

JAN GRUMILLER

**Upgrading Potentials and Challenges in
Commodity-Based Value Chains:
The Ivorian and Ghanaian Cocoa Processing Sectors**

ABSTRACT This paper presents a comparative analysis of the development of forward linkages to cocoa processing in the Ivorian and Ghanaian cocoa sectors. The paper argues that Côte d'Ivoire and Ghana were able to promote the grinding sectors with varying success in the context of shifting Global Value Chain (GVC) dynamics, foreign-direct investment (FDI) oriented industrial policies and ongoing distributional conflicts. The grinding sectors in both countries should not currently be selected as high priority sectors for strategic industrial policies, due to their enclave-like character and limited opportunities for additional linkage development, with the important exception of forward linkages to chocolate manufacturing. The recent growth of local and regional chocolate and cocoa confectionery consumption, as well as protective tariffs, have furthered functional upgrading into chocolate manufacturing of locally owned and more locally embedded foreign grinders and chocolate manufacturers. The paper concludes that the opportunities for additional forward linkage development to cocoa processing in the Ivorian and Ghanaian cocoa sectors are limited, particularly in GVCs geared to traditional end markets. Hence, the paper argues that the growing opportunities in local and regional end markets, as well as related value chains, need to be leveraged through strategic industrial policies that go beyond tax or price incentives and focus on supporting locally owned and locally embedded foreign companies.

KEYWORDS: *cocoa processing, global value chains, commodity-based industrialisation, Côte d'Ivoire, Ghana*

I. Introduction

Industrial development and export diversification into higher value-added production activities remain key development objectives for (semi-) peripheral countries. For many Sub-Saharan African (SSA) countries, however, it is difficult to emulate export-oriented industrialisation strategies of successful late-industrialisers (Morris et al. 2012: 12ff.). In the context of high commodity prices in the 2000s, discussions of the viability of commodity-based industrialisation have regained importance (e.g. Morris et al. 2012; Morris/Fessehaie 2014; Kaplinsky/Farooki 2012; Ramdoo 2012, 2015; Asche et al. 2012; ACET 2014a; AfDB et al. 2014; UNECA 2013; UNCTAD 2013). Even though commodity prices have again declined, the potential role of commodity sectors in transforming SSA economies through the creation of linkages to industrial sectors remains highly relevant.

Cocoa is one of the main soft commodities exported from peripheral countries, particularly in SSA. It has experienced significant price increases since the early 2000s, despite pronounced volatility, with nominal prices reaching levels last seen in the 1970s (ICCO 2017). Price increases were mainly driven by rising global chocolate demand – particularly in Asia – and only moderate increases in the supply of cocoa beans. More recently, prices declined, highlighting the cyclical nature of commodity prices related to fundamental and speculative factors (Terazono 2017; Ederer et al. 2016). This price volatility is one of the main reasons why a diversification away from unprocessed commodity exports is crucial for peripheral countries. The development of commodity processing sectors can furthermore support industrialisation processes if linkages to industrial sectors are developed. In this context, many cocoa producing countries (origin countries) in the (semi)periphery have established and expanded cocoa processing sectors, increasing their share of higher value-added cocoa product exports (ICCO 2017; UN Comtrade 2017). The main cocoa producers in SSA, including Côte d’Ivoire and Ghana, nonetheless continue to have a comparatively small share of higher value-added exports relative to other producers, such as Indonesia and Brazil.

This paper adds to the existing literature on cocoa processing in SSA countries (e.g. ACET 2014b; UNECA 2013; Whitfield et al. 2015; Mulangu

et al. 2017) by presenting a comparative analysis of the development of forward linkages to processing in the Ivorian and Ghanaian cocoa sectors. The paper argues that Côte d'Ivoire and Ghana were able to promote the grinding sectors with varying levels of success in the context of shifting Global Value Chain (GVC) dynamics, foreign direct investment (FDI) oriented industrial policies and ongoing distributional conflicts. The grinding sectors in both countries should currently not be selected as high priority sectors for strategic industrial policies, due to their enclave-like character and limited opportunities for linkage development, with the important exception of forward linkages to chocolate manufacturing. The recent growth of local and regional chocolate and cocoa confectionery consumption, as well as protective tariffs, have furthered functional upgrading into chocolate manufacturing of locally owned and more locally embedded foreign grinders and chocolate manufacturers. The paper concludes that the opportunities for additional forward linkage development in the Ivorian and Ghanaian cocoa sectors are limited, particularly in GVCs geared to traditional end markets. Hence, the paper argues that the growing opportunities in local and regional end markets, as well as related value chains, need to be leveraged through strategic industrial policies that go beyond tax or price incentives and focus on supporting locally owned and locally embedded foreign companies.

Methodologically, this paper is based on 45 semi-structured interviews (20 of which are cited) that focus on firms in both processing segments, grinders and chocolate manufacturers, interest groups and governmental institutions, mostly conducted during field research in Côte d'Ivoire and Ghana in January, February and October 2017. 21 interviews at firm level were conducted with representatives of the management and provide a varied sample based on differences in geographic location, ownership, size, production activities, end-market orientation and degree of vertical integration. The interviews are complemented by trade as well as national and international sector data, including aggregate statistics from the International Cocoa Organization (ICCO), UN Comtrade (WITS), the Ghanaian Cocoa Marketing Board (COCOBOD) as well as the Ivorian Ministère de l'Industrie et des Mines (MIM) and Conseil Café-Cacao (CCC).

The second section of the paper presents a brief conceptualisation of the importance of structural transformation, linkage development and

industrial policies in the context of the global periphery's integration in GVCs. The third section gives an overview of the cocoa GVC by specifically taking account of the changing integration of cocoa producing countries in the last decades and assessing the opportunities and constraints for forward linkage development in SSA producer countries in the context of the cocoa GVC. The fourth section discusses the development of the Ivorian and Ghanaian cocoa processing sectors and related industrial policies. The fifth section presents a comparative analysis of the sectors' developments, industrial policies and related distributional conflicts, competitiveness as well as linkage effects. The sixth section concludes by presenting industrial policy implications for the development of the cocoa processing sectors based on the analysis of the shifting GVC dynamics and local sector conditions.

2. Structural transformation, linkage development and industrial policy in the global periphery

Structural transformation and economic upgrading are key concepts in development economics. Amsden (2001: 2) defines structural transformation as “[...] a process of moving from a set of assets based on primary products, exploited by unskilled labor, to a set of assets based on knowledge, exploited by skilled labor”. This transformation involves attracting labor and capital to the manufacturing sector. The concept of structural transformation is closely connected to the idea of economic upgrading, even though upgrading processes do not necessarily lead to structural transformation. In the GVC and the global production networks (GPN) literature, economic upgrading has been described as a process by which economic actors move from low-value to relatively higher value activities (Bair/Gereffi 2003; Gereffi 2005).

Economic development and structural transformation can be understood as a process of linkage development (Hirschman 1981: 75). Hirschman (1981: 65ff.) distinguished between production, consumption and fiscal linkages: production linkages include backward and forward linkages of a given product line and are defined as “[...] investment-generating forces that are set in motion, through input-output relations, when productive

facilities that supply inputs to that line or utilize its outputs are inadequate or nonexistent” (ibid.65). Consumption linkages are new incomes earned with potential positive effects on domestic demand and industries. Fiscal linkages are created by taxing incomes earned in an economic sector and can be used to promote industrial development.

The debate on structural transformation, upgrading and linkage development is closely connected to the role of the state. Catch-up industrialisation has been furthered by interventionist industrial policies proactively promoting economic diversification, industrial development and upgrading processes (Chang 2011). However, the formation of a ‘developmental state’ (cf. Evans 1995) that has the resources, capacity, capability and policy space to promote large-scale structural transformation via a comprehensive set of industrial policies is particularly challenging in the political economy context of the global periphery. Peripheral states are impinged by their subordinated integration in the global economy and socio-structural heterogeneity (Evers 1977; Becker 2008), involving factors such as a weak industrial base and lack of an entrepreneurial class, fragmented political elites, as well as foreign capital’s interests, all of which have a tendency to impede the formation of large-scale industrialisation projects (Grumiller et al. 2016; cf. Whitfield et al. 2015). Countries in the global periphery may need to rely on a more strategic and selective industrial policy approach given these political economy contexts, which entails the promotion of pockets of efficiency in the state bureaucracy in order to support transformation processes in specific economic sectors (ibid.).

