Restructuring of the European chocolate industry and its impact on cocoa production in West Africa

Niels Fold*

Abstract
During the 1990s, both the European chocolate industry and the cocoa butter industry have become increasingly centralised. Today only a handful of companies in each segment control the production of intermediate goods and mass-marketed brands. The cocoa sectors of the major producing countries in West Africa have at the same time been liberalised and privatised due to the dismantling of state marketing boards. This paper examines the relationship between the new raw material requirements (both in qualitative and quantitative terms) of the processing industry in Europe and restructuring processes in the cocoa sectors of major African producer countries.

Keywords: industrial organisation; product quality; liberalisation; cocoa; chocolate; EU; West Africa.
JEL classifications: F14, L15, L22, L66, Q13

1. Introduction

Many observers consider Sub-Saharan Africa – apart from South Africa – as being marginalised from economic growth processes stemming from the intensified global flows of capital and goods that took off in the mid-1980s (Collier, 1995; Edoho, 1997). Aggregate measures of exports and foreign direct investments in African countries do not suggest any accelerated economic growth during the recent decade, rather the opposite. However, the thesis on ‘Africa falling out of the world economy’ (Agnew and Grant, 1997) can be criticised for taking it for granted that changes in industrial organisation and technology in the North have no impact on people, labour, and firms in Africa – except for a few elite enclaves. There is a need for more detailed examination of how Africa participates in globalisation processes through, for instance, the restructuring of manufacturing industry in the North. Given the type of Africa’s traditional linkages to the global economy it is sensible to start with examinations of the impact on African primary commodity sectors of new forms of industrial organisation and changing patterns of consumer demand in the North. It is the purpose of this paper to contribute to the knowledge of how globalisation affects African people and economies by examining the relationship between the cocoa sector in West Africa and the cocoa processing industry in Europe.

Most of the cocoa from West Africa is exported to the European chocolate industry (Daviron, 1995), making West African producers highly dependent on changes in demand from the chocolate industry in Europe. In this paper it is argued that important

* Institute of Geography, University of Copenhagen, Øster Voldgade 10, DK-1350 K, Denmark.
email < nf@geogr.ku.dk >

© Oxford University Press 2001
structural transformations in the European chocolate industry – primarily caused by ‘globalisation’ – take place at the same time as major restructuring of the cocoa sectors in West Africa. The combined result of these processes is a markedly changed organisation of the global cocoa chain including the renewed penetration of transnational capital in the West African export trade and the eradication of quality premiums linked to geographical (i.e. country-wise) origin. In essence, one may speak of the future emergence of a regional (if not global) cocoa bean as technological development in logistics and processing reduce the number of quality parameters embodied in the cocoa bean. The consequence for West African smallholders and national economies is an increased pressure to maintain their price competitiveness relative to new producers in other regions of the world. Or alternatively, in a long term perspective, to be effectively and completely marginalised as suppliers of raw materials for processed goods determined for the sweet tongues of the North – for good or worse. Hence, ‘globalisation’ is not ricocheting off broader parts of African societies but on the contrary contributing substantially to the development of new forms of material and social organisation of life on the continent.

The paper starts by outlining an emerging mode of industrial organisation in the US, the turn-key production network, which in this paper is considered to serve as an heuristic model for understanding recent changes in the European cocoa processing industry (including the chocolate industry). The section is followed by an outline of (1) the structural transformations within the industry during the 1990s, and (2) the background and sequence of the dismantling of state controlled commodity marketing system in the national cocoa chains of West Africa. In addition, the prospects for cocoa chain upgrading by renewing existing quality control systems and/or adding value through origin processing are discussed. The paper concludes with some thoughts on the implications regarding future research on Africa’s so-called marginalised position in globalisation processes, pointing out in particular the importance of the relationship between the nature of a commodity and the corresponding structure of the global chain.

2. Turn-key production networks

In an inspiring paper, Sturgeon (2000) advances the idea of a new American model of industrial organisation which is based on a different type of network, which he characterises as the ‘turn-key’ production network. The main features of the network are the pronounced merchant character of the industrial suppliers, and the intra-industry social division of labour between firms with market-creating innovative capacity and firms with market-supplying productive capacity. This type of network is different from those previously analysed in various national production systems, namely the ‘captive’ production networks (e.g. Japan, Korea) based on dominating lead firms that co-ordinate tiers of largely captive suppliers, and the ‘relational’ production networks (e.g. Italy, Germany, overseas Chinese in East Asia) primarily operating in specific localities and governed by social relationships such as trust and reputation among the participating actors.

The US turn-key system has developed during the 1990s and it is a result of restructuring processes in US industry after the competitive crisis caused by strong Asian competition during the 1970s and 1980s. The new model is very conspicuous in the product-level electronics industry but also clearly identifiable in many other industries such as apparel, footwear, toys, offshore drilling, automotive parts, food
processing, and pharmaceuticals. In these and other industries, large vertically integrated corporations are being replaced by turn-key production networks consisting of two main groups of companies, the brand-name firms and the merchant contract manufacturers, respectively.

