many farmers are reached throughout the project? Which percentage of all sourced beans are certified by your program? How much by third party certification?
7) Do you cooperate with grinders/manufacturers/state institutions/NGOs/multi stakeholder approaches/third party certification schemes within your project?

Role of prices on income

8) In which way does your company influence the cocoa farm-gate price?
9) In which way are your actions contributing to improve the income situation of cocoa farmers?
10) Is the successful implementation of your initiative enough to improve the income situation? Which other actions would have to be taken?
11) How do you tackle price volatility within your program?
12) Do you pay premiums to your partner cooperatives? Who has access to them?
13) How high are the premiums? How are they calculated/negotiated?

Annex III: Cocoa export prices and London cocoa futures price, 2000-2018

Indicator/price index	Côte d'Ivoire export price	Ghana export price	Nigeria export price	Cameroon export price	London cocoa futures
Average value in US-Dollar (2000-2018)	2316	2476	2279	2204	2264
Correlation with future price (2000-2018)	91%	90%	92%	89%	-
Volatility (2000-2018)	28%	21%	28%	30%	36%