This paper analyses the opportunities and constraints for forward linkage development in the cocoa sectors by discussing GVC dynamics and local sector conditions, based on an adapted conceptualisation of Morris/Fessehaie (2014: 32ff.), including: (a) the technical characteristics of the GVC (e.g. how many discrete stages of production) that determine the potential, breadth and type of backward as well as forward linkages; (b) the industry structure and governance of the GVC, in particular lead firms strategies (e.g. the concentration and integration of lead firms as well as their interest to outsource production steps); (c) the size of the local and regional market that might limit or support local processing; (d) the competitiveness of the domestic industry and firms (e.g. in terms of price, quality, lead times, etc.); (e) the location and infrastructure of a specific

country (e.g. the development of roads or electricity costs); (f) the market access and trade barriers that might limit or support the integration into new GVCs or regional value chains, as well as functional upgrading opportunities; and (g) the industrial policies promoting linkage development (and thus the state's political economy and distributional conflicts). Based on this analysis, the paper discusses the feasibility of industrial policies targeting the cocoa processing sectors by taking into account the different dynamics in global, regional and local value chains (cf. Gereffi/Sturgeon 2013; Morris/Staritz forthcoming).

3. Origin countries and forward linkages in the cocoa GVC

The cocoa GVC has been described as having a bi-polar governance structure, with lead firms in the grinding of cocoa and manufacturing of chocolate segments (Fold 2002).¹ The relative absence of vertical integration along the whole chain and the high level of concentration in both processing segments put forward two sets of actors with strong control over the value chain. Chocolate manufacturers nonetheless exert greater power in the cocoa GVC, since they have control over consumer brands and often have the ability to extract rents (Fold/Neilson 2016: 202ff.; Araujo Bonjean/Brun 2016). Retailers and supermarkets also have an important role, as a significant share of chocolate products is sold through their outlets. They decide whether or not certain products are included in their offer and set the retail price. However, their control over the supply chain is rather limited compared to the dominant role of cocoa processors.

The power imbalances within the bi-polar cocoa value chain, in which multinational corporations (MNCs) source cocoa beans mainly from smallholders in the global (semi)periphery, are reflected in the declining share of value captured by cocoa producers (Barrientos/Asenso-Okyerere 2009: 94; cf. World Bank 2008: 136). Cocoa producers only receive a fraction² of the value added along the whole chain, while chocolate manufacturing and branding, as well as retailing, contribute to over three-quarters of the value added. Grinding adds comparatively little value to cocoa beans and entry barriers are lower; however, the integration and concentration of multinational traders and grinders improves their position in the GVC.

Cocoa grinding is capital intensive and highly concentrated, but increasingly geographically dispersed. Mergers and acquisitions increased the consolidation of the cocoa trading and processing sectors, particularly since the liberalisation of the cocoa sectors in producing countries in the context of Structural Adjustment Programs (SAPs) in the 1990s (Fold 2002; Gilbert 2009; Araujo Bonjean/Brun 2016; UNCTAD 2008). The exit of chocolate manufacturers from the less profitable grinding sector has also furthered its concentration (UNCTAD 2008). Today, the grinding industry is dominated by three MNCs which account for roughly 60% of the world's cocoa processing (Terazono 2014; Gayi/Tsowou 2016: Figure 6): Barry Callebaut, Cargill and Olam.

Historically, the cocoa grinding industry was located in Europe and the US, close to the chocolate manufacturers and consumer markets. Grinding in producer countries (origin grinding) expanded in recent years due to tax and other incentives in origin countries, decreasing transportation costs for intermediate products, as well as a shift in lead firms strategies to tighten the control over the upstream segments of the chain in order to address supply constraints and insecurities (Gilbert 2009; Araujo Bonjean/Brun 2016; UNECA 2013; Blommer 2011). Origin grinding also has disadvantages, including higher operational and investment costs, an additional processing stage for exports,³ and often limited access to beans from different origins ('single origin challenge') (ACET 2014b: 31). Nonetheless, today, grinding in origin countries makes up for nearly half of total grindings, with Côte d'Ivoire (12.6% share of global grindings in 2016/17), Indonesia (9.8%), Brazil (5.3%), Ghana (5.1%), and Malaysia (5.1%) being the largest processors of cocoa apart from the Netherlands (12.7%), Germany (9.7%) and the US (9.1%) (ICCO 2017). However, origin countries in SSA continue to have a comparatively small share of higher value-added cocoa exports (Figure 1). The growth of grinding capacity in general, and outside the traditional grinding-hubs in particular, has resulted in a global capacity overhang and a drop in cocoa grinders' margins (cf. Perkins 2015).

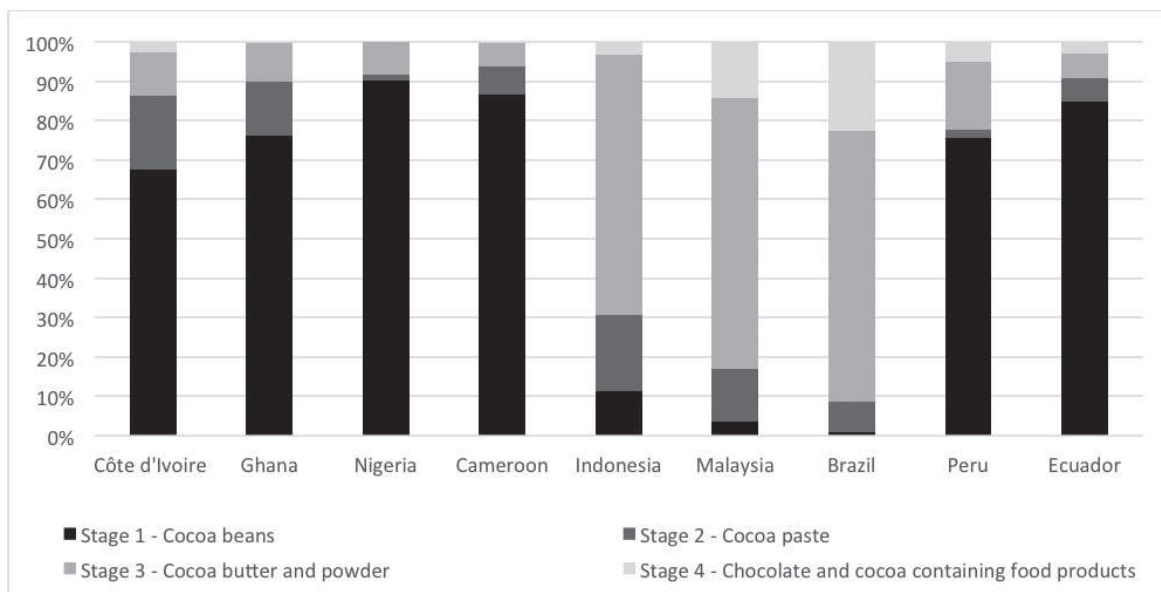


Figure 1: Value added content of key cocoa producing countries' exports (2016, per cent)

Source: UN Comtrade 2017 (WITS); cf. UNECA 2013: Figure 3.3.

Note: Stages refer to processing steps. Exports of shells, husks, etc. (HS1802) have been excluded due to their insignificance in exports. Data represents global import data by value. Malaysia has developed from a cocoa producer (esp. in the 1980s and 90s) to a processing hub for the US and Asian markets and produces a small quantity of cocoa beans today.

The manufacturing of chocolate is capital intensive and is mainly located in the largest chocolate consumer countries, the EU and the USA. Japan, Russia, Brazil, and increasingly also China and India are examples of important emerging markets for chocolate products. The chocolate manufacturing sector is also highly concentrated, with the top six chocolate manufacturers having a market share of approximately 40% (Candy Industry 2016). Some of these companies specialising in chocolate production also maintain in-house grinding capacity, or set up their own cocoa plantations to reduce the power of producers and grinders. However, most manufacturers concentrate their activities on the design of consumer chocolate products and the marketing of global brands in order to be responsive to shifting consumer demands (Fold/Neilson 2016: 202).

Production costs, as well as the size of the local and regional chocolate market, are key determinants as to whether chocolate manufacturing in origin countries (origin manufacturing) is suitable, or whether a market is mainly conquered via exports from manufacturing facilities with access to economies of scale and agglomeration (Interview 1, 18, 20; cf. ACET 2014b). The low, albeit growing, local and regional consumption in peripheral origin countries is the main reason why chocolate manufacturers are primarily situated in core and increasingly semi-peripheral countries. The production costs of chocolate can also be quite high in peripheral countries in light of often higher prices for electricity given the capital intensity of production, as well as the cost of imported inputs (e.g. milk powder and sugar). Further, high transportation costs, due to the need to cool chocolate products during transport, and a weak infrastructure also impede the manufacturing of ready-to-eat chocolate products for export in many origin countries. Production facilities of industrial chocolate also tend to be located close to manufacturers of ready-to-eat products, since the close proximity allows transportation of industrial chocolate in liquid form and simplifies just-in-time production (ACET 2014b). Origin countries with a large internal market for chocolate products (such as Brazil) have thus been more successful in functionally upgrading into chocolate manufacturing, compared to West African and smaller Latin American producer countries with limited local and/or regional demand.

