Pro-Poor Development and Power Asymmetries in Global Value Chains

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Part I: Summary Findings

1.1. Global Value Chains: Asymmetries in Power Relations

Over the last three decades, the rise of global value chains (GVCs) has marked significant shifts in the global organization of production, competition and trade. GVCs now account for an estimated 80% of global trade, and 30% of value added in developing country economies (UNCTAD, 2013). Domestic industries in both developed and developing countries no longer stand alone or compete mainly through arms-length trade. Instead, they have become deeply intertwined through complex, overlapping business networks created through recurrent waves of foreign direct investment (FDI) and global sourcing. These shifts in the global distribution of economic opportunity carry with them many challenges for government, business and society at large.

As our case studies (in Section II) illustrate, GVCs represent organized industrial structures that are governed by large traders, retailers and global brand manufacturers. The role played by these firms is highlighted in various typologies of GVC governance that shape the different levels of entry barriers and influence systems of division of labor, allocation of resources, and distribution of gains among chain actors (Gereffi, 1994, 1999; Gereffi et al, 2005). While retailers and global brands typically own few, if any, of their own production and processing plants, the volume they purchase and the brands they retain afford them great power to govern their supply chains.

Concentration in downstream markets has been a major trend in food and beverages sectors in which a handful of lead firms, i.e. brand manufacturers, now dominate the markets. In the apparel sector, however, there is an exceptionally low level of concentration in the downstream segment but still powerful brands. This fragmentation reflects highly segmented markets differentiated by both product categories and price points. Apparel product categories are distinguished in terms of fashions or styles, seasons, sizes and uses that are all gender and geographic specific. Further, apparel retailers are highly divided by price points, for instance: big discount retailers like Wal-Mart, Kmart and Target; specialty apparel retailers like The Gap, Limited, Victoria's Secret, Macy's, JC Penney; and many apparel brands without their own retail outlets, like Liz Claiborne and Donna Karan. Thus, it is not surprising to have low levels of lead firm concentration in the apparel sector in contrast to fairly high levels of concentration in food and beverages sectors.

Leveraging their power position, lead firms have rationalized their supply chains and favored interaction with few large intermediaries that are expected to have strong capabilities and be strategically located near consumer markets. This rationalization strategy has spurred consolidation in mid-segments of the chains. Large intermediaries have emerged as “full package” suppliers, such as: Li & Fung in the apparel value chains; Cargill, Archer Daniel Midland/Olam International, and Barry Callebaut in the cocoa-chocolate value chain, and bottlers like SABMiller in sugar-soft drink value chain. Intermediary firms now manage production networks that are regional and/or global in scope. The key value chain activities they manage include sourcing and financing of input purchases, coordinating production within their networks and delivering the final product to the destination markets decided by the brand owners.

Organizational rationalization has tended to reinforce power asymmetries in the chain because small firms in developing countries do not have the scale or scope to move into and occupy high value activities in the chain. GVCs are now characterized by an oligopolistic market structure controlled by a handful of lead firms at the top and middle whereas the structure at the bottom of the chain has remained highly competitive and fragmented. Upstream in producing countries, large number of small firms and producers compete for market access and face oligopsonistic markets that are governed and tightly coordinated by large buyers. They face enormous challenges forming direct relationship with consumer markets. These small actors usually function as subcontractors situated in captive relations.

Lead firms exercise power by virtue of their size, scope of involvement in international markets, and the ability to set the terms of supply chain participation (e.g. lead time requirements, quality standards, etc.). Unlike what the free market ideal suggests, transactions within the GVCs are negotiated and the terms of those transactions reflect power asymmetries within the chain. Lead firms determine what elements of the production process they will retain and which they will outsource to suppliers. In setting the terms of those transactions, they influence where value is created, how it is distributed, and who captures what share of the value. Such decisions, however, are not made in a vacuum. The policies and programs of countries and multilateral institutions set the context for corporate decision-making.

Lead firms seek to occupy those niches in which they can create barriers to entry important for them to capture the major share of value for the final product. These entry barriers are remarkable at the downstream end of the value chain and are low or non-existent at the upstream segments. In addition to barriers from scale economies, branding is a significant barrier. Even the emergence of large intermediaries has not cut significantly into the power of branding. In a world of GVCs, it is even more difficult for small firms in developing country to develop their own brands. The exception is when buyers themselves demand supplier reliability and there is the need for high-reputation which creates the need for high-reputation intermediaries.

In general, lead firms maintain control of a series of high-value 'intangible' activities that in addition to the tangible production-related steps in the GVCs add economic value to final products. As intangible aspects of the value chain (such as marketing, brand development, and design) have become more important for the profitability and power of lead firms, "tangibles" (production and logistics) have increasingly become "commodities" and largely outsourced to suppliers (Gereffi & Frederick, 2010). Because buyer–supplier contracts are negotiated in GVCs, a lead firm with a multitude of potential suppliers is in a very strong position, specifically when they face very low costs in switching suppliers, to dictate the terms of supply contracts.

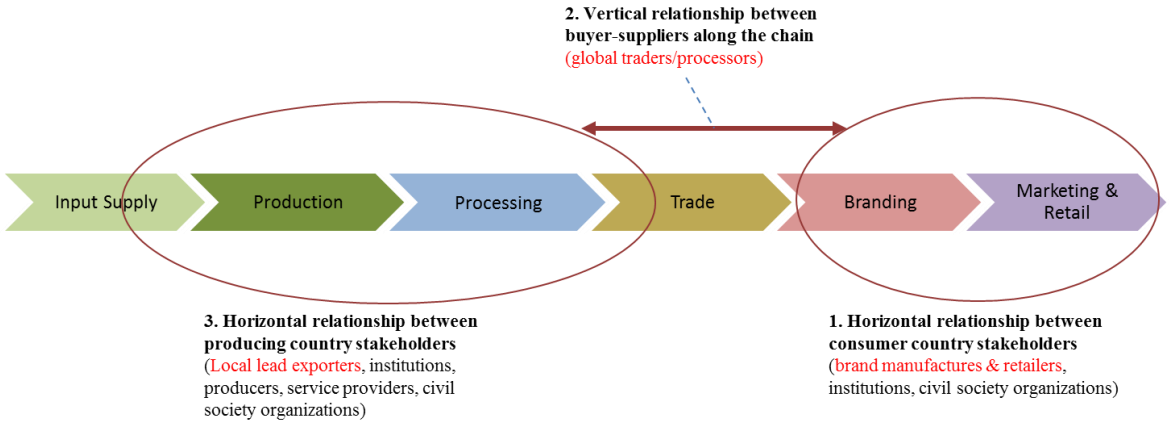
The result is an unequal partition of the total value-added along the chain in favor of lead firms. Approximately 70% of the total value added in cocoa-chocolate value chain accrues to retailers and global brands (Dand, 2011; Euromonitor, 2014a). According to the World Bank (2008), the share of value retained at upstream segments in cocoa producing countries has declined from around 60% in 1970-72 to around 28% in 1998-2000. Similarly, in the apparel sector, value added associated with intangible activities including product development, design, marketing, branding and management contribute 60-75 percent of the final product price (Hester, 2013; Newbury, 2013).