Brand-name firms control in-house product definition and innovation as well as the related marketing functions. Full ranges of production related controls are out-sourced to the merchant contractors, who specialise in commodified production services. By out-sourcing production, the brand-name firms reduce manufacturing overheads and inventory carrying costs while concentrating on product innovation and marketing. By using the production services of merchant contractors it is possible to quickly expand or reduce production according to volatile market dynamics.

The merchant contractors have no internal product development or sales and marketing capacity but concentrate on process improvements. Manufacturing is based on automated and (re-)programmable production systems, offering contractors the opportunity to change production at low costs and on short notice. These companies tend to be functionally specialised in what Sturgeon (2000) describes as cross-cutting base processes, i.e. the manufacturing of products that can be used in a wide range of end-products, rather than processes/products that are highly customer specific.

The organisational split between product innovation and production is enabled by highly formalised links between firms in the turn-key network. The links are based on an increasing codification and standardisation of the technology applied by contractors, so that orders and contracts are implemented at a low degree of uncertainty. In addition, both customers and suppliers seek to undertake volume spreading so that not more than 20% of volume is constituted by one other single firm. Therefore, interdependence is limited and the firms do not become ‘locked’ into a bilateral trading relationship.

Sturgeon’s ideas, very roughly outlined above, need to be further elaborated in terms of the key relations identified and conceptual coherence. For example, an important question is how an organisational innovation like the turn-key network gradually develops and takes form in one national production system, and over time is then transformed and adapted to a different context, perhaps in another – national or even regional – production system (see Gertler, 2001). The ambition of this paper, however, is not to start to refine these ideas. Instead, I think that the turn-key network model is of considerable heuristic value and may serve as an explanatory framework for what has happened in the restructured European chocolate industry.

3. The chocolate industry in Europe

The European chocolate industry is by far the largest on a global scale. It is an industry with a long tradition reaching back to the 17th century when cocoa beans initially were introduced to the royal courts and later became accessible for the emerging bourgeoisie in urban cocoa houses. During the first centuries of European consumption cocoa was primarily consumed in the form of cocoa powder used for making hot beverages. Chocolate started to become a common consumer good in the late 19th century when industrialisation was well established in most of the larger countries (Wood, 1989). The different use values of cocoa constitute the historical roots for the division of the industry into two filaments. Firstly, the ‘traditional’ line specialised in the roasting, de-shelling, and grinding of beans into a liquid paste before successive pressing of the
cocoa liquor into cocoa cake (with a low fat content) and cocoa butter (a vegetable fat considered as a by-product). Secondly, the chocolate manufacturers to whom the cocoa butter was sold specialised in chocolate production based on cocoa liquor mixed with additional cocoa butter, sugar, and other ingredients. Gradually, chocolate production became much more important than cocoa powder production and the traditional distinction between the filaments was blurred by vertical integration primarily taking place in chocolate companies operating within national territories.

The processing technology has been improved substantially both in terms of efficiency and diversity by adding milk powder (resulting in milk chocolate), emulsifiers, and other ingredients such as nuts, fruit, etc. (Dand, 1999). In some countries various types of cocoa butter substitutes are added, reducing the cost of raw materials and improving certain quality aspects of the final product such as breakability, gloss, melting point, shelf-time, etc. (Shukla, 1995; Wilson, 1999). The cocoa cake is usually granulated into powder that is mostly used in various drinking products or other food industries; cocoa powder is presently considered as a by-product. There are many types of cocoa powder with different qualities depending on the type of bean whereas the cocoa butter is much more of a homogenous product.

During the 1990s, notable changes took place in the processing segments of the European cocoa industry. Grinding has become much more of a separate business upstream of chocolate production although some of the chocolate manufacturers still grind in order to get the specific flavour for their brand. Moreover, some of the large grinders have ventured into production of intermediate chocolate products for chocolate producers while chocolate manufacturers are increasingly withdrawing from grinding operations. The remainder of this section maps out the major structural changes in the industry.

3.1. Chocolate manufacturers

The most important phenomenon on a global scale is the rapid centralisation among chocolate producers. This is reflected by the more than 200 take-over’s during the period 1970 to 1990, and the fact that about 50% of the global market is presently supplied by 17 companies (Dand, 1999). The competition among the global players has resulted in an increasing attention towards financial performance and cash management, particularly among the European companies. This has forced or motivated the chocolate producers, including large brand manufacturers, to reduce their grinding activities and out-source liquor, cocoa butter, and even standard (intermediate) chocolate production to large grinding companies (Vermaut, 1999a,b).