However, chocolate and cocoa confectionery consumption in SSA has increased since the 2000s. In 2016, SSA countries imported 74 thousand tons of chocolate and cocoa-containing food products worth USD 278 million, an increase of 216% by volume (641 % by value) relative to 2000 (UN Comtrade 2017).⁴ The growth of imports of the ECOWAS region (580% by volume and 808% by value to 20 thousand tons, worth USD 52 million), including key cocoa producers such as Nigeria, Ghana and Côte d'Ivoire, has been particularly strong. Tamru and Swinnen (2016) explain this increase in chocolate consumption in Africa in terms of rising income levels, increasing affordability (e.g. smaller packaging, low-priced products), a shift in taste (possibly related to the increasing exposure to the Western lifestyle and commercials, e.g. due to cable TV), rapid urbanisation, and the expansion of the retail sector. The growth of chocolate consumption in Africa in general, and in the ECOWAS region and origin

countries' markets in particular, enhances the potential for origin manufacturing in West Africa; however, most multinational chocolate manufacturers continue to conquer African markets mainly via exports.

The increase in cocoa grinding activities has not reduced the dependency of origin countries and farmers on international markets, and particularly the international price of cocoa beans and intermediate products. The price of cocoa beans is set on futures markets through the London Cocoa Futures, the ICE Cocoa Futures, and Euro Cocoa Futures. Export prices on the national level are determined by futures prices and cocoa beans are sold at a premium or discount, depending on the quality of the beans. Intermediate products are priced in direct ratios to futures prices and thus have a similar price volatility as beans (cf. Araujo Bonjean/Brun 2016). The price volatility of ready-to-eat chocolate products, on the other hand, is much lower, since chocolate manufacturers and retailers do not necessarily pass through changes in the price of beans in the short-run (ibid.). Origin countries with an economy dependent on cocoa exports could thus reduce income volatility by increasing the export share of high value-added chocolate products, as well as by exerting greater control over the export price of cocoa beans.

4. Cocoa processing and industrial policy in Côte d'Ivoire and Ghana

The cocoa sectors of Côte d'Ivoire and Ghana share many similarities, but also have differences (see Grumiller et al. 2018; Hütz-Adams et al. 2016). Côte d'Ivoire (43%) and Ghana (20%) are by far the largest producers of cocoa beans, with around 63% of the global cocoa beans production in 2016/17, producing mainly Forastero cocoa beans ('bulk cocoa') (ICCO 2017). Both economies are highly dependent on the exportation of cocoa, as exemplified in the export share of cocoa products in total merchandise exports of 43% in Côte d'Ivoire (2015) and 18% in Ghana (2016) (UN Comtrade 2017). The sectors in Côte d'Ivoire and Ghana are regulated by the Conseil du Café-Cacao (CCC) and COCOBOD, respectively. The Ivorian cocoa sector was deregulated during the SAPs of the 1990s; however, the sector has been re-regulated since 2011 in the context

of an IMF-backed debt relief deal (Agritrade 2012), whereas Ghana withstood the deregulation and the abolishment of COCOBOD. The expansion of grinding capacities and output since the 1990s and the mid-2000s respectively (Figure 2) shifted their integration into the cocoa GVC from supplying cocoa beans to supplying cocoa beans and intermediate products (esp. cocoa liquor, butter and powder), particularly for processors located in key consumption markets (Figure 1).

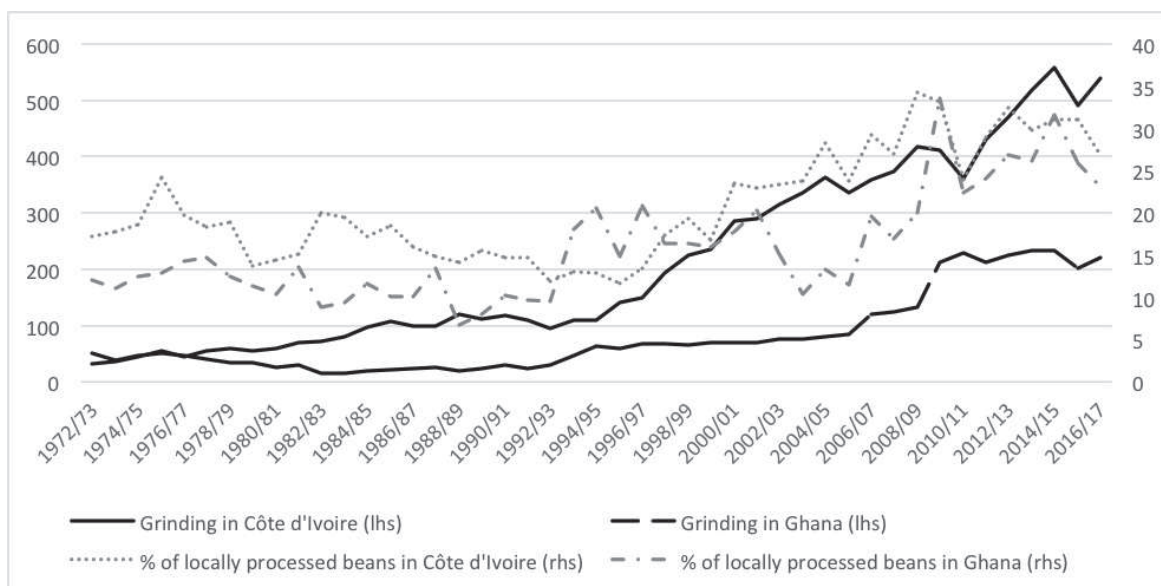


Figure 2: Growth of grinding output in Côte d'Ivoire and Ghana (thousand tons, 1972/73 – 2016/17)

Source: ICCO 2017, author's calculation.

4.1 Côte d'Ivoire

The Ivorian grinding sector dates back to the establishment of SACO by Cacao Barry (FR) in 1962 (Losch 2001), and particularly gained dynamism in the mid-1990s with the increasing investments of MNCs (Barry Callebaut, Cargill, ADM and Cémoi). The capacity expansions of MNCs, and the investments of smaller foreign and Ivorian companies, resulted in a significant increase in the total grinding capacity, from 350,000 tons in 2003/04 to 741,000 tons, with 2,161 direct employees in 2016/17 (MIM 2016; CCC 2017a). The Ivorian grinding sector operates at a capacity utili-

sation rate of around three-quarter in recent years, and is dominated by four large multinational grinders which total 72% of the overall grinding capacity (ibid.). Côte d'Ivoire is, together with the Netherlands, the largest grinder in the world, with 540,000 tons of processed beans and a 12.6% share of global grindings in 2016/17 (ICCO 2017; Figure 2). The *Rassemblement des Républicains* government officially aims to process 50% of its bean output in Côte d'Ivoire by 2020 (CCC 2017b); however, only 27% of produced beans were processed locally in 2016/17 (Figure 2).

Following the general trend towards origin grinding, investments in the grinding sector have increased, as a result of export tax incentives, investment zone benefits and deregulation in the 1990s. The substantial growth in grinding capacity was nonetheless hampered due to the political instability in the 2000s, to the benefit of investments in the Ghanaian grinding sector. Deregulation resulted in intensified operations of multinational grinders and an increased concentration of cocoa trading, at the cost of independent and locally owned exporters. Multinational grinders intensified their upstream activities (sourcing and exporting), since the abolishment of the Ivorian cocoa marketing board (CAISTAB) in 1999 increased their counterparty risk and opened a window of opportunity to increase control over the value chain (cf. Gilbert 2009: 300; Araujo Bonjean/Brun 2016: 344f.).

The key incentive for cocoa processors to grind in Côte d'Ivoire is the single export tax (*droit unique de sortie* - DUS) on cocoa and coffee products. The DUS was calculated based on the weight of the cocoa products produced – and not on the weight of the beans processed – which effectively reduced the export tax for grinders, depending on the product to be exported, by around 25% (Ecobank 2014). The tax was introduced after independence and suspended in 1989 due to pressure from the Bretton Woods institutions, but it was reintroduced during the 1991/92 season due to fiscal deficits after a sharp devaluation of the CFA franc (IMF 1998: 42ff.; IMF 2000: 30ff.). Initially, the incentive was to be abolished after five years; however, the DUS was not reformed until the 2012/13 cocoa season (Agritrade 2012). The reform of the DUS was particularly challenging for small-scale grinders due to their higher cost of finance and smaller margins. In addition, various small-scale grinders were only established a few years before the DUS reform and thus were

not able to pay off their full investment costs under the pre-reform DUS (Ecobank 2014).⁵

At the end of 2016, after continuous pressure from local processors, a new conditional DUS incentive for processors was introduced in order to achieve the goal of processing 50% of total bean output locally (Interview 7, 12). Processors who agree to increase their capacities within five years – by between 7.5% and 15%, depending on their size – are eligible to export processed cocoa products at a reduced DUS rate (a reduction of between 1.4 and 5 percentage points of the 14.6% DUS for cocoa paste, butter and powder, and duty free exports for finished chocolate products). CCC reported that Barry Callebaut, Cargill, ICP, FORAGRI and Tafi have agreed to increase their capacities until 2022 (ibid.). In addition to the DUS, investment incentives (a share of the investment might be deductible from the taxable income in the following years) and other temporal restricted tax benefits (including exemptions from corporate tax) provided in investment zones incentivise processors to invest in Côte d’Ivoire.