1.2. The Rise of Private Governance and Its Limitations

With the rise of GVCs, a broader trend has been the proliferation of corporate codes of conduct, product certifications, process standards, and other voluntary non-governmental forms of private governance (Mayer & Gereffi, 2010). The move towards private governance is best seen as a response to societal pressures spawned by economic globalization and by the inadequacy of public governance institutions in addressing them. In the wake of several targeted campaigns involving high-profile cases of contaminated food, poor working conditions, or environmental issues, retailers and global brands have been challenged concerning practices along their supply chains. In response, voluntary standards and certification systems have emerged as a promising means for addressing social and environmental issues in today's complex global marketplace. Although a compelling feature of these initiatives has since been their ability to create novel governing regimes that reach across national jurisdictions, they appear unable to deliver on their promised improvement in social and environmental conditions in GVCs.

Private governance initiatives are complex systems involving private, public, and civil society actors whose interactions are broadly organized in three key sets of relationships (Figure 1). The nature of these relationships then shapes the respective processes and outcomes of standard setting, standard enforcement and standard compliance. The first category involves the "horizontal" relationship between lead firms (retailers and global brands), civil society organizations, and institutions in consumer countries where standards are generally constituted and the scope for a specific set of standards is defined. This "horizontal" linkage is contrasted with the "vertical" linkage, as the second category of relationship, between global lead firms and their first-tier suppliers or large intermediaries that function as global supply chain managers. Because intermediaries are in direct relationship with local suppliers in developing countries, they are expected to enforce private standards throughout their supply chains.

Figure 1: Key Actors and Relationships in Standard-Setting and Certification in GVCs



Source: CGGC

Although standard setting results from the institutional embeddedness in consumer countries, the quality of standard compliance is influenced by "horizontal" linkages, as the third category of relationship, in producing countries. There, typically the developing countries, large intermediaries (or their affiliates) interact with local firms, producers, and local level institutions. At this compliance stage, a unique set of global standards, designed in consumer countries and

intended to address social and environmental standards in global supply chains, touches down upon the production practices and strategies of producers situated in very diverse contexts across the world.

The outcome of private governance initiatives is, thus, affected by the quality GVC-based rule setting processes and the capability of local actors in producing countries. Often, the expectation of global buyers and large intermediaries seem contradictory. Whereas brand firms commit to standards trying to safeguard brand value and promote reputational gains, large intermediaries focus on maximizing efficiency gains in their supply chains. The latter tend to have limited commercial incentive to absorb the additional supply chain costs arising from enforcement of social and environmental standards because they manage high-volume-low-margin business models. Firms and producers in developing countries are, therefore, forced to squeeze costs. Simultaneously, they have to comply with the buyers' standard requirements with little or no bargaining power for a cost-sharing arrangement. Most often, compliance issues emerge as the standards are subjected to fit capabilities of local actors.
The quality of support by local institutions are also varies and is influenced by the extent of local-global linkages in a sector. Very often, private standards are only applied to a small subsection of firms or producers that are inserted in GVCs while a large majority of local firms or producers, who are more vulnerable and not supplying GVCs, are excluded and not impacted by the likely benefits of private governance initiatives. These dynamics call for a better understanding of place-based social and institutional contexts and their interaction with private governance initiatives.

The variation of these dynamics across different contexts is poorly understood. Our case studies indicate that the sourcing strategies pursued by firms such as cocoa traders/processors or those owning sugar mills, which are intermediaries rather than lead firms and which hold no brand, determine the extent to which GVC outcomes are pro-poor. This finding suggests it is not just lead firms that must drive pro-poor change in the chains, but other actors can and must change *irrespective* of whether or not lead firms generate pressure upstream in the supply chain. Better understanding these dynamics will require sector- and geographic-specific case studies aimed at exploring questions, such as: Under what circumstances do private governance initiatives promote sustainable practices? What are the distributive outcomes of private governance initiatives for the different types of firms, producers and workers, and communities in host countries? Which type of firms can catalyze more sustainable change across whole sectors? Under which conditions can the regulatory measures by host governments effectively reinforce private governance initiatives? Answering these questions is crucial to the missions of advocacy campaigns and policy-makers.

In general, our case studies revealed that private governance initiatives have broadly suffered from several shortcomings to deliver on their promised improvements in global supply chains (Table 1).

Table 1: Private Governance Issues

Issue	Apparel	Cocoa-Chocolate	Sugar-Soft Drinks
• Suppliers are generally burdened with the responsibility to bear the costs associated with standard compliance whereas the standards fail to take purchasing practices on the buyers' side into account – even though a low buying price or short lead times (only applicable to apparel) are often at the root cause of poor working conditions in factories or in farms.	√	√	√
• The actual compliance requirements are often fairly low and in many cases they do not address one of the primary concerns of workers regarding "living" wages. Whereas private standards mandate compliance with national policies on minimum wage, workers contest that those requirements fall far below acceptable levels. In addition, local employers can circumvent minimum wage requirements by hiring employees under different titles (such as an apprentice) or as temporary employees that are not mandated under national minimum wage policies.	√	×	×
• An additional problem is the sheer number of initiatives targeting a sector. Having multiple private initiatives with relatively similar requirements creates confusion and complexity. Additionally, multiple codes result in higher costs in order to comply with multiple codes and increase fragmentation rather than promote harmonization.	√	√	×
• Whereas social pressure is typically placed on global brands, intermediaries (millers & bottlers in sugar-soft drink and traders/processors for cocoa-chocolate chains) have largely remained invisible and escaped scrutiny for their interaction with local stakeholders in producing countries. They are actually the type of firms that engage local stakeholder and also have significant buying power in selecting their own suppliers and managing sourcing and distribution networks.	√	√	√
• Beyond the above issues, the standard initiatives still account for a small share of the global production base. They lack the broad industry coverage at a scale needed to generate transformative outcomes.	√	√	√

1.3. Global Value Chains and Public Governance

With the rise of GVCs, globally-dispersed supply chains and their associated production sites escape the regulatory reach of developed country governments. In many cases, the developing country governments either lack the institutional capacity or political will to regulate business practices linked to global supply chains in their jurisdictions. They often fear losing these sources of economic opportunity, employment and taxation. As the apparel case demonstrates, the predominance of GVCs in the economies of many countries compel governments to avoid mandating wage increases or implementing strict labor or environmental policies for fear of losing contracts. This is exacerbated by the high level of global competition in apparel manufacturing that enables buyers to switch from one supplier to another with relative ease, especially for commodity-type, volume-oriented production. In practice, this means union activity may be severely suppressed or legal minimum wages are set below the subsistence minimum and are not revised in step with inflation (Labour Behind the Label, 2014).[1]

[1] Source's Source: Merk, J. (2009). "Stitching a Decent Wage across Borders", CCC/AFW, www.asiafloorwage.org/Resource-Reports.html, pp.30–35.