Instead, activity is concentrated on consumer goods production and marketing of global brands. According to industry sources, a continued diversification of consumer taste will increase the need for innovation, both in terms of new products and services. The consumer market is characterised by the ageing of a very significant proportion of ‘traditional’ chocolate eaters, the fragmentation of traditional households (now representing a wide spectrum of preferences), and new types of demand coming from increasing ethnic and cultural diversity in societies. On the other hand, these changes offer new opportunities for product differentiation in terms of taste, serving sizes, packaging, advertising, and the development of ‘health’ products. These opportunities are, however, being challenged by consumer groups fighting obesity by campaigning for punitive taxes, restrictions on sales at schools, and regulation of advertisements aimed
at children. On top of this comes the competition from other snack food categories (Viviano, 1999; Pullia, 1999).

Besides the transnational companies and large, primarily nationally-based chocolate companies, there are other segments in the industry, namely small companies producing ‘ethical’ chocolate or high quality products for luxury niche markets. The latter group is characterised by being based on high quality raw materials, a diligent adapted couverture, and advanced fillings. In the overall picture, these companies are quantitatively insignificant; observers distinguish between small artisan chocolate makers (up to 50 tonnes per year), medium sized companies (up to 100 tonnes), and large scale producers (more than 100 tonnes per year). Some of these are selling their range of fine and flavoured chocolates from exclusive shops in the world’s metropolises or via mail order systems. Packaging is of major importance, partly because the brand is related to a specific appearance and partly because the loss resulting from deteriorating quality during storage is of major concern to producers (Coady, 1996).

As part of the out-sourcing strategy, improvements in intermediate goods processing technology are therefore entrusted to cocoa processors. Some of the large brand producers have even phased out production of more specialised intermediate products and contracted it out to capable grinders. In this case, the contractor will have established a reputation as a highly consistent supplier of customised products and a reliable partner, dedicated to technological and commercial discretion. However, the cocoa liquor and recipes used in some branded products may be of such a proprietary nature that the chocolate manufacturers prefer to keep cocoa processing in-house. Hence, some of the chocolate manufacturers try to bypass traders and large grinding companies by importing directly from producing countries.

### 3.2. Cocoa processors (grinders)

The grinding segment has also been increasingly centralised and today is dominated by three transnational giants, namely Cargill, ADM, and Barry Callebaut. In the mid-1990s, about 70% of world grinding (2.5 million tonnes) was carried out by the top ten companies. Transnational companies have taken over medium sized companies that primarily supplied the national chocolate industries. It is estimated that within a few years, the three giants will control about 75% of total annual grinding (Vermaut, 1999b). In the overall picture, there are now nine significant grinders in Europe as opposed to about 40 a decade ago. The smaller companies have either ceased to grind or now process liquor purchased from the large grinders (Gilbert, 1997).

Strong economies of scale is a major reason behind this concentration and centralisation, in combination with rapidly increasing costs related to both process

---

1. So far, the market for ‘ethical’ cocoa beans is quite small. The ethically traded beans are based on ecological and/or ‘fair trade’ principles. Beans are ground on contract and the chocolate is produced by small manufacturers and sold through networks of solidarity organisations and selected supermarket chains.

2. For instance, Ghana beans are claimed to be absolutely vital for the specific taste of Cadbury’s chocolate, at least for the chocolate sold on the markets in the United Kingdom and the former overseas territories such as South Africa, Australia, and New Zealand. Therefore, the company has established its own logistical system including loading of selected cocoa shipments in specially designed containers. The containers are transported directly to the factories in the UK and other places without any reloading or re-bagging taking place during the travel from storage facilities in Ghana to the factory (Cadbury, personal communication, 2000).
development, and preventive initiatives that are necessary to comply with sanitary and environmental requirements in national regulations. Hence, in order to obtain economies of scale and to avoid contamination, additional capital needs to be invested. The large grinding companies in Europe are now able to deliver cocoa liquor and cocoa butter in liquid form to chocolate manufacturers on a JIT-basis. The opportunity to purchase cocoa butter in liquid form reduces the costs related to an extra processing stage (melting of cocoa butter in solid form). Therefore, facilities and personnel to handle the cocoa substances in solid forms are now being phased out by a number of chocolate manufacturers (Gilbert, 1997).

Some of the dominant grinders are also major actors in the global grain trade. Experience from grain trading has resulted in considerable changes in logistical systems during the 1990s. Previously, when international flows of cocoa were mainly mediated by commodity traders, beans were usually transported in sacks from producer countries to warehouses and grinding companies in the North. Containerisation of beans in bulk or sacks was gradually introduced during the 1990s and started to gain importance on some routes. However, when the grain traders became major players in the cocoa processing segment they adapted their logistical systems from the grain trade to the cocoa trade. Cocoa beans are now increasingly transported in bulk from exporting countries to harbours in Europe. Only the largest shippers/grinders are able to make use of bulk shipment of between 3,000–10,000 tonnes of beans. Ships are going directly to the quay-side of the factories or transported by barge systems in order to avoid costly road transportation and spillage. In addition, labour costs are substantially reduced (Dand, 1999). Overall these changes have resulted in major cost savings and reinforced the competitive power of the large grinding companies located at accessible waterfronts, i.e. harbours or river mouths. Amsterdam is the largest cocoa storage harbour and a major centre for the grinding industry in Europe which is reflected by its increasing share of total West European grinding (The Manufacturing Confectioner, 2000).