Chocolate manufacturing in Côte d’Ivoire continues to be limited; however, the dynamics of the sector have recently evolved due to rising local and regional demand in the context of a 35% common external tariff (WTO 2017) on chocolate products in the ECOWAS region. Most importantly, two local grinding companies, the French chocolatier Cémoi and the Ivorian grinder Tafi, functionally upgraded to chocolate manufacturing to supply the local and regional markets (see Grumiller et al. 2018 for more details). In recent years, the growth of artisanal chocolate manufacturers has expanded as well (e.g. Instant Choco, Mon Choco). Exports of chocolate products (in particular industrial chocolate) have increased significantly since the mid-1990s, from negligible volumes to USD 148 million in 2016 (representing 35,000 tons) (UN Comtrade 2017).⁶

4.2 Ghana

Ghana has a long history in cocoa processing; however, until the 1990s, processing was largely limited to the state-owned and now partially privatised Cocoa Processing Company (CPC)⁷ and to the joint venture West African Mills Company (WAMCO). Particularly since the mid-2000s, MNCs and local private investors have expanded grinding capacities to around 489,000 tons, with around 2,100 employees⁸ in 2016/17

(COCOBOD 2017; ICCO 2017). Ghana is the seventh largest grinder in the world, with 220,000 tons of processed beans (representing five per cent of global grinding) (ibid.). MNCs with processing capacities include Barry Callebaut, Cargill, Olam and Touton, holding between them nearly 60% of the operational grinding capacities (COCOBOD 2017). The largest operational Ghanaian companies are CPC and Niche Cocoa Industry. The grinding sector has faced a severe setback after various grinding companies stopped operations due to the limited availability of discounted beans and the abolishment of COCOBOD's working capital credit facility, which occurred because various grinders did not pay back their debt in 2014/15 (Interview 4, 5, 13, 16, 17).⁹ The New Democratic Congress (NDC) government in the past, and the current New Patriotic Party (NPP) government aim to increase the share of locally processed beans in total output to 50%; however, only 23% of total output was processed locally in 2016/17 (Figure 2).

Investments in grinding were incentivised by a discount on light crop beans, export-processing zone (EPZ) benefits and indirectly by the political instability in Côte d'Ivoire since the 2000s. Grinders benefit from a 20% discount on light beans; however, since light crop beans trade at a lower price on the international market, the real discount of light crop is equivalent to around 7.5% (COCOBOD 2017). The discount on light beans results in a lower average FOB price; grinders are thus indirectly subsidised by smallholders, which explains why farmers and to some extent COCOBOD are opposed to incentives which support the grinding sector (cf. Whitfield et al. 2015: 244ff.). Processors have argued that the discount on light crop is crucial in order to process profitably in Ghana, in particular since high electricity costs and unreliable power supply impede cocoa processing (Interview 4, 5, 13, 14, 15, 16, 17; cf. ACET 2014b: 38f.).¹⁰ The incentives of the EPZs most importantly include tax-free importation for production in EPZs and the suspension of corporate income tax for 10 years, with a reduction by 17 percentage points thereafter (from 25% to 8%) (GFZB 2017). Cocoa processors situated in an EPZ are authorised to sell up to 30% of their annual production on the local market (ibid.), which particularly benefits local grinders such as Niche Cocoa and CPC that have already or want to upgrade to chocolate manufacturing and produce for the local market.

The goal of the government to increase the share of locally processed beans to 50% by 2020 could already be achieved at the current total grinding capacity and given the cocoa bean production levels in recent years; however, capacity utilisation (around 64% of operational capacity in 2016/17) remains well below the installed capacity, due to the limited availability of light crop beans, which are sold at a discount (cf. COCOBOD 2017; ICCO 2017). Various grinding companies ceased operations in 2014/15, but the total grinding volume did not drop significantly due to existing overcapacities. Ghana would need to expand incentives for grinding companies in order to achieve the government's goal (cf. Mulangu et al. 2017), since the share of light crop beans in total output is expected to decrease due to quality improvements in the production of cocoa and the increasing use of hybrid seeds (Interview 5, 17).

The chocolate manufacturing sector in Ghana is small; however, there have been some important new developments, similar to the situation in Côte d'Ivoire (see Grumiller et al. 2018 for more details). CPC is the largest manufacturer and produces bars of chocolate and other products, mainly for the local market under the Golden Tree label. Niche Cocoa Industry, a Ghanaian processor which mainly sells intermediate products to MNCs such as Touton and Olam, recently functionally upgraded to chocolate manufacturing and aims at the local, regional and Asian markets in particular (Interview 14). Some small-scale and artisanal chocolate manufacturers exist as well (e.g. 57chocolate, fairafric). Exports of chocolate products nonetheless remain insignificant.

The Ghanaian government and COCOBOD are currently developing a new strategy for the cocoa sector, based on the Cocoa Sector Development Strategy approved in 1999, which seeks to intensify the promotion of the chocolate manufacturing sector (Interview 16, 17). The new strategy could include a two per cent discount on main crop beans for local chocolate manufacturers as well as the promotion of local chocolate and cocoa confectionery consumption, e.g. via school feeding programs (Interview 17). A discount on main crop beans for local grinding has been repeatedly demanded by the industry as well, but so far lacks political support, in particular due to the continuing opposition of smallholders (Interview 1, 5).

5. Distributional conflicts, competitiveness and linkages in the Ivorian and Ghanaian cocoa processing sectors

The Ivorian and Ghanaian cocoa sectors are examples of the successful development of forward linkages and functional upgrading into more capital intensive, albeit still low value-added, activities in the context of a cash-crop based GVC. The growth of the grinding sectors has been furthered by tax and price incentives, changing sector regulations and GVC dynamics, in particular the shifting strategies of lead firms that seek to strengthen their control over the upstream segments of the chain and secure access to cocoa beans in light of potential scarcity in bean supply, as well as technological advances, especially in transportation (cf. Fold 2002; Gilbert 2009; Araujo Bonjean/Brun 2016). The industrialisation process has been FDI-led, and multinational grinders exploiting tax and price incentives dominate the sectors. The head start of the Ivorian grinding sector is explained by the deregulation of the cocoa sector in the mid-1990s and the earlier application of incentives, in particular the large DUS ‘discount’ for processed cocoa products. Ghana was able to expand its grinding sector from the mid-2000s in the context of the political instability in Côte d’Ivoire and the introduction of the discount on light beans for local processing. The grinding sectors of both countries also benefit from their global importance in cocoa bean production and the interest of lead firms in maintaining strategic relationships with COCOBOD and CCC. Incentives, and to a lesser extent spillovers and a working capital facility, also furthered the creation of locally owned grinding companies. The growth of the grinding sector was – in addition to the substantial growth in local and regional chocolate consumption and high regional tariffs on chocolate imports – key for the creation of additional forward linkages to chocolate manufacturing in Côte d’Ivoire and Ghana. In both countries, locally embedded companies¹¹ with existing grinding capacities – the French chocolatier Cémoi and the Ivorian grinder Tafi in Côte d’Ivoire, as well as the Ghanaian grinder Niche Cocoa – functionally upgraded into chocolate manufacturing in order to start producing, particularly for the local and regional markets.

5.1 Distributional conflicts related to industrial policies

The industrial policy design focusing on tax and price incentives created distributional conflicts. In both countries, the ‘subsidisation’ of the MNC-dominated grinding sectors has reduced the income of smallholders and/or the government. This has created distributional conflicts, particularly between smallholders and grinders, to some extent restricting the support for cocoa processing via incentives financed from cocoa income. The smallholders’ political weight has been more pronounced in Ghana, and the parties’ dependencies on votes from cocoa farmers in democratic elections has counteracted MNCs lobbying for an enlargement of incentives (cf. Whitfield et al. 2015: 244ff.). In Côte d’Ivoire, the Bretton Woods institutions played a more important role in the reforms of the DUS. Today, neither the Ivorian nor the Ghanaian government support the development of cocoa processing via a comprehensive set of strategic industrial policies beyond the FDI-oriented incentive structure. Only Ghana continues to support the CPC more directly. However, some advances are visible, for example in the new conditionality of the DUS in Côte d’Ivoire, as well as the recent discussions on the reform of the Cocoa Sector Development Strategy in Ghana. The policy focus on cocoa production and the lack of strategic industrial policies to promote cocoa processing show the difficulty to create and sustain support for industrialisation projects in light of distributional conflicts, and the diverging interests and needs of MNCs, locally owned firms, smallholders and the political elite, as well as foreign institutions, such as the World Bank.