Besides, governments may also become locked in to extending generous incentives to foreign investors that limit economic growth from the industry. Incentives such as corporate tax holidays, zero tariffs on inputs for exports and machinery, and subsidies on industrial space or utilities are common in export-oriented industries. Or, in some cases, countries actively lobby to extend trade preferences that in actuality stifle the upgrading potential of the industry (i.e. countries with market access agreements such as Nicaragua's TPL, HOPE in Haiti or AGOA).

These scenarios however, create a somewhat paradoxical situation. Without low labor costs or attractive incentive schemes it may be difficult or impossible to enter the GVC and attract investors that can create employment opportunities and linkages with global markets. On the other hand, these types of investments provide little benefit to the host country outside of low-wage employment and limited upgrading opportunities beyond low value activities. Such interface between global and local actors intrinsic to GVC realities means there is limited leeway for public governance aimed at unilaterally intervening and improving the position of local suppliers in GVCs.

Informed by a better understanding of GVC governance structure, public governance, particularly in large economies, has illustrated scope for leverage. Brazilian labor inspectors and government prosecutors have, since 2005, taken legal action against several sub-contracting issues in sugarcane farms. Also, these regulatory efforts in Brazil were successful because they were informed by a sophisticated understanding of the patterns of industrial organization and private governance in the value chain, such that: 1) they targeted mills (the value chain segment that is relatively concentrated) as responsible for legal compliance in their upstream supply chain; 2) they were driven by an empowered team of labor inspectors; and 3) the large (and growing) sugar-ethanol market and the role of public policy therein have served as a source of stable demand for sugar mills in the face of volatile global prices. In many cases, this steady demand creates certainty for both mills and farms and allows them to make investments in improved production processes that enhance labor and environmental outcomes.

In general, the issue for public governance in GVCs is obviously related to quality of local participation. Very specifically, it concentrates on leveraging the economic development opportunities offered by GVCs and enhancing local capacity to simultaneously achieve social and economic objectives. These concerns are rooted in the reality that private governance (including standards) often reflect asymmetric power relations in GVCs, and that the fundamental rationale for the rise of GVCs has been economic efficiency and competitive advantage based on the transaction-cost-minimizing behavior of firms. Tailored public governance is, therefore, essential, whether it is related to retaining maximum value within the country, generating the most jobs, improving the quality of those jobs, or yet another development objective related to social and/or environmental impact of GVCs.

Critically important for the effective public governance in GVCs are the process and the nature of state interventions in terms of choices that governments might opt to engage in GVCs. Rule-making through a public-private platform can provide the appropriate vehicle, as the nature and characteristics of GVCs is constantly evolving and flexibility and reactivity are key ingredients to efficient decision making. This public-private collaboration may, however, need to extend beyond national borders, as local challenges call for international coordination from multiple stakeholders in the context of GVCs.

Part II: Case Studies

Case One: Pro-Poor Development and Power Asymmetries in the Apparel GVC

Prepared by Stacey Frederick

Summary

The global apparel industry is a characteristic buyer-driven chain in which lead firms with headquarters in the United States and the European Union control the highest value-adding activities related to marketing, branding and design and outsource production to a network of suppliers, largely based in Asia. Beyond lead firms, the other main segments of the supply chain include apparel manufacturers/first tier suppliers, textile components (yarn and fabric) and trim and machinery. Lead firms accrue the most "value" in the chain, accounting for at least 60-75 percent of the final retail price of apparel products.

Apparel is often one of the first formal industries to emerge in a country, and in the beginning often accounts for a significant share of employment, particularly for women, exports and GDP. This is the case for many regional U.S. suppliers in Central America and Haiti as well as some of the more recent apparel suppliers in Asia including Bangladesh and Cambodia and to a lesser extent Sri Lanka and Pakistan. The majority of apparel production however takes place in Asia, particularly China. Regarding consumption, the largest geographic market is also Asia however the most significant *importers* of apparel are the United States and the European Union. The most growth of apparel retail is from emerging countries including BRICs (Brazil, Russia, India and China).

At all levels of the chain the industry is quite disperse, particularly at the lead firm level in which the largest firm accounts for less than five percent of the global market. At the level of apparel manufacturing the industry is also not concentrated, but the structure is changing to a model in which lead firms interact with a fewer number of core vendors/suppliers, who are often multi-national manufacturers. These core vendors are responsible for providing a "full package" to the buyer which includes sourcing and financing input purchases, coordinating assembly within their production networks and delivering the final product to the buyers' destination of choice.

Lead firms consider many factors when making sourcing decisions, but the most important are all firm-related and include quality, price, full package capabilities, lead times and social and environmental compliance. Whereas compliance is considered a top priority, the standards required and the means of monitoring varies. Many larger buyers have internal codes of conduct and also participate in one of the many private, voluntary schemes. These schemes have made important advances in terms of establishing a framework to identify common workplace issues and violations, but have had minimal impact on wage increases. This is largely due to the fact that there is not an internationally agreed on level for "living wages" and minimum wages are set and enforced by national governments.