Normally beans are stored in the industrialised countries as the quality easily deteriorates in humid tropical climates and supplies are nearer to industrial customers. Cocoa beans are now increasingly stored ‘flat’, i.e. in large piles of 10–12 metres on the floor of warehouses. Flat storage requires less space than storage of bagged beans. Only Ghana beans seems to be stored separately for later blending in the grinding process whereas all other beans are mixed (Gilbert, 1997). This means that processors are unable to separate out the higher quality beans. Therefore they are not willing to pay the premium for quality beans but only an ‘average’ price, depending on the expected share of acceptable and non-acceptable beans in each consignment. Prices are negotiated on the rejection probability, which is the discount if the shipment is delivered at the terminal market. On the other hand, process technology has been developed to counteract the effects of low quality beans in order to benefit from the substantial cost reductions afforded by the new logistical systems, i.e. bulk transportation of beans and flat storage in European warehouses. For instance, processors running new plants are able to grind before roasting beans, thereby eliminating the risk of burning relatively small beans or under-roasting relatively large beans.

Hence, the grinders are now more willing and able to compromise on quality in order to exploit the lower costs from new forms of transportation and storage. The lower purchasing price is directly transmitted into a reduced incentive for African farmers to care about quality. Processors are, however, willing to pay a premium on Ghana beans where they save the costs of achieving the similar liquor quality from other beans. The
The market for high quality beans still relies on the higher cost transport of smaller volumes in jute bags.

### 3.3. Traders

A similar concentration and centralisation has taken place among brokers and dealers. Between 1970 and 1990, the number of agents, dealers, and brokers in the EU and USA decreased from 192 to 88, of which fewer than ten were considered to be traders engaged in global activities (Dand, 1999). Companies have withdrawn because of low returns and high risks in the ‘bearish’ market that involves increased risk for contractual non-performance and non-compensated losses for dealers as commodity boards in West Africa are being dismantled. If production and grinding (i.e. demand for chocolate) follow closely, even small imbalances represent opportunities for traders whereas long periods of imbalances, particularly over-supply as in 1984/85–1990/91 and in the late 1990s, may squeeze traders’ margins and push them towards other businesses.

Due to the situation of structural over-supply, stocks are not considered to have the same strategic importance as just a few years ago, and only a few commodity traders are now holding large volumes of stocks. Stockholding is a low value added activity and even small adverse price differentials can eliminate profits. Stocks held by the International Cocoa Organization (ICCO) have also been released. The ICCO purchased cocoa during the 1980s in order to maintain the price level in over-supply situations and released the stocks when prices were considered to be too high. Starting in the early 1990s, however, prices were constantly at a low level and the organisation’s stocks had accumulated to an unsustainable level (Gilbert, 1996). Stocks were released in planned (monthly) sales and all were gone by March 1998 (Dand, 1999).

Stockholding tends to be concentrated with the large grinders and chocolate producers. American chocolate producers and grinders usually hold larger volumes of cocoa bean stocks than European factories (five against four months stocks). Major reasons are the longer transport time from producer countries and the inland location of many US grinders as opposed to the European plants in major harbours. However, many grinders and chocolate manufacturers also decreased their stocks during the 1990s. During the late 1990s, however, some of the grinders were restocking as a precautionary measure against the first years of cocoa marketing liberalisation in the two major cocoa producing countries, Côte d’Ivoire and Ghana. The dismantling of state regulatory institutions in the cocoa chains of the major West African producing countries is described in a later section of the paper. In the following section, a brief account is given of the recent dynamics of the global cocoa market and the position occupied by West Africa in the international division of labour.

### 4. Quality premiums and West African cocoa production on the global market

Cocoa production in West Africa started in the early 20th century when cocoa cultivation among smallholders in Ghana expanded. Gradually cocoa spread to other suitable regions in the French and British colonies to the North and East of Guinea Bay. On a global scale, West Africa took over the leading role as producer region during the 1920s, replacing South America and the Caribbean islands. Until then, these
regions were totally dominant in world trade of so-called fine and flavoured cocoa, but the spread of the more robust and higher yielding forastero beans in Africa made the rapid expansion in that region possible (Wood, 1989). Since then, West Africa’s position has been unchallenged although production increased in Southeast Asia, first in Malaysia (during the 1980s) and then Indonesia (during the 1990s). South America regained some of its former importance when cocoa harvests boomed in Brazil in the 1980s but during the 1990s cocoa trees in Bahia, the major cocoa producing region in Brazil, have been hit by ‘witches broom’, a dreaded pest that destroys cocoa trees (Cazorla et al., 1995).