5.2 Competitiveness

In general, the grinding sectors in both countries struggle to be competitive (Interview 1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 15, 16, 17, 18). In addition to the global capacity overhang and low margins, higher investment costs, the export of intermediate products in solid form, as well as the ‘single origin challenge’, the key constraint remains operational costs. In Côte d’Ivoire, the grinding sector can operate without DUS incentives (Interview 7, 8, 12), which is indicated by the stagnation of grinding levels after the DUS-reform in 2012 (Figure 2). Grinders nonetheless retained new investments after the 2012 DUS-reform (Interview 7, 12). In Ghana, the high costs of electricity and unreliable power supply make the discount on

light beans – and thus the subsidisation of grinders at the cost of smallholders – a ‘necessity’ in order for grinding to be profitable (Interview 1, 2, 15, 16, 17, 18). Lower operational costs enhance the policy makers’ ability to adjust FDI-oriented incentive structures: Ivorian policy makers initially abolished the DUS-incentives and later implemented conditional DUS-incentives. Policy makers in Ghana, in contrast, are severely constrained, since the discount on light beans is a ‘necessity’ in order to sustain the sector until the long-term electricity problem is resolved, but room for conditionality nonetheless exists. Smaller grinders in both countries have, in addition, difficulties in accessing finance and some companies have older and less efficient machinery (Interview 4, 7, 8, 10, 13, 14; cf. UNECA 2013: 144ff.). Smaller firms also often struggle to find buyers and rely on selling to intermediaries, in particular to multinational grinders (Interview 4, 8, 13, 14).

The comparatively small chocolate manufacturing sectors in both countries are oriented towards the local and regional markets and, with the exception of a few small manufacturers that focus on niche export markets, are not competitive on the global market, due to high investment, operational, input and transportation costs, and despite duty-free, quota-free market access to key consumption markets such as the EU and the US (Interview 1, 5, 6, 10). In addition, the sector suffers from market and product development strategies. The larger locally owned and multinational manufacturers focus on the relatively protected local and regional markets; however, they struggle to penetrate the regional ECOWAS market due to non-tariff measures (e.g. infrastructural and bureaucratic obstacles) and regional as well as international competition (Interview 1, 4, 6, 10, 14). Artisanal and smaller manufacturers struggle with access to, and the high cost of, finance, and generally have niche market strategies. Some of the firms struggle to comply with the high regulatory standards in export markets (Interview 6, 11).

5.3 Linkage effects

Whether or not strategic industrial policies in support of a specific sector can be justified heavily depends on the sector’s potential for linkage effects. The export-oriented and MNC-dominated grinding sectors in both countries had for many years an enclave-like character with limited

employment and linkage creation, but the recent functional upgrading processes of locally owned and locally embedded foreign grinders has furthered the growth of the chocolate manufacturing sectors. The grinding sectors have some backward (e.g. to the transporting and cardboard packaging industry) and forward linkages (esp. to chocolate manufacturing) to the local economy (Interview 1, 2, 4, 5, 7, 8, 12, 14, 15, 16, 17, 18, 19). Machines and spare parts are, however, imported. Multinational grinders often run sustainability programmes targeting cocoa production and smallholders in the context of the industry's fear of supply shortages, as well as of quality and traceability issues (*ibid.*; cf. Barrientos 2016). The limited employment creation in the capital-intensive grinding sector, as well as the FDI-dominance and profit repatriation, constrain the creation of consumption linkages. Fiscal linkages are difficult to assess; however, they are likely to be small in the context of extensive tax and price incentives. The situation is particularly problematic in Ghana due to the 'necessity' to subsidise the sector in the light of high operational costs.¹² The potential to create fiscal linkages is more pronounced in Côte d'Ivoire, and the situation has improved since the DUS reform in 2012. Evidence for meaningful linkages between MNCs and locally owned grinders, in particular in terms of technological transfers, is limited as well. (Interview 1, 4, 8, 10, 13, 14, 15, 17; cf. ACET 2014b: 38f.). The activities of MNC grinders had nonetheless some positive impact on investments by local actors (e.g. in the case of a former manager of Cémoi who co-founded the Ivorian grinder and manufacturer Tafi) (Interview 10).

Chocolate manufacturing (including marketing and branding) has broader linkage potentials in relation to grinding, but the linkage effects of the manufacturing sectors in Côte d'Ivoire and Ghana have been almost negligible due to the small scale of the sectors. Potentials for backward linkages exist to the milk (milk powder is generally imported), sugar (Côte d'Ivoire has sugar production) and more sophisticated packaging (which is generally imported from China) industries – also in order to reduce input prices – as well as for forward linkages to design, branding, marketing and distribution. The potential to develop backward linkages to chocolate manufacturing, such as the creation of a milk industry, might be undercut by the recently ratified Economic Partnership Agreements between the EU and Côte d'Ivoire, as well as with Ghana, which

further deregulate the importation of bulk milk powder from the EU, albeit from low levels, and only include restrictive infant industry clauses (cf. Grumiller et al. 2018).

6. Conclusion – industrial policy implications

The analysis of the GVC dynamics and local sector conditions has highlighted the opportunities and challenges for the development of cocoa processing in Côte d’Ivoire and Ghana. The paper concludes that the opportunities for additional forward linkage development in the Ivorian and Ghanaian cocoa sectors are limited, particularly in GVCs geared to traditional end markets. Hence, the paper argues that the growing opportunities in local and regional end markets, as well as related value chains, need to be leveraged through strategic industrial policies that go beyond tax or price incentives and focus on supporting locally owned and locally embedded foreign companies.

The development of grinding sectors has been relatively successful, but the future growth of the grinding sectors is constrained by global overcapacities, generally high operational and/or investment costs, and the dominance of MNCs, which mainly seek to exploit tax and price incentives in the context of distributional conflicts. In addition, the grinding sectors should currently not be selected as a high priority sector for strategic industrial policies due to their enclave-like character and limited opportunities for linkage development, with the important exception of forward linkage development to chocolate manufacturing of locally owned and embedded foreign grinders and chocolate manufacturers.

The development of the chocolate manufacturing sectors continues to be constrained by limited export opportunities. Simultaneously, the substantial increase of local and regional chocolate consumption, albeit from a low level, has opened a window of opportunity for the growth and promotion of origin manufacturing. Rising consumption levels, and high tariffs protecting the domestic and regional ECOWAS markets, has furthered functional upgrading into chocolate manufacturing of locally owned and embedded foreign grinders and manufacturers; however, they lack the support of strategic industrial policies. It is unlikely that

functional upgrading into chocolate manufacturing will be emulated by MNCs with grinding facilities in Côte d'Ivoire or Ghana in the near future, since most companies' main business is grinding (and to some extent the production of industrial chocolate) and not the manufacturing of branded ready-to-eat products. Hence, Ivorian and Ghanaian grinders are more likely to upgrade into chocolate manufacturing (like Niche Cocoa in Ghana or Tafi in Côte d'Ivoire). Multinational chocolate manufacturers might invest in Ghana or Côte d'Ivoire in order to be better able to tackle the local and regional markets (e.g. Nestlé in Nigeria and Cémoi in Côte d'Ivoire); however, as of now the size of the markets do not seem to be sufficiently attractive for most companies. Another opportunity could be exports to markets with similar climate conditions and demand for more heat-resistant chocolate products, but many of these markets are already contested by MNCs or are protected by tariffs (cf. van Huellen 2014). The growth of origin manufacturing will thus mainly be determined by the future development of local and regional demand for chocolate products – luxury products – in low and lower middle-income countries in (West) Africa and the ability to capture market shares in niche export markets.

This paper argues that the constrained opportunities for additional forward linkage development in the Ivorian and Ghanaian cocoa sectors need to be leveraged by strategic industrial policies, in addition to tax and price incentives. The industrial policy design should thus extend its focus beyond global exports and specifically seek to leverage the opportunities in local and regional value chains by mitigating the challenges of locally owned and more locally embedded foreign grinders and chocolate manufacturers. The resources invested for the promotion of both processing sectors must be carefully aligned with the global, regional and local market opportunities, as well as with the growth and potential to develop the local, regional and niche export markets in order to avoid extensive and long-term overcapacities. The development of regional market opportunities will not only depend on the growth of chocolate consumption, the local firms' competitiveness and the protective tariff structure for chocolate imports, but also on the reduction of non-tariff measures.