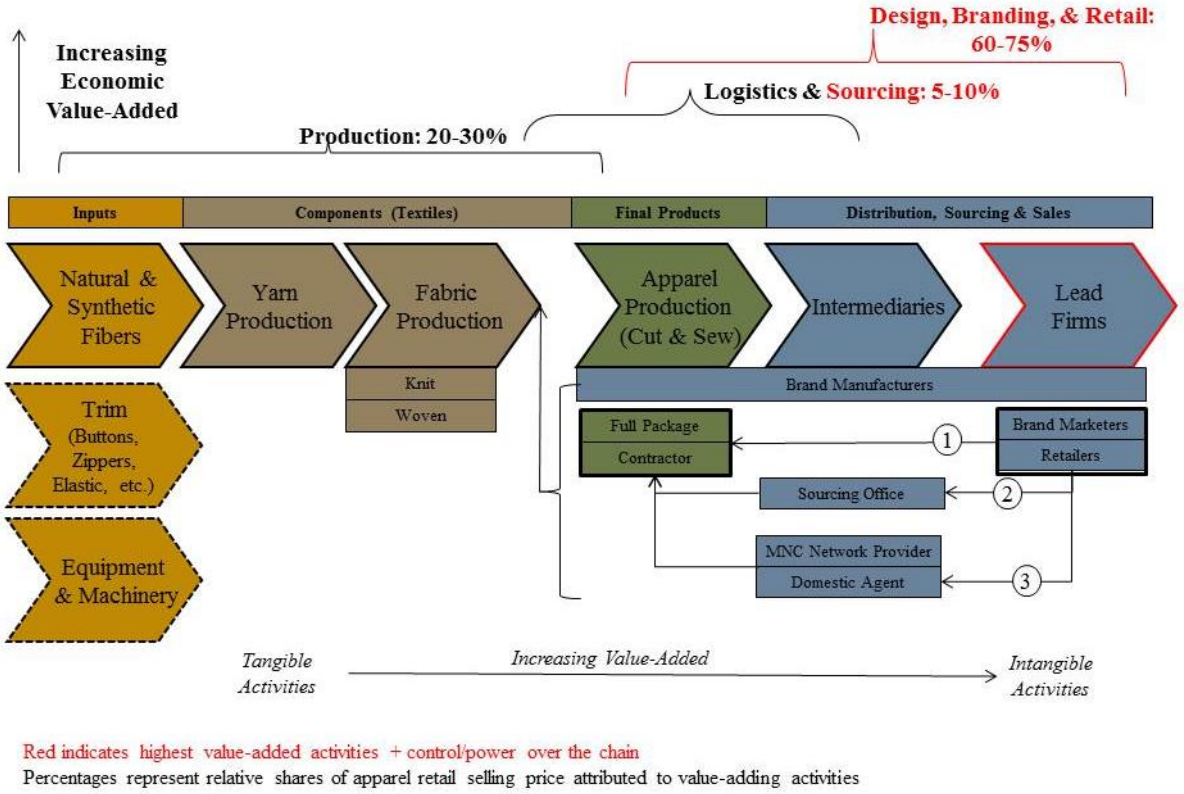
In order for social conditions to improve in apparel factories, the distribution of value along the chain needs to change or the overall price paid must increase. For this to happen, one or more of the following could occur: consumer prices increase, lead firms reduce profit margins, apparel factory owners distribute gains equitably to employees and/or cost savings are achieved via improvements in productivity through process or labor efficiencies. Two key components needed to facilitate this process include better information and education among all stakeholders (manufacturing, national stakeholders and consumers) on the costs (including production time estimates) and value distribution along the chain and internationally agreed upon, enforceable standards for wages and worker benefits.

1. The Apparel Global Value Chain: Lead Actors and Power Asymmetries

1.1. Input-Output Structure and Value-Added

The global apparel supply chain can be broken up into four segments: lead firms (i.e., buyers; global apparel brands and retailers), apparel manufacturers and intermediaries (first tier suppliers), textile component suppliers (yarn and fabric) and raw material and other auxiliary input suppliers (e.g., trim, machinery and chemicals/dyes). In addition to the tangible, manufacturing-related steps in the textile-apparel supply chain there is also a series of 'intangible' activities that add economic value to apparel products. The apparel value chain consists of seven main value adding activities including: consumer research and new product development, design, textile sourcing, apparel assembly, final product distribution, branding and retail. These activities are controlled by a combination of lead firms and apparel manufacturers and intermediaries. Table 2 illustrates the activities brand owners, apparel manufacturers and intermediaries are typically responsible for along the chain and Figure 2 depicts the main stages and actors.

Figure 2: Global Apparel Value Chain



Source: Author (Frederick, S.)

Table 2: Apparel: Responsibility for Value-Adding Activities by Firm Type

Firm Types		NPD	Design	Textile Sourcing	Apparel Assembly	Distribution & Logistics to Buyer	Branding	Retail
Lead Firms								
Retailer		Y/N	Y/N	Y/N	No	Y/N	Yes	Yes
Apparel "Manufacturer" (OBM)	Brand Marketer	Y/N	Y/N	Y/N	No	Y/N	Yes	Y/N
	Brand Manufacturer	Yes	Yes	Yes	Yes	Yes	Yes	Y/N
Apparel Manufacturers and Intermediaries								
CMT		No	No	No	Yes	No	No	No
Full Package		No	No	Yes	Y/N	Yes	No	No
ODM		Yes	Yes	Y/N	Y/N	Y/N	No	No
OBM (Marketer/Manufacturer)		Y/N	Y/N	Y/N	Y/N	Y/N	Yes	Y/N
Intermediaries		Y/N	Y/N	Y/N	No	Yes	No	No

Source: Author (Frederick, S.); see (Frederick & Gereffi, 2011) for an earlier version; NPD: New Product Development; Yes/No (Y/N): indicates that the activity may or may not be the responsibility of the firm.

1.1.1. Lead Firms (Apparel Brand Owners; Buyers)

The apparel industry is an example of a ***buyer-driven*** chain common in labor-intensive consumer goods industries marked by power asymmetries between producers and global buyers of final products. Buyer-driven chains are composed of globally dispersed firm networks, in which lead firms control the activities that add the most value to apparel products (e.g., branding, marketing,

design), and outsource all or most of the manufacturing process to a global network of suppliers (Gereffi, 1994, 1999). Lead firms are set apart from the other firms in the chain because of their market power that stems from control over the branding and marketing of where the final product will be sold.

The ***majority of value-added*** in the apparel value chain can be attributed to ***lead firms***. The share of the retail selling price attributable to manufacturing an apparel item is typically less than 30 percent, of which raw material costs make up the largest share. Costs associated with intangible activities including product development, design, marketing, branding and management contribute the other 60-75 percent (Hester, 2013; Newbury, 2013) (Figure 2). These activities primarily take place at the headquarter locations of global retailers and brands in the United States and Western Europe. These figures are also supported by analyzing global retail and manufacturing estimates. The value of the global apparel manufacturing industry in 2012 was $525 billion (Marketline, 2013),[2] approximately 60 percent of the retail value of the industry.

Apparel manufacturing is highly competitive and becoming more consolidated, with increasing barriers to upgrading. Developing countries are in constant competition for foreign investments and contracts with global brand owners, leaving many suppliers with little leverage in the chain. The result is an unequal partition of the total value-added along the chain in favor of lead firms. As intangible aspects of the value chain (such as marketing, brand development, and design) have become more important for the profitability and power of lead firms, "tangibles" (production and logistics) have increasingly become "commodities" (Gereffi & Frederick, 2010).

Four main types of lead firms exist in the apparel value chain: mass merchant retailers, specialty retailers, brand marketers and brand manufacturers (Figure 2; Table 3).