High world market prices in the late 1970s and early 1980s resulted in significant ‘cocoa front’ expansions of planted areas in new regions (Ruf, 1995; Woods et al., 1999). The boom period was followed by a decline in prices during the 1990s, resulting in a world-wide diminished resistance towards pests and diseases as farmers lost the incentive to care for the cocoa trees (see Fig. 1). The vulnerability of cocoa trees and production became very clear in Brazil and Malaysia where production seriously declined during the 1990s. In these two countries, production is primarily based on plantation capital or capitalist farming whereas production in the presently dominating countries (Cote d’Ivoire, Ghana, and Indonesia) plus most other exporting countries is based on smallholders. In fact, about 85% of the world’s cocoa production takes place on farms of less than two hectares (Dand, 1999). Smallholders tend to keep the cocoa trees in recessionary periods although caring and harvesting are given lower priority. Capitalist farmers or companies, on the other hand, tend to consider cocoa as a low value crop in extended low price periods and convert their land to alternative crops.

However, a continued expansion of cocoa production in Cote d’Ivoire and the resurrection of production in Ghana have by far replaced the fall in Brazil and Malaysia’s production. Production in Nigeria and Cameroon, the other major cocoa producers in West Africa, has also stabilised after having taken a sharp decline in the

Figure 1. Real underlying cocoa prices (1960/61=100%). Note: The average effects of the change in annual stock levels have been removed from the annual price series in order to reveal the underlying trend over time in real prices independent of the changes in the level of world stocks. Source: ICCO, 2001, p. 16.
early 1990s. Furthermore, production in Indonesia has increased and has reached a high level despite the adverse developments in world market prices. In the late 1990s, Cote d’Ivoire was by far the most important producer (about 1,100,000t) with Ghana (about 400,000t) and Indonesia (about 350,000t) coming next, substantially ahead of the next two tiers of major producing countries, i.e. Cameroon, Nigeria, and Brazil (all about 130,000–180,000t), and Ecuador and Malaysia (70,000–100,000t) (Dand, 1999).

In the same period, demand has not increased at the expected rate. In Europe, consumption of chocolate has more or less completely levelled out as the national markets are coming close to saturation. The US market is still growing although at a very slow rate because of similar structural barriers in consumer demand. Moreover, some of the more promising markets have failed to meet expectations: the financial crisis of the late 1990s in East Asia (Japan, South Korea) and the general economic stalemate in Russia and most of Eastern Europe have resulted in a decreased consumption of chocolate, reflected in falling demands for cocoa (Viviano, 1999).

As a result, world (closing) stocks of cocoa beans increased from 669,000 tonnes to 1,402,000 tonnes during the period 1986/87 to 1995/96 but reduced again to about 1,000,000 tonnes in the late 1990s (Cocoa Market Report, 1999). In February, 2000, cocoa prices declined to £569 per tonne, their lowest point in 27 years. This low point was a culmination of a sustained period of declining cocoa prices starting in the late 1980s, although prices recovered somewhat in 1996–1998 (ICCO, 2000). Thus, a seemingly straightforward explanation of the declining price trend during the 1990s is that global supply over an extended period has exceeded demand.

However, there is more to the story on declining cocoa prices than is revealed by these basic supply and demand dynamics. On top of the general downward trend in world market prices, the producer prices in West Africa have decreased as a result of a loss of the price premium linked to geographical origin. Traditionally, African cocoa beans have held a premium relative to other beans on the London terminal market. The premium used to vary according to the specific producer country resulting in various price differentials, although all beans carried – and still carry – a discount relative to Ghanaian beans.

Besides previous contract performance and documentation, there are four major quality aspects that influence the premium linked to origin (Fowler, 1995; Hullot, 1995; Dand, 1999):

1. the bean size and fat content (determining the yield of processed products)
2. the extent of defects, including large variations in bean size (increasing processing costs and decreasing quality of intermediate products)
3. the colour (influencing the price of the powder)
4. the flavour of the liquor (influencing the taste of the final chocolate product). The flavour is a result of proper drying and good fermentation of beans at the production site.

The origin’s reputation for quality and contract reliability can be considered as a public good. Monopolisation ensures the internalisation of the costs following a degradation of reputation, and therefore a marketing board can deliver high quality products that are controlled at various stages. The premium is not sufficiently high to cover costs for private companies if they were to pursue the same level of quality. The cost elements consist of (1) the costs of maintaining the control system, and (2) the costs of rejected beans. In a free market structure these costs are difficult to bear for private
companies, and fragmented controls at the export stage right before shipment will lead to degradation of the average quality to minimum export standards.

Due to deteriorating quality, the premium on African beans has not been maintained during the World Bank and IMF inspired structural adjustment programmes presently implemented in African cocoa producing countries. The traditional quality control systems have disintegrated which, in addition to unreliable volume and timing of supplies, have transferred almost all physical cocoa trade from forward sales to spot market transactions. Thus, the recent liberalisation of the system in Cote d’Ivoire has removed the buyers’ desire to buy on forward terms. The same occurred in Nigeria and to a certain extent in Cameroon whereas the case in Ghana is different. The next section outlines the changes in the quality control systems and the erosion of bean quality that have taken place during the liberalisation processes of the national cocoa chains in most of West Africa.