Carefully administered price and tax-discounts for origin grinding and manufacturing play an important role in the development of the

processing sectors, but the incentives should be conditional, as in the case of Côte d'Ivoire. The conditionality of incentives could be linked to additional investments, capacity utilisation rates, employment creation, and the creation of other linkages. Multinational grinders should furthermore be incentivised to foster linkages with locally owned grinders, in particular with respect to technology transfer. Further infrastructural improvements, particularly in the Ghanaian electricity sector, are of crucial importance in order to reduce operational costs and ensure the growth and sustainability of the sectors, as well as increasing the policy space. The further development of a grinding hub (see ACET 2014b) in Côte d'Ivoire or Ghana to achieve economies of scale and agglomeration, and thus to some extent overcome the 'single origin challenge', would benefit from cooperation between the two countries, but the current global and national overcapacities in the grinding sector call for careful expansion planning.

In both countries, in particular locally owned and locally embedded foreign grinders and chocolate manufacturers need to be supported by strategic industrial policies, since most MNCs are not likely to invest in manufacturing in the near future in light of limited local and regional market opportunities. Locally owned companies would benefit from subsidised access to finance, and (smaller) chocolate manufacturers in particular need support in R&D for product development as well as market diversification strategies. Smaller and artisanal chocolate manufacturers also need assistance to comply with regulatory standards in export markets. The promotion of backward linkages to chocolate manufacturing should be a long-term goal and is crucial in order to reduce input costs and increase linkage effects.

In addition to the development of forward linkages, it is also important to have a policy focus on commodity production and trade per se to ensure higher and sustained income for commodity producers, as well as to create consumption and fiscal linkages via process and product upgrading. Ideally, the cooperation between the two major producers, Côte d'Ivoire and Ghana, could be fostered in order to exert market power and reduce their dependency on international markets and prices, for example via the regulation of cocoa production or buffer-stocks. A 'cocoa cartel' that tries to go beyond increased cooperation and coordination is likely to face various difficulties (see Oomes et al. 2016: 95), in particular since cocoa is

easier to substitute and produce relative to oil. There have been recent signs that the cooperation between Côte d'Ivoire and Ghana, as well as industrial policy measures in the respective cocoa sectors, are expanding in the context of the 'Abidjan Declaration' and a USD 1.2 billion loan request from the African Development Bank in 2017; nevertheless, the implementation and results remain to be seen (Interview 1, 7, 12, 16, 17). The loan could finance the building of storage and warehousing facilities necessary for buffer-stocks, the promotion of local and regional processing and consumption, as well as a stabilisation fund and a cocoa exchange commission for the management of production (AfDB 2017).

Acknowledgement

I would like to thank Cornelia Staritz, Bernhard Tröster, Werner Raza and Hannes Grohs, and two anonymous referees, for comments that greatly improved the quality of the paper.

- 1 The cocoa GVC has two major processing steps following the production of cocoa beans: grinding (producing intermediate products such as cocoa liquor, butter and powder), and the manufacturing of chocolate and cocoa confectionery.
- 2 The share of cocoa beans in the value of a bar of milk chocolate in the UK is estimated to have dropped from an average of 27% between 1976 and 1985 to nine per cent between 1996 and 2005 (Gilbert 2006). A cost breakdown for UK milk chocolate in 2004 estimated the producer price of the final retail price to be only four per cent, while grinders and manufacturers receive around 51% and retailers 28% (the rest includes other ingredients, advertising, transport) (ibid.). A similar cost analysis by Cocoa Barometer (2015) estimates the value added of cocoa producing (seven per cent), transporting and trading (six per cent) as well as processing (eight per cent) to be relatively low compared to the value added of chocolate manufacturing (35%) and retailing (44%).
- 3 Close proximity to chocolate manufacturers enables grinders to transport cocoa liquor and butter in liquid form on a just-in-time basis. This reduces costs since the products do not need to be re-melted (Gilbert 1997 in Fold 2002). The same applies to industrial chocolate (ACET 2014b).
- 4 Data represents global exports. Updated data from Grumiller et al. (2018).
- 5 Grinders with highly efficient machines, particularly employed by MNCs, complain that the multiplier used to calculate the equivalent tonnage of beans used to make cocoa products increases their tax burden (they produce more cocoa products

from cocoa beans compared to what would be allowed to export under the current calculation method) (Ecobank 2014: 4). CCC is currently addressing this problem by developing multipliers adjusted to the efficiency of the machines used by different grinders (Interview 7, 12).

- 6 Data represents global imports.
- 7 CPC is listed on the Ghanaian Stock Exchange since 2003. Today, COCOBOD, the Finance Ministry and the state-run SSNIT own around 94% of CPC (Reuters 2017). CPC had financial difficulties in 2017.
- 8 Data provided by CCC respectively COCOBOD regarding employees in the grinding sector should be regarded as rough estimates, since grinding capacity and total grindings in Côte d'Ivoire are much larger relative to Ghana, but employment in the sectors is at the same level.
- 9 The credit-facility enabled grinders to buy beans on credit as well as process and sell their products in order to pay back the credit. The facility thus reduced cash-flow requirements, which particularly benefited Ghanaian and smaller grinders. The abolishment of the credit-facility also put profitable companies under pressure due to changing cash-flow requirements (Interview 5, 17).
- 10 Ghana has a comparatively unstable power supply, which often makes investments in expensive electric generators necessary. Electricity prices in Ghana are higher compared for example to Côte d'Ivoire or EU countries. The World Bank estimates electricity prices for standardised warehouses in business hubs to be at 24.5 ¢/kWh in Ghana, 12 ¢/kWh in Côte d'Ivoire and 10.8 ¢/kWh in the Netherlands (World Bank 2017).
- 11 The key issue is not so much nationality of ownership but rather the embeddedness and the strength of ties (economic, cultural, societal) that link a firm to a specific location and its economic fabric (Morris et al. 2016).
- 12 Based on an assessment of PricewaterhouseCoopers, processors argue that the benefits in terms of investment and employment creation outweigh the costs of incentives (Kolavalli/Vigneri 2017: 125f.); however, this is contested by different stakeholders (Interview 1, 5) and there is no clear evidence on the net effects, due to a lack of transparency.

References

- ACET (2014a): African Transformation Report. Growth with Depth. In: African Center for Economic Transformation, <http://africantransformation.org/wp-content/uploads/2014/02/2014-african-transformation-report.pdf>, 05.01.2018.
- ACET (2014b): The Cocoa Agri-Processing Opportunity in Africa. In: A Dalberg study for the African Center for Economic Transformation, <http://acetforafrica.org/publication/the-cocoa-agroprocessing-opportunity-in-africa/>, 07.01.2018.

- AfDB/OECD/UNDP/UNECA (2013): African Economic Outlook. Structural Transformation and Natural Resources. In: OECD publishing, Paris, <http://dx.doi.org/10.1787/aeo-2013-en>, 05.01.2018. <https://doi.org/10.1787/aeo-2013-en>
- AfDB (2017): High hopes for cocoa farmers in Africa, as AfDB plans big for producing countries. In: African Development Bank, <https://www.afdb.org/en/news-and-events/high-hopes-for-cocoa-farmers-in-africa-as-afdb-plans-big-for-producing-countries-17247/>, 31.10.2017.
- Agritrade (2012): Special report: Côte d'Ivoire's cocoa sector reforms 2011-2012. In: Agritrade, <http://agritrade.cta.int/en/layout/set/print/Agriculture/Commodities/Cocoa/Special-report-Cote-d-Ivoire-s-cocoa-sector-reforms-2011-2012>, 31.11.2017.
- Amsden, Alice (2001): The Rise of "The Rest": Challenges to the West from Late-Industrializing Economies. Oxford, New York: Oxford University Press. <https://doi.org/10.1093/0195139690.001.0001>
- Araujo Bonjean, Catherine/Brun, Jean-François (2016): Concentration and Price Transmission in the Cocoa-Chocolate Chain. In: Squicciarini, Mara/Swinnen, Johan (eds.): The Economics of Chocolate. Oxford: Oxford University Press, 339-362. <https://doi.org/10.1093/acprof:oso/9780198726449.003.0017>
- Asche, Helmut/Neuerburg, Philipp/Menegatti, Matteo (2012): Economic diversification strategies: A key driver in Africa's new industrial revolution. In: UNIDO, development Policy, statistics and research branch, working paper 2/2012.
- Bair, Jennifer/Gereffi, Gary (2003): Upgrading, Uneven Development, and Jobs in the North American Apparel Industry. In: Global Networks 3(2), 143-169. <https://doi.org/10.1111/1471-0374.00054>
- Barrientos, Stephanie (2016): Beyond Fair Trade: Why are Mainstream Chocolate Companies Pursuing Social and Economic Sustainability in Cocoa Sourcing? In: Squicciarini, Mara/Swinnen, Johan (eds.): The Economics of Chocolate. Oxford: Oxford University Press, 213-227. <https://doi.org/10.1093/acprof:oso/9780198726449.003.0012>
- Barrientos, Stephanie/Asenso-Okyere, Kwadwo (2009): Cocoa value chain: challenges facing Ghana in changing global confectionary market. In: Journal für Entwicklungspolitik 25(2), 88-107. <https://doi.org/10.20446/JEP-2414-3197-25-2-88>
- Becker, Joachim (2008): Der kapitalistische Staat in der Peripherie: polit-ökonomische Perspektiven. In: Journal für Entwicklungspolitik 24(2), 10-32. <https://doi.org/10.20446/JEP-2414-3197-24-2-10>
- Bessi, Benjamin (2017): Interview avec Benjamin Bessi, Directeur Général de Cemoi Côte d'Ivoire. In: Interview conducted by Marcopolis, <http://www.marcopolis.net/cemoi-un-des-premiers-transformateurs-de-cacao-en-cote-d-ivoire.htm>, 17.10.2017.