Table 3: Apparel Lead Firm Types and Examples

Lead Firm Types & Sub-Types			Description	Examples	
				United States	European Union
Retailers	**Mass Merchants**	**Hypermarkets, Discount Stores**	Similar to department stores, but sell a wider variety of products (often food). Rather than private-label, the term "store brand" or "generics" may be used.	Walmart, Target	Asda (Walmart), Tesco, Carrefour, Metro, Sainsbury
		Department Stores	Carry private label, exclusive or licensed brands that are only available in the retailers' stores. They also sell national brands purchased from "apparel manufacturers" below, but in this case, they are not the lead firm in the chain.	Sears, Macy's, JC Penney, Dillard's, Kohl's	Marks & Spencer, Karstadt, El Corte Ingles, Harrod's, Debenhams
		Specialty Stores	Focus on a market segment that includes apparel. Carry a mix of	REI, Dick's Sporting Goods	

[2] The global manufacturing industry represents consumption, defined as domestic production plus imports minus exports, all valued at manufacturers' selling prices (MSP).

			private and exclusive labels and national brands.		
	Specialty Retailers	**Specialty Apparel Stores (Private Label)**	Retailer develops/owns private label brands only available in their stores that commonly include the store's name.	Gap, Victoria Secret, American Eagle, Abercrombie & Fitch	H&M, Mango, New Look, NEXT, C&A, TopShop
				PVH, Ralph Lauren, Carter's	Espirit
		Brand Marketer	Firm owns the brand name, but not manufacturing, "manufacturers without factories." Products are sold at mass merchant stores and often through owned specialty store outlets.	Nike, Levi's	adidas, Hugo Boss, LVMH
Non-Retailers	**Apparel "Manu-facturer" (OBM)/ Brand Owner**			VF, Hanesbrands	Inditex (Zara)
		Brand Manufacturer	Firm owns brand name and manufacturing; more likely to coordinate supply of intermediate inputs (CMT) to their production networks often in countries with reciprocal trade agreements	Gildan	Benetton, Triumph

Source: Author (Frederick, S.); see Table 8 in (Gereffi & Frederick, 2010) for an earlier version.

In the case of brand marketers and brand manufacturers, the lead firm is also the firm recognized as the apparel "manufacturer." Brand manufacturers own apparel manufacturing plants, coordinate textile sourcing, and control marketing and branding activities in the chain. Their production networks are often set up in countries with reciprocal trade agreements. Brand marketers, on the other hand, control the branding and marketing functions, but they do not own manufacturing facilities ("manufacturers without factories"). From the consumer's perspective, there is no difference between apparel manufacturers and marketers. Both categories develop brands that are sold at discount or department stores or through specialty retail outlets owned by the manufacturer or marketer. In the 1970s and 1980s, the brand manufacturer category was more significant, but it has declined over the past two decades as manufacturers have started outsourcing production-related activities to focus on the higher-value segments of the chain (Frederick & Staritz, 2012).

Brand owners may also license the use of their brand name to third parties in areas outside of the core competence of the company (e.g., accessory type products). Licensing is distinct from sourcing because the brand owner is not responsible for selling the final product to the retailer or final customer. Rather the company receives a fee for the use of the brand name and the agent or apparel manufacturer assumes responsibility for distribution. In licensing arrangements, the lead firm licenses the use of their brand name to be produced and distributed by other manufacturers, retailers, or agents

Retailers are involved with the branding and marketing of product lines developed for and sold only via their retail locations. These products are often referred to as private label. Discount and department store retailers are separated from specialty stores because the latter primarily sell apparel-related merchandise and the majority of products in the store are private labels. Mass merchants sell a diverse array of products representing their own private labels as well as

national brands in the same store. Similar to apparel marketers, retailers do not own manufacturing facilities. Retailers either work directly with an apparel manufacturer or with an agent who coordinates the supply chain. Retailers' strengths are in marketing and branding, and they tend to have relatively limited knowledge of how to make the products they are procuring. Thus, retailers prefer suppliers (or agents) capable of bundling and selling the entire range of manufacturing and logistics activities ("full package"). Over the past decade, the importance of national brands has declined significantly as private label merchandise has expanded (Frederick & Staritz, 2012).

1.1.2. Apparel Manufacturers (or First Tier Suppliers)

Apparel manufacturers are the companies or vendors responsible for cutting and sewing the final garment into a final product and coordinating production. Apparel manufacturers can be distinguished by the ***number of locations*** they have, ***end market buyers*** (domestic or export), ***production model***, ***ownership*** (foreign or domestic) and the ***value-adding activities they control or perform***. Apparel manufacturers that primarily supply volume, commodity-oriented products face more global competition than suppliers of products that are more fashion-oriented and often have shorter product cycles.

Value-adding activities include (1) assembly, (2a) shipping the final product to the buyer at an agreed selling price (also referred to as FOB), (2b) input sourcing (or production), (2c) design services, (3) new product development/design and (4) brand development. These value-adding activities are associated with types of apparel manufacturers often used to describe functional upgrading. Assembly is related to CMT, logistics and design services are types of full package and three and four represent ODM and OBM respectively. In the case of licensees, the apparel manufacturer (licensee) pays the lead firm a royalty to use the brand name. The firm is then responsible for all other value-adding activities.

Transnational manufacturers are often 'core suppliers' to lead firms and have a more holistic supply chain approach that allows a greater exchange of information between buyers and manufacturers. It is important to note that the value-adding activities performed by the apparel manufacturer (often referred to as the vendor) as a whole may be divided among factories within the company. For example, head offices may be responsible for communicating with the apparel brand owners or agents and arranging input logistics whereas branch plants are only responsible for providing assembly activities. Large MNC factories are more dominant in the three main product categories that constitute roughly 50 percent of apparel imports, which include trousers, knit shirts and knitted sweaters and sweatshirts. ***Regional apparel manufacturers*** are a subset of this category and include apparel firms that have foreign investments, but only within one geographic region. Branch plants of regional manufacturers may have closer ties to the home office and are thus better positioned to take on more higher-value activities. Transnational apparel manufacturers are largely from South Korea (e.g., Sae-A, Hansae and Hansoll), Hong Kong (Crystal Group, Esquel and TAL), Taiwan (Nien Hsing and Eclat) and China (Shenzhou and Hongdou). Sri Lanka has several regional apparel investors including MAS Holdings, Brandix and Hirdaramani.

Single country manufacturers range from large, volume production operations comprised of multiple plants in one country to small, niche manufacturers supplying a specialized product or service. Single country manufacturers are often domestically owned, although in some cases they

are owned and controlled by foreign investors that once had manufacturing in a higher wage country, but closed the manufacturing facility for a lower-cost production location. Large single country manufacturers include Vinatex in Vietnam, Gokaldas in India and Youngor Group in China. A subtype of single country manufacturers are subcontractors. Subcontractors are often associated with CMT activities, informal firms or even home work. Subcontractors do not deal directly with the lead firm, but rather engage in assembly or finishing services via a relationship with the primary vendor. Subcontractors typically operate on an order-by-order basis and often have short-term or seasonal contracts.

In most cases in the U.S. and EU markets, the brand owner and the apparel manufacturer are not the same company and the lead firm must purchase or 'source' apparel products from third-parties. Brand owners do this by directly communicating with apparel manufacturers or indirectly via an intermediary. Many buyers use multiple methods depending on the product and the volume they need to purchase.