5. Changing state regulation and new chain structures

During the colonial period, cocoa production in West Africa gradually became framed by strict state regulation based on producer price control as an important part of stabilisation objectives. The regulatory systems differed between the British and French colonial governments who established marketing boards in the British colonies (with Ghana and Nigeria as the most important producers) and systems based on Caisses de Stabilisation in the French colonies (Cameroon and Cote d’Ivoire being the largest producers). After independence, the systems were preserved more or less intact by the new nationalist governments (Gilbert, 1997; Simmons, 1999).

 Basically, the systems secured pan-seasonal and pan-territorial producer prices and restricted domestic trade and exports to licensed companies or – in the case of the British marketing board system – to a state controlled monopsony in the domestic trade and monopoly in export trade. The surplus revenues of the marketing boards were in principle channelled to a stabilisation fund, which covered losses if the world market price moved in an adverse direction. In the French system, the private sector was responsible for the physical handling of the crop but marketing margins and export rights were determined by the Caisse. Private exporters were asked to fulfil contracts negotiated by the Caisse but could also negotiate contracts with buyers on their own initiative. If the export price was higher than the price determined by the Caisse, the exporter paid the differential to the stabilisation fund. Payments went the other way when negotiated prices were lower than the one officially determined.

However, revenue from remunerative years with large price differentials was often used to cover other state budgetary costs. Low cocoa prices in the late 1980s and early 1990s left too narrow a margin to prices on the world market to cover the promised producer prices and high operating costs of the stabilisation institutions. The regulatory

---

3 Despite initiatives towards liberalisation in Ghana, a pan-seasonal and pan-territorial producer price is still determined in advance of the harvest season. The producer price is possible to settle because Ghana beans earn a premium on the world market (about £60 per tonne compared to beans from Cote d’Ivoire) due to a high fat content and rich flavour. The premium is caused by careful handling by the farmers and a well-established quality control and standardisation system throughout the chain. International customers are willing to buy the beans 8–16 months in advance of harvest. This revenue combined with price forecasts constitute the basis for the fixed Ghanaian domestic producer price.
institutions were set up to carry out tasks covering the whole cocoa chain, i.e. research and development, extension services, input supply, quality control, storage facilities, etc., and to levy a direct export tax. The actual cost of these activities was opaque but considered to be very high (including salaries to crowds of employees) in contrast to the efficiency of the different departments. Annual losses were accumulating and draining the stabilisation funds – or even government finances.

As a consequence the state controlled cocoa institutions became highly vulnerable for restructuring as neoliberal multilateral as well as bilateral donors pushed for liberalisation and privatisation of the state controlled commodity marketing companies as part of structural adjustment programmes. Hence, starting in the early 1990s, the state controlled marketing systems in the West African cocoa producing countries have been dismantled. The replacement of state regulatory institutions by private actors was implemented virtually overnight in some countries (e.g. Nigeria). In other countries, the restructuring is a protracted process involving gradual changes of regulatory institutions, partly reflecting political and economic struggles among the elites, and partly technocratic adjustments of the liberalisation and privatisation processes (as in Cote d’Ivoire and Ghana).

A general pattern in the liberalisation process can be identified in all the major West African producing countries. During the first years of liberalisation, a large number of local private – big and small – companies enter the cocoa industry as buyers and/or exporters. The initial scramble among private companies to purchase the cocoa at source often resulted in a transitory increase of producer prices. One of the main objectives of the multilateral financial institutions behind the structural adjustment programmes (the IMF and the World Bank) is to increase the producer price by eliminating costly state operations from the marketing chain, thereby reducing the margin between world market prices and producer prices. Due to the dramatic decline in world market cocoa prices as well as devaluations and inflation in the West African cocoa producing countries it is not clear, however, whether real producer prices and revenues have increased as a result of state regulatory institutions being dismantled.

The free competition of the early phase reduced the market power of established traders and exporters, who were committed to the traditional quality control system. The quality of purchased beans was lower primarily because of high bean humidity at the arrival points in the port of disembarkation and the resulting mould. The high humidity is a consequence of inappropriate and reduced drying time at production points, because the traders are eager to buy beans as fast as possible in order to increase capital velocity by means of which they are able to obtain higher margins.

Hence, during the 1990s, quality premiums on West African beans – Ghana beans being the notable exception – were eroded. After a couple of often quite chaotic years, consolidation of the cocoa industries usually took place as most of the local companies were pushed out of business. Most of the survivors are subsidiaries of transnational grinding companies or joint ventures between these and local companies. Some of the local companies are able to maintain a foothold as independent domestic traders in the chain but they mostly hand over the crop to exporters with international marketing

---

4 Obviously, the content and sequencing of events in the liberalisation processes differ from country to country. For details on individual West African countries, see Atse (1999), Gilbert (1997), Onumah and Shepherd (1997), Simmons (1999), Walker (2000).
linkages and expertise. It is questionable whether these local companies ever get the chance to ‘learn from global buyers’ (Schmitz and Knorringa, 1999) and gradually build up experience in quality control, export, and marketing, or if they are simply being maintained as dependent purchasing agents of the transnational grinders.

The direct involvement of the large grinders (via subsidiaries or joint ventures) has underlined the acceptance of lower quality beans. Technological and organisational developments in the European chocolate industry have removed the demand for uniform and high quality beans – or rather, the willingness to pay a premium to get them. Hence, liberalisation in itself is not the sole explanation of the decline in quality (and premium) although it has played a permissive role in stimulating a fragmentation of the cocoa chains initially after liberalisation. Thus, the quality deterioration is as much a result of what industrial consumers are willing to pay than of what farmers are able to provide or shippers willing to deliver (Gilbert, 1997).

6. Implications for cocoa chain upgrading

These two mutually reinforcing processes have important implications for the relevance of efforts to upgrade the cocoa chains in West Africa by improving the quality of the beans – in the traditional sense of the concept. West African cocoa production seems to be incorporated in a process that eventually reduces the importance of the origin and promotes the emergence of a proper ‘regional’ cocoa bean. It is only the segment of the European chocolate industry that is highly dependent on specific quality parameters of cocoa beans (e.g. Ghana beans) that is in a position to re-establish and maintain the previous – and in Ghana the present – grading system and industrial standards. Being willing to pay a premium, these companies stimulate the private domestic trading companies to maintain a somewhat changed but still coherent and efficient quality control system. Such a system is the only means to stimulate a continuation of farmers’ laborious activities in traditional harvesting, fermentation, drying, and sorting procedures. New quality control systems must, however, be able to accommodate changes in the composition of harvested beans due to the recent and comprehensive planting of hybrids characterised by no clear seasonality in bean size.

On the other hand, the structure of demand from the few dominant transnational grinding companies is based on non-specific parameters of bean quality except for fat content. This may gradually lead to the dismantling of the existing quality control system in Ghana, like in the other West African countries, by stimulating the new private entrants – the so-called licensed buyer companies – to emphasise circulation time and volume in preference to previous quality parameters involving laborious and time consuming procedures.

What, then, are the implications for origin grinding, i.e. local industrial upgrading by incorporating higher value added operations in the cocoa chains? A substantial part of the origin grinding is based on low quality (residual) beans that have been rejected in quality control procedures as unsuitable for exports. Thus, in principle origin grinding offers the opportunity to transform a non-saleable product to an exportable value added product (Fry, 1995; Dand, 1999). Origin grinding took off in the 1950s and has increased ever since although the share of total grindings stagnated at a level of about 30–35% in the late 1970s. These relative shares hide important shifts in the geographical location of origin grinding. In the early 1980s capacity primarily expanded in Brazil, then Malaysia, and during the late 1990s capacity has boomed in Cote d’Ivoire.
Until now, the tariff escalation in the EU effectively has put up barriers for imports of processed products from countries outside the Lomé convention, i.e. non-signatories of the agreement between the EU and its former colonies in Africa, the Caribbean, and Pacific (the so-called ACP countries). In principle, Lomé-membership has been an advantage for cocoa processors in West Africa. This difference in market access will, however, almost completely disappear when the new WTO-regulation is implemented and the Lomé-agreement is hollowed out (Gibb, 2000).

Besides increased competition, there are other barriers for expansion of origin grinding in West Africa. Processed cocoa products from the origin have to be shipped in solid forms to be economically viable. Even though some companies, primarily located in the USA, offer specialised melting services to the chocolate manufacturers, the number of customers is restricted as buyers have to include an extra processing stage, resulting in a discount on the sales price. Moreover, the range of products offered by origin processors is relatively limited as their products are based on only one type of beans, i.e. the locally grown cocoa, whereas end-market processors usually have the opportunity to blend a range of beans with different quality parameters. This mixing capacity is a principal cause behind the technological capacity needed to produce tailored intermediate products to chocolate manufacturers. Besides, the versatile practice of mixing beans according to price differentials (within the limits allowed by the specific recipe) also contributes to increase product competitiveness compared to products dependent on a single type of (even higher quality) beans.

Other barriers for origin grinding consist of, firstly, the strict health regulation in Europe requiring low bacteriological counts in the products which means higher costs of processing in humid environments. Secondly, the capital-intensive cocoa processing industry, which is dependent on skilled staff and high-cost equipment, offers no comparative advantages in the form of low labour costs in producer countries. These restrictions imply that cocoa processors in importing countries often purchase intermediate goods from origin processors for incorporation in their own basic production. Hence, upgrading as a nationally based strategy is not a realistic option unless it is subsumed by strategic decisions by a Northern grinder. Generous tax exemptions linked to easy and ‘closer’ access to raw materials as well as the possibility to secure political goodwill seem to be the most important benefits for companies investing in origin grinding.5

6. Conclusion

The number of independent grinders and chocolate manufacturers in Europe has decreased during the 1990s, resulting in a pronounced and rapid centralisation of the industry. The chocolate industry in Europe consists of cocoa processors who supply the chocolate manufacturers with standard and customised intermediate goods. Some of the chocolate producers also grind parts of their own beans for in-house use in certain

---

5 Actually, most of the cocoa processing plants in producing countries are owned by parent companies in the industrialised countries, although significant local capital participates in the processing industry in Brazil and Malaysia. However, the industry in these two countries has experienced severe difficulties because local processing capacity exceeded domestic supplies during the present recessionary period. Imports have increased considerable in recent years which has markedly reduced processing margins (Knight, 2000).
consumer goods requesting a specific cocoa liquor. However, a notable trend is the increasing out-sourcing of cocoa intermediate products to specialised contractors by large brand-name firms and smaller chocolate companies with nationally restricted brands.

Most of the large grinding companies are also engaged in the international cocoa trade, sourcing beans directly from exporting countries, transferring in-house capacity from other commodity trading activities, and exploiting economies of scale in transport, storage, and processing. Due to development of fats and oils chemistry and process technology, the grinders are able to supply a range of cocoa products demanded by the food processing industry, in particular the chocolate industry, by specialising in cross-cutting base processing of cocoa. In effect, the traders/grinders seems to emerge as merchant contract manufacturers in something similar to Sturgeon’s (2000) turn-key network system including brand-name chocolate firms.

The contract manufacturers’ willingness to compromise on quality has reinforced a process of quality deterioration of commercialised cocoa beans. This process started as a consequence of the liberalisation and privatisation of state controlled cocoa marketing systems in which existing quality control systems were eroded by new practices among local traders. Increasing the speed of the turn-around time between purchases at the farm gate and sales to exporters, some of which were transnational grinders, increased profits of both experienced and inexperienced cocoa traders. Low quality beans were accepted by both local traders and exporters, and often mixed with higher quality beans, leading to declining average settling prices at ports. Hence, the traditional premium of cocoa beans from different countries in the West African region is disappearing but not only because of domestic restructuring of the cocoa chains. As mentioned above, the large trading companies, alias the grinders, are purchasing the available beans and compensate lower quality with higher cost savings in other segments of the chain. The new (or rather, resurrected) direct relationship between African farmers and merchant contract manufacturers marks an intensification of globalisation processes in African cocoa sectors.

Policy-wise, the paper reveals that efforts to upgrade agricultural chains by improving the quality of the commercialised products in some cases (e.g. cocoa) will face an up-hill struggle. Depending on the technological development in the (Northern) processing segments, the market for what formerly was considered as high quality cocoa beans is gradually disappearing. Therefore, efforts to upgrade public quality control systems in order to gain a world market price premium are not an unequivocally sensible strategy. Besides, traditional forms of value added upgrading by establishing primary processing facilities (in this case: origin grinding) seems to be highly dependent on the strategic considerations of the transnational primary processors (grinders).

From a theoretical perspective, the restructuring of cocoa chains in West Africa raises the question of the importance of variations in the embedded nature of agricultural commodities and the impacts on structural characteristics in the global chains. Whereas the structural development in the processing segments of the global cocoa chain shows similarities with the American turn-key network, the picture is different in, for instance, the global cotton chain (Gibbon, 2001). Here, international trading companies take up a central position between independent producers and a highly fragmented spinning industry, and the scope of vertical integration – upstream as well as downstream – in the global chain is limited. International traders are actually
acting as ‘industrial retailers’, offering a range of different qualities (with different premiums) of cotton for mixing in the spinning process. However, cotton does not offer the same possibilities and rewards for traders or spinners to ‘cross borders’ in order to become merchant contract manufacturers organising their own raw material supply. Apparently, different types of cotton are not easily substitutable and processing technology, i.e. spinning machinery, is not sufficiently developed to compensate for these quality differences. Moreover, the specific crop dependence on input supply and the regional importance in different (national) supply systems seems to play a crucial role for the vulnerability of the African chains: liberalisation of cotton chains (in Anglophone East Africa) resulted in more or less complete destruction of existing vertical co-ordination systems and considerable erosion of premiums, whereas both the quality and volume in non-liberalised cotton production (in Francophone West Africa) controlled by joint ventures between parastatals and French capital were maintained (Gibbon, 2001).

Hence, further studies on the relationship between restructuring of manufacturing industries in the North and related export commodity chains in Africa could benefit from global commodity chain analysis focusing on two issues: firstly, the logistical, technological, and organisational innovations in the primary processing segments, mostly located in the North (e.g. cocoa grinding, coffee roasting, cotton spinning); and secondly, the connection between liberalisation processes and the resilience of chain co-ordination systems, particularly with respect to export volume and quality of the commodity in question.

Acknowledgements

I am grateful for detailed advice from Peter Gibbon and Benoit Daviron. I also want to thank an anonymous reviewer and the editors of this special issue of the Journal of Economic Geography for their comments.

References


ICCO (2001) Structural changes in the cocoa sector and price formation on the world market. EX/109/4, ICCO.