- Blommer, Peter (2011): A Collaborative Approach to Cocoa Sustainability. The supply threat is real. Aggregation of farmers remains the single biggest challenge to overcome. In: *The Manufacturing Confectioner*, May 2011, 19-26.
- Candy Industry (2016): 2016 Global Top 100 Candy Companies, <http://www.candyindustry.com/2016-Global-Top-100-Part-4>, 31.04.2017.
- CCC (2017a): Data. In: Provided by the Conseil Café-Cacao in October/December 2017.
- CCC (2017b): Évolution de la Filière Café-Cacao de 2012 à 2017. 4^{ème} Édition des Journées Nationales du Cacao & du Chocolat. In: CCC report presented in Abidjan between the 29th of Septembre and the 1st of October at the CAISTAB-Plateau, http://www.conseilcafecacao.ci/docs/2016/CATA-LOGUE_JNCC_2017.pdf, 07.01.2018.
- Chang, Ha-Joon (2011): Industrial Policy: Can We Go Beyond an Unproductive Confrontation? In: Lin, Justin/Pleskovic, Boris (eds.): *Annual World Bank Conference on Development Economics – Global 2010: Lessons from East Asia and the Global Financial Crisis*. Washington D.C.: World Bank, 83-109.
- Cocoa Barometer (2015): Resources and Data. In: http://www.cocoabarometer.org/Resources_and_Data.html, 05.01.2017.
- COCOBOD (2017): Data. In: Provided by the Cocoa Marketing Board and the Cocoa Marketing Company in October 2017.
- Divine Chocolate (2017): Divine Chocolate – About Us. In: <http://www.divinechocolate.com/us/about-us/>, 07.01.2018.
- Ecobank (2014): Côte d’Ivoire’s cocoa grinders: at the crossroads. In: *Middle Africa Insight Series, Soft Commodities, Cocoa*, 29th January 2014, <http://ecobank1.aznresearch.com/upload/20140604052117781163jBenJTFhcc.pdf>, 31.10.2017.
- Ederer, Stephan/Heumesser, Christine/Staritz, Cornelia (2016): Financialization and commodity prices – an empirical analysis for coffee, cotton, wheat and oil. In: *International Review of Applied Economics* 30(4): 462-87. <https://doi.org/10.1080/02692171.2015.1122745>
- Evans, Peter (1995): *Embedded Autonomy. States and Industrial Transformation*. Princeton, N.J.: Princeton University Press.
- Evers, Tilman (1977): *Bürgerliche Herrschaft in der Dritten Welt. Zur Theorie des Staates in ökonomisch unterentwickelten Gesellschaftsformationen*. Köln: Europäische Verlagsanstalt.
- Fold, Niels (2002): Lead Firms and Competition in ‘Bi-polar’ Commodity Chains: Grinders and Branders in the Global Cocoa-chocolate Industry. In: *Journal of Agrarian Change* 2(2), 228-247. <https://doi.org/10.1111/1471-0366.00032>
- Fold, Niels/Neilson, Jeff (2016): Sustaining Supplies in Smallholder-Dominated Value Chains: Corporate Governance of the Global Cocoa Sector. In: Squicciarini, Mara/Swinnen, Johan (eds.): *The Economics of Chocolate*. Oxford: Oxford University Press, 195-212. <https://doi.org/10.1093/acprof:oso/9780198726449.003.0011>

- Frank, Andre Gunder (1966): The Development of Underdevelopment. In: Monthly Review 18(4), 17-31. https://doi.org/10.14452/MR-018-04-1966-08_3
- Gayi, Samuel/Tsowou, Komi (2016): Cocoa industry: Integrating small farmers into the global value chain. In: UNCTAD report UNCTAD/SUC/2015/4.
- Gereffi, Gary (2005): The global economy: Organization, governance and development. In: Smelser, Neil/Swedberg, Richard (eds.): Handbook of Economic Sociology. Second Edition. Princeton, NJ: Princeton University Press and Russell Sage Foundation, 160-182.
- Gereffi, Gary/Sturgeon, Timothy (2013): Global Value Chains and Industrial Policy: the role of emerging economies. In: Elms, Deborah/Low, Patrick (eds.): Global Value Chains in a changing world. Geneva: WTO publications, in cooperation with the Fung Global Institute and the Temasek Centre for Trade and Negotiations.
- GFZB (2017): Ghana Free Zones Board – Incentives. In: GFZB, <http://www.gfzb.gov.gh/investment%20opportunity/incentives.php>, 05.12.2017.
- Ghana-IEPA (2016): Stepping Stone Economic Partnership Agreement between Ghana, of the one part, and the European Community and its Member States, of the other part. In: Official Journal of the EU, L 287/3.
- Gilbert, Christopher (2006): Value Chain Analysis and Market Power in Commodity Processing with Application to the Cocoa and Coffee Sectors. In: Universita Degli Studi Di Trento, Dipartimento Di Economia, Discussion paper No. 5.
- Gilbert, Christopher (2009): Cocoa Market Liberalization in Retrospect. In: Review of Business and Economics, 54(3), 294-312.
- Grumiller, Jan/Raza, Werner/Staritz, Cornelia (2016): Framework to Assess Institutional Setups for Industrial Policies. In: Background paper financed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), a summary of the report has been published online: <http://www.equip-project.org/wp-content/uploads/2017/09/D-Institutional-Setup-July-2017.pdf>, 31.10.2017.
- Grumiller, Jan/Raza, Werner/Staritz, Cornelia/Grohs, Hannes/Arndt, Christoph (2018): Perspectives for export-oriented industrial policy strategies for selected African countries: case studies Côte d'Ivoire, Ghana and Tunisia. In: ÖFSE Report, <https://www.oefse.at/publikationen/research-reports/>, 10.07.2018.
- Hirschman, Albert (1981): Essays in Trespassing: Economics to Politics and Beyond. Cambridge/New York: Cambridge University Press.
- Hütz-Adams, Friedel/Huber, Claudia/Knoke, Irene/Morazán, Pedro/Mürlebach, Mara (2016): Strengthening the competitiveness of cocoa production and improving the income of cocoa producers in West and Central Africa. Bonn: Südwind e.V.
- ICCO (2017): Database provided by the International Cocoa Organization (ICCO) in December 2017.
- IMF (2000): Côte d'Ivoire: Selected Issues and Statistical Appendix, IMF Staff Country Report no. 00/107, Washington, D.C.: IMF Publication Services.