In ***direct sourcing***, the lead firm *directly* interacts with the final product vendor, either through the home country head office or via overseas/in-country buying offices. In some cases a "hybrid" method is used in which the parent company of the brand owner also owns a sourcing company. Buyers are more likely to directly interact with firms and countries that represent a sizeable share of overall volume and as buyers develop expertise in assessing local capabilities, they establish more direct sourcing relationships. Over the years retailers shifted more responsibilities to these overseas offices, driven by cost and the skills of the staff based there. Many are also moving product development and design offices closer to the manufacturing process (Gereffi & Frederick, 2010).

Alternatively the lead firm may ***source indirectly*** through an ***intermediary*** or third party that is not affiliated with the lead firm and does not own apparel factories. Terms used to describe intermediaries include buying agents/houses, network providers, jobbers, domestic importers and distributors. In cases where an intermediary is involved, the aforementioned value-adding activities are divided three ways instead of two. Intermediaries are responsible for ***logistics***, and any other value-adding activity other than the actual assembly of the final product.

The traditional agent-sourcing model is most popular with buyers that require smaller volumes or larger buyers that need small quantities of certain items. Benefits of using a third-party sourcing agent include scale of operations, buying power, flexibility, and ability to spread risk among suppliers. Sourcing agents charge clients 4-8 percent of the wholesale price as commission, representing an area to realize savings if this step is eliminated (Gereffi & Frederick, 2010). Li & Fung is the pioneer and maintains the largest market share of business based on the agent-sourcing model. More recently, Li & Fung has expanded its role as an agent to an ODM or OBM supplier for certain clients by providing product development, marketing and branding services (see Appendix for a company profile).

Multinational intermediaries/agents work with apparel manufacturers based in multiple countries and typically offer a wide range of services in addition to logistics based on the needs of the buyer. Typical services include a providing a network of manufacturers to choose from, quality assurance or compliance. ***National agents*** represent apparel manufacturers from one country. Whereas they may not be able to provide the breadth of services of a MNC agent, they do have in-depth knowledge of the range of suppliers and capabilities within a country. ***Domestic***

importers are based in the same home country as the lead firm and are responsible for sourcing from multiple countries on behalf of the buyer. The domestic importer may or may not be owned or have an exclusive agreement with the buyer. At the least, the importer is responsible for coordinating production and logistics, and may also help with design, product development, and marketing. In some cases, the firm buys products and resells them to lead firms.

Based on surveys with global buyers in 2007 and 2008, approximately 55 percent of buyers source ***more than half*** of their volume directly, 31 percent source over half indirectly (via an agent/importer or distributor/wholesaler) and 14 percent own manufacturing facilities for over half of their volume based on FOB value (Sauls, 2007, 2008).

1.1.3. Textile Components and Trim Suppliers

The textile segment of the chain includes fabrics, yarns and fibers and trim includes thread, zippers, buttons, hangers, tags and other small accessories added to final products. Natural and synthetic fibers are produced from raw materials such as cotton, wool, silk, flax and chemicals. These fibers are spun into yarn which is used to produce woven or knitted fabric. Fabrics are then finished, dyed or printed and cut into pieces that will be sewn together by apparel manufacturers. In addition to apparel, textile components feed into other end markets including home furnishings and industrial and technical textile products. Non-textile inputs required for apparel production include trim (e.g., zippers, buttons, labels, hangers, etc.), equipment and machinery (sewing machines, cutters, plotters, software) and chemicals for dyeing and finishing.

1.2. Geography of Supply and Demand

The value of the ***global apparel retail market*** was approximately $1.38 trillion in 2012 (Euromonitor/Passport, 2014b).[3] The Asia Pacific region is the largest market (32 percent of world) at a value of $444 billion in 2012, followed by Western Europe and North America (25 percent and 23 percent respectively). The fastest growing markets since 2005 are the Asia Pacific and Latin American regions (both had a CAGR of 10 percent), followed by Eastern Europe (7 percent), Middle East and Africa (6 percent) and Australasia (5 percent) (Euromonitor/Passport, 2014b). Global apparel brands and retailers are diversifying into new retail outlets and introducing their brand names into new emerging international end markets for growth opportunities, making them a driver of this strategy along with the growth of emerging regional and national brand owners in their respective domestic markets.

The total value of ***apparel imports*** in 2012 was $355 billion. The three main import markets for apparel (EU-15, USA and Japan) have remained the same since at least 2000. The two top markets, the EU-15 and the USA, accounted for 63 percent of imports in 2012 and with Japan the top three were 72 percent. Among these three, the EU-15 has increased its share of the global market whereas the USA's share has declined and Japan has remained relatively stable since 2000. The market share held by the top ten markets has ***declined*** by approximately six percent over the last 12 years (UNSD, 2014).

Overall the global apparel industry is ***expanding*** in terms of the number of lead firms and geographic end markets. The global apparel retail market is highly fragmented with the largest

[3] Value is at retail selling prices using the average annual exchange rate for each year. The apparel market is defined as womenswear, menswear, childrenswear, hosiery and accessories (does not include footwear).

company's share estimated at only 3.7 percent in 2012 with the top ten company's representing an estimated 8.9 percent share of the market. This is up from 2005 when the top ten companies represented approximately 7.2 percent, but only slightly (Euromonitor/Passport, 2014a).[4] In terms of geographic markets, the share of apparel imports going to the top ten countries has ***steadily decreased*** over time. In 2000, the top 10 markets represented 93 percent of apparel imports, but decreased to 87 percent in 2012 (UNSD, 2014) with growth in top import markets including Russia, Poland, China, Rep. of Korea and Australia.

Apparel exports are primarily from Asia, and more specifically China. China increased its export share since 2000 (from 24.8 in 2000 to 41.0 percent in 2012) and is by far the largest exporter of apparel. Collectively the top 15 export countries increased their market share from 75.8 percent to 86.8 percent from 2000 to 2012. The fastest growing apparel exporters over the last 12 years include Vietnam, Bangladesh, Cambodia, Indonesia, China, Pakistan plus Sri Lanka, India and Turkey however growth for the latter three has stagnated since 2005. These countries were all among the top 15 apparel exporters in 2012 and the change in value of their apparel exports increased faster than the world average between 2000 and 2012 (UNSD, 2014). The apparel industry has (and continues) played an important role in the economic development process of a number of countries over the last several decades (see Table A-2 in Appendix).

1.3. GVC Governance and Power Relationships

Given lead firms' control over the highest value-adding activities in the chain, they are able to exert influence and set minimum standards for suppliers (i.e. sourcing criteria). Lead firms take into account an array of factors in their sourcing decisions which are specific to the supplier country and firm. Despite variations among different types of lead firms, there are important common trends in sourcing strategies of global buyers. The most important factors lead firms consider when selecting a supplier firm are related to firm characteristics and include ***(1) cost*** and ***quality***; ***(2) full package services*** *and* ***(3) social*** *and* ***environmental compliance*** *and* ***(4) lead time/reliability,*** *including access to inputs* (Birnbaum, 2013; Daher & Chmielewski, 2013; Frederick, 2014; Nathan Associates, 2005; Shapiro & Thomas, 2013):

- Production **costs** and **quality** have always been important and have become even more important in the context of increased competition through the MFA phase-out and the global economic crisis. These two firm-specific criteria ranked the highest in all buyer surveys reviewed over the last decade.
- **Full package capabilities** revolve around the importance of non-manufacturing capabilities or value-adding services in addition to manufacturing capabilities. The buyer surveys show that the most important services include input/material sourcing and financing and product development (in terms of apparel services related to the ability to work with patterns, grade patterns and manipulate computer-aided design CAD files). The objective of buyers to concentrate on their core competencies and reduce the complexity of their supply chains has spurred this shift from working with assembly suppliers (CMT) to full package suppliers. Full package capabilities, customer service and workers' capabilities are closely related in that apparel manufacturers need to have soft skills in terms of input sourcing and technology use. These skills are also related to

[4] This slight trend towards consolidation should be taken with caution as some large apparel companies are privately held, and as such, estimates are not available. See Appendix Table A-1 for the top 20 companies in 2012.

product mix and the know-how associated with being able to process fashion basic and fashion apparel in addition to long-runs of volume, commodity products.

- **Social compliance** has increased in importance in buyers' sourcing decisions in response to pressure from corporate social responsibility (CSR) campaigns by NGOs, compliance-conscious consumers and, more recently, the increase of disasters in apparel factories. Social compliance has become a central criterion for entering and remaining in supply chains. Poor compliance and bad occurrences does not only affect individual firms but can affect the image of the whole country.
- The increasing importance of **lead time** is related to the shift to lean retailing and just-in-time delivery, where buyers defray the inventory risks associated with supplying apparel to fast-changing, volatile markets by replenishing items on their shelves in very short cycles and minimizing inventories. Closely related to shorter lead time and increased flexibility and control of supply chains is **access to and availability of fabric inputs** locally or at least regionally. However, fabric production needs to be competitive in terms of price, quality, lead time and variety. In this context, the possibility to import inputs duty-free is crucial given the large variety of fabrics.

There has been a consolidation of the first tier supply base as buyers' increasingly focus on sourcing from larger and more capable vendors who offer consistent quality, reliable delivery, short lead times, large-scale production, flexibility and competitive prices, as well as broader non-manufacturing capabilities. Smaller firms focused on assembly activities face challenges forming direct relationships with global buyers. Buyers prefer to have fewer suppliers because identifying and maintaining relationships with many vendors adds unnecessary time and transaction costs for the buyer whose core competencies are in the higher value activities related to marketing and branding. It should be noted, however that this does not necessarily mean there are fewer apparel manufacturers overall. Smaller firms still play a role as subcontractors to first tier suppliers and as producers for domestic markets.

Global trade data supports the trend towards consolidation; in 2000 the top 15 apparel exporting countries accounted for 76 percent of exports and by 2012 this increased to 87 percent. This trend is further evidenced in the top five exporters, which increased their share from 55 to 71 percent between 2000 and 2012 (UNSD, 2014).

There are two key sets of relationships in the apparel value chain. The first division is between the **lead firm** and the **first tier supplier**. Lead firms preference to work with fewer, more capable core suppliers opened the door for large, multinational apparel manufacturers and intermediaries/agents (e.g., Li & Fung) to take over the function of coordinating the supply chain. Even though there are now two "tiers" in the chain, the most important division is still between lead firms and non-lead firms (suppliers). Lead firms are set apart because of their ***purchasing power*** and control over the activities that generate the most profitable returns including brand names, product design, new technologies and consumer demand. The lead firm sets the price to develop a final product and thus sets the final product margin, the difference between the cost of manufacturing, and the price it will pay to purchase or manufacture the product. This firm also determines the price the consumer will pay for the final product.

The second division is between the **first tier supplier** and **his branch locations or** subcontractors and input suppliers. These relationships are important for production-related

decisions. First tier suppliers are responsible for coordinating the supply chain and thus make decisions on which factories are included in the chain. Lead firms may or may not have a relationship with these factories or suppliers farther upstream.

Large multinational first tier suppliers have a more *modular, relational* relationship with lead firms and are often viewed as core suppliers. Larger apparel lead firms and those with a longer history in the apparel market are more likely to work directly with large MNCs than firms with lower sales volumes and market shares. In this case the lead firm has a direct relationship with the first tier supplier. When a lead firm uses an intermediary their interaction with the actual apparel manufacturers may be limited or even non-existent. Lead firms often set minimum parameters for the mills that will make their products, but they may not actually interact with the factories. Small to medium-sized lead firms are more likely to use an intermediaries as well as mass merchant retailers responsible for developing private labels for multiple types of products. Large brand marketers and specialty retailers typically only use intermediaries for smaller product lines that are ancillary to their main focus (i.e., accessories).

The branch plants of MNC suppliers or subcontractors typically have *market or captive* relationships with the parent firm. Even though they are part of the same company, the value and skills at the factory level differ. Subcontractors are more likely to be smaller, more informal firms that work on short term contracts.

2. The Rise of Private Governance and Its Limitations

Lead firms generally have limited involvement with upgrading apparel suppliers, but this varies by type. For example, they influence upgrading in core suppliers, but have little if any involvement with branch plants, subcontractors or intermediary-managed factories. Lead firms are still not directly involved with upgrading (in terms of providing assistance), but they entrust these suppliers with additional responsibilities and encourage them to acquire new skills.

For example, in Sri Lanka and Turkey, where there are direct relational linkages between buyers and suppliers, pressure from global buyers to provide services in design and niche product manufacturing led apparel firms to hire designers and specialists and develop training programs specifically to provide employees with the new skills required. Similarly in Bangladesh, global buyers urged local firms to establish training programs to increase productivity (Fernandez-Stark, Frederick, & Gereffi, 2011). In contrast, in Central American and Sub-Saharan African countries where the development of the apparel industry has been closely tied to preferential market access, global buyers' pressure to provide full-package services has not translated to skill acquisition or functional upgrading. Factories in these countries are predominately branch plants of transnational apparel manufacturers whose supply chains are coordinated at headquarters locations in East Asia rather than in-country.

Given lead firms' core competence in marketing, branding and design, apparel manufacturers' ability to *functionally upgrade* to these activities is limited in global export markets. In order for firms to acquire these skills it is often necessary to adopt a strategy in which firms operate under one model for the export-oriented industry and another model for domestic or regional sales. In the situation of MNC apparel manufacturers, the ability of their branch plants to upgrade is also

limited because these factories are locked into the activities they are assigned as part of the firm's global production strategy.

Furthermore, there are several challenges to increasing wage increases and improving working conditions in the global apparel industry.

1. Consumer prices and import unit prices for apparel have remained the same or fallen over the last two decades.[5] This can be attributed to several factors, including (a) the global "oversupply" of apparel manufacturers created during the MFA (which increased buyers' power because it made it easier to request more from suppliers without increasing the prices paid to manufacturers), (b) fragmentation and thus a high degree of competition at the retail level, (c) the trend towards "fast fashion" encouraging consumers to purchase apparel more frequently, but at a lower price point and quality, and (d) productivity improvements by large MNC factories. If consumer prices do not increase, it is difficult to justify increases in wages or other costs along the supply chain.
2. Buyers provide suppliers with order and design specifications and ultimately set the price they are willing to pay for the item to be produced. Some buyers determine this price in conjunction with suppliers or with core suppliers; in other situations this is set completely by the buyer or suppliers may even bid on orders. Lead firms ability to set the price of the final product limits all suppliers' ability to make changes that could result in an increase to manufacturing costs. This includes wages, working conditions as well as experimental process or product improvements. As such, suppliers are often forced to keep labor costs low (see Table A-3 in Appendix for wage trends).
3. Unit production time and cost standards are few and far between; those that do exist are based on best practice in a 'lab' setting which may not translate to the shop floor. Furthermore, the range of apparel styles is vast and varies by buyer, so estimates (should) change frequently over time. In reality, minimal research is conducted on cost elements when determining manufacturing cost (CMT).
4. Large MNC factories are more productive, have the resources to perform internal cost analyses, and often have factories in multiple countries, which enable them to produce a particular garment in the country that minimizes cost. As such, they can offer lower unit prices and smaller factories have to find a way to meet these prices or find new buyers.[6]
5. SMEs often accept orders without determining if it is achievable for them at the stated rate. This results in reduced profits for suppliers and an unachievable delivery schedule. This leads to low wages and excessive overtime to protect reduced profit and to ensure delivery is made on time, regardless of the social consequences of long working hours. Why do factories accept orders they cannot fulfill? In some cases factories do this in order to obtain or retain an important client. In other cases, this is due to a lack of education and/or resources on how to determine the unit cost of a garment over time. The ability to accurately cost a garment requires industrial engineering skills and accurate record keeping that are often not common practices in single factory locations or SMEs.

[5] See (Miller, 2013), p. 6 for data on declining UK import unit prices

[6] Opportunities to form direct relationships with buyers and thus play a more active role in the costing process (if resources are available) may be possible in smaller product categories less dominated by large MNCs such as intimate apparel, athletic wear, formalwear, dresses/skirts, and other miscellaneous apparel. However entry into these segments is also more difficult as these products tend to be more detail and fashion-oriented and require access to a wider range of inputs and more-skilled sewing machine operators.

6. Buyers are face increased pressure from NGOs and consumers to take responsibility for social and to a lesser extent environmental compliance in supplier factories. As such, a number of private initiatives have emerged to monitor, certify and publicize CSR efforts. Managing compliance adds an additional cost and monitoring at multiple factories adds time and money. This encourages buyers to consolidate their supply base and form relationships with "core suppliers" they can trust and invest in. This makes it more difficult for new factories to enter the chain and discourages subcontracting relationships.

Given the labor intensive nature of the apparel industry, there have been a number of **private standard** setting initiatives created to certify and/or monitor policies in the workplace of apparel factories (see Table A-4 in Appendix). These multi-stakeholder initiatives are composed of lead firms, NGOs, unions, government agencies and in some cases large MNC apparel suppliers.

Advocacy groups often state that private auditing schemes have fallen short of making needed adjustments and have not promoted systematic change in the industry. "Commercial auditing largely outsources the responsibility for social compliance to suppliers, and fails to take purchasing practices on the buyers' side into account – even though a low buying price or short lead times are often at the root of excessive overtime and low wages at the factory level" (Labour Behind the Label, 2014), p.10.

Another fallback of these initiatives is that they primarily target the supply chains of the largest global lead firms which only account for a relatively small share of the global apparel manufacturing base. An additional problem is the sheer number of initiatives. Having multiple initiatives with similar requirements creates confusion and complexity and results in higher costs in order to comply with multiple codes and increases fragmentation rather than promote harmonization.

These initiatives are good at identifying compliance issues in factories, but do not represent a means to address power asymmetry in the chain per se. The actual requirements to comply with the codes and standards are often fairly low and in many cases they do not address one of the primary concerns of workers regarding "living" wages. Furthermore, the definition of a "living wage" is not universal nor is it legally binding. Estimates have been created as part of the Asian Floor Wage, but they are not part of an internationally agreed upon convention or standard. The FWF, WRC, ETI and SAI8000 mention living wages, but due to inability to clearly define a living wage, provide no means of enforcement.[7] Buyers all mandate that national minimum wages are paid in suppliers' factories, but labor unions contest that these wages fall far below acceptable levels. In addition to the difficulties related to defining living wages, issues still exist in meeting minimum wages. There are ways factory owners can circumvent minimum wages by hiring employees under different titles (such as an apprentice) or as temporary employees that are not mandated under national minimum wage policies.

Whereas pressure is typically placed on lead firms to increase payments to factories, it is also probable that prices paid to factories are reasonable and the distribution of gains is not spread out

[7] BSCI considers living wages 'best practice', i.e. factories only encouraged to pay a living wage. Other codes mandate that national minimum wages are met.

fairly to workers and factory owners keep profits. In this situation, one suggestion would be to mandate in private codes of conduct that accounting practices are audited at supplier factories.

Therefore, if wages (or other labor-related policies that would increase costs) are to increase for apparel manufacturers, the cost must stem from one of the following: (1) factory owners cut their own profit, (2) factory owners cut profit, but recoup the cost via productivity gains (which will require investments in skill or technology upgrading), (3) lead firms pay higher prices to factories and cut their own profit, (4) lead firms pay higher prices, but recoup lost income via cuts in other areas, or (5) lead firms pay higher prices and pass the increase to consumers (the CCC believes that consumers would pay more if they were aware of the wage situation).

3. Global Value Chains and Public Governance

Dependence (see Table A-2 in Appendix) on the apparel industry (or a particular lead firm), can affect a government's willingness to regulate economic activity. For example, countries highly dependent on the apparel industry for employment or exports may be hesitant to mandate wage increases or improve labor or environmental policies for fear of losing contracts. This is exacerbated by the high level of global competition in apparel manufacturing enabling buyers' to switch manufacturers with relative ease, especially for commodity-type, volume-oriented production. In practice, this means union activity may be severely suppressed or legal minimum wages are set below the subsistence minimum and are not revised in step with inflation (Labour Behind the Label, 2014).[8]

In many developing countries, governments may also become locked in to extending generous incentives