- IMF (1998): Côte d'Ivoire: Selected Issues and Statistical Appendix, IMF Staff Country Report no. 98/46, Washington, D.C.: IMF Publication Services.
- Kaplinsky, Raphael/Farooki, Masuma (2012): Promoting Industrial Diversification in Resource Intensive Economies. In: UNIDO report, Vienna.
- Kolavalli, Shashi/Vigneri, Marcella (2017): The Cocoa Coast: The Board-Managed Cocoa Sector in Ghana. Washington DC: International Food Policy Research Institute.
- Losch, Bruno (2001): La libéralisation de la filière cacaoyère ivoirienne et les recompositions du marché mondial du cacao: vers la fin des «pays producteurs» et du marché international? In: *Oléagineux Corps gras Lipides* 8(6), 566-576. <https://doi.org/10.1051/oocl.2001.0566>
- MIM (2016): Secteur de la Transformation du Cacao. In: http://www.industrie.gouv.ci/index.php/article/Resultats-projet-pacir-onudi-cote-ivoire?page=secteur_cacao, 10.11.2017.
- Morris, Mike/Kaplinsky, Raphael/Kaplan, David (2012): "One Thing Leads to Another" – Promoting Industrialisation by Making the Most of the Commodity Boom in Sub-Saharan Africa. Cape Town: Centre for Social Science Research.
- Morris, Mike/Fessehaie, Judith (2014): The industrialization challenge for Africa: Towards a commodities based industrialization path. In: *Journal of African Trade* 1, 25-36. <https://doi.org/10.1016/j.joat.2014.10.001>
- Morris, Mike/Plank, Leonhard/Staritz, Cornelia (2016): Regionalism, end markets and ownership matter: Shifting dynamics in the apparel export industry in Sub Saharan Africa. In: *Environment and Planning A*, 48(7), 1244-65. <https://doi.org/10.1177/0308518X15614745>
- Morris, Mike/Staritz, Cornelia (forthcoming): How global value chains change industrialization paths and industrial policies for developing countries. In: Gereffi, Gary/Ponte, Stefano/Raj-Reichert, Gale (forthcoming): *Handbook on Global Value Chains*. Cheltenham: Edward Elgar Publishing, forthcoming 2018.
- Mulangu, Francis/Miranda, Mario/Maïga, Eugenie (2017): Cocoa pricing options and their implications for poverty and industrialization in Ghana. In: *Agricultural Economics*, 48(4), 481-490. <https://doi.org/10.1111/agec.12349>
- Oomes, Nienke/Tieben, Bert/Laven, Anna/Ammerlaan, Ties/Appelman, Romy/Biesenbeek, Cindy/Buunk, Eelco (2016): Market Concentration and Price Formation in the Global Value Chain. In: *SEO Amsterdam Economics Study*.
- Perkins, Isaac (2015): Global Cocoa processing: Ground to a Halt. In: *Brown Brothers Harriman & Co., Commodity Markets Update Oct. 2015*, 14-15.
- Prebisch, Raúl (1981): The Latin American periphery in the global system of capitalism. In: *Cepal Review* 13, 143-150.
- Ramdoo, Isabelle (2013): From Curse to Purse. Making Extractive Resources work for Development. In: *ECDPM Discussion paper* 136.

- Ramdoe, Isabelle (2015): Resource-based industrialization in Africa: Optimising linkages and value chains in the extractive sector. In: ECDPM Discussion Paper 179.
- Reuters (2017): Ghana Stock Exchange says trading of CPC's shares suspended. In: Reuters, 29th August, <https://af.reuters.com/article/commoditiesNews/idAFL8N1LF69D>, 05.10.2017.
- Squicciarini, Mara/Swinnen, Johan (2016): From Cocoa to Chocolate: Process, Products, and Agents. In: Squicciarini, Mara/Swinnen, Johan (eds.): *The Economics of Chocolate*. Oxford: Oxford University Press, xxv-xxvi. <https://doi.org/10.1093/acprof:oso/9780198726449.001.0001>
- Tamru, Seneshaw/Swinnen, Johan (2016): Back to the Roots: Growth in Cocoa and Chocolate Consumption in Africa. In: Squicciarini, Mara/Swinnen, Johan (eds.): *The Economics of Chocolate*. Oxford: Oxford University Press, 439-456.
- Terazono, Emiko (2014): Welcome to the world of Big Chocolate. Three companies will dominate processing sector. In: *Financial Times*, December 18, 2014.
- Terazono, Emiko (2017): Signs of pick-up in global demand boost cocoa industry. In: *Financial Times*, July 14, 2017.
- UN Comtrade (2017): UN Comtrade Database. In: <https://comtrade.un.org/> or <https://wits.worldbank.org/>, 01.05.2018.
- UNCTAD (2008): *Cocoa Study: Industry Structures and Competition*. In: Study prepared by the UNCTAD secretariat, UNCTAD/DITC/COM/2008/1, http://unctad.org/en/Docs/ditccom20081_en.pdf, 05.01.2017.
- UNCTAD (2013): *Commodities and development report. Perennial problems, new challenges and evolving perspectives*. In: UNCTAD report, UNCTAD/SUC/2011/9, http://unctad.org/en/PublicationsLibrary/suc2011d9_en.pdf, 05.01.2018.
- UNECA (2013): *Economic Report on Africa 2013: Making the Most of Africa's Commodities. Industrializing for Growth, Jobs and Economic Transformation*. In: Economic Commission for Africa, Addis Ababa/Ethiopia.
- van Huellen, Sophie (2014): *West Africa's Cocoa Sector. The Need for Regional Integration and Value Addition at Origin*. In: Background paper for the African Development Bank.
- Whitfield, Lindsay/Therkildsen, Ole/Buur, Lars/Klær, Anne Mette (2015): *The Politics of African Industrial Policy. A Comparative Perspective*. New York: Cambridge University Press. <https://doi.org/10.1017/CBO9781316225509>
- World Bank (2008): *World Development Report*. Washington DC: World Bank.
- World Bank (2017): *Doing Business database – explore economy – getting electricity*. In: World Bank, <http://www.doingbusiness.org/>, 31.12.2017.
- WTO (2017): *Tariff Download Facility*. In: World Trade Organization, <http://tariff-data.wto.org>, 31.12.2017.

List of Interviews

In total, 45 interviews with representatives of companies, interest groups and governmental institutions were conducted. The list presented below only includes interviews cited in this paper.

Interview 1: (Senior) Researchers of the African Center for Economic Transformation (ACET), 24.01.2017, 27.01.2017 and 22.10.2017.

Interview 2: Senior researcher of the International Food Policy Research Institute (IFPRI), 30.01.2017 and 24.10.2017.

Interview 3: Employee of a multinational grinding company in Ghana, 31.01.2017.

Interview 4: Senior manager of a Ghanaian grinder and manufacturer, 02.02.2017.

Interview 5: Former senior manager of COCOBOD, 03.02.2017.

Interview 6: Owner of an artisanal chocolate manufacturing company in Côte d'Ivoire, 16.10.2017.

Interview 7: Representative of CCC (unofficial interview), 16.10.2017.

Interview 8: Various managers of an Ivorian grinding company, 17.10.2017.

Interview 9: Employee of an Ivorian grinding company, 17.10.2017.

Interview 10: Manager of an Ivorian grinding and manufacturing company, 18.10.2017.

Interview 11: Owner of an artisanal chocolate manufacturing company in Côte d'Ivoire, 19.10.2017.

Interview 12: Representative of the Groupement des exportateurs (GEPEX), 19.10.2017.

Interview 13: Former manager of a Ghanaian grinding company, 24.10.2017.

Interview 14: Various interviews with managers of a Ghanaian grinder and manufacturer, 25.10.2017.

Interview 15: Former manager of a multinational grinding company in Ghana, 27.10.2017.

Interview 16: Senior managers of CMC, 27.10.2017.

Interview 17: (Senior) Researchers of COCOBOD, 27.10.2017.

Interview 18: Representative of a multinational grinding company with grinding facilities in Côte d'Ivoire and Ghana, 08.01.2018.

Interview 19: Manager of packaging company in Ghana, 24.10.2018.

Interview 20: Manager of a chocolate branding company in London, 12.01.2018.

ABSTRACT Dieser Artikel präsentiert eine komparative Analyse über die Entwicklung von Vorwärtsverknüpfungen (forward linkages) in den ivorischen und ghanaischen Kakaosektoren. Der Artikel zeigt auf, dass sich die Vermahlungs- und Verarbeitungssektoren (grinding sectors) in Côte d'Ivoire und Ghana im Kontext von sich veränderten globalen Wertschöpfungskettendynamiken, auf ausländische Direktinvestitionen ausgerichteten Industriepolitiken sowie andauernden Verteilungskonflikten mit unterschiedlichem Erfolg entwickelten. Die grinding sectors in beiden Ländern sollten derzeit nicht als prioritäre Sektoren für strategische Industriepolitik ausgewählt werden, da sie von einem Enklavencharakter sowie nur begrenzten Möglichkeiten für die Entwicklung von zusätzlichen Vorwärtsverknüpfungen charakterisiert sind. Das rezente Wachstum der lokalen Schokoladenindustrien stellt eine wichtige Ausnahme dar, da diese von der Entwicklung der grinding sectors sowie dem gestiegenen lokalen und regionalen Schokoladenkonsum, in Kombination mit Schutzzöllen, profitierten. Der Artikel argumentiert, dass die lokalen kakao-verarbeitenden Industrien durch strategische, über Preis- und Steueranreize hinausgehende, industriepolitische Maßnahmen unterstützt werden sollten, um auch die Möglichkeiten in lokalen und regionalen Wertschöpfungsketten besser nutzen zu können.

Jan Grumiller

Austrian Foundation for Development Research

j.grumiller@oefse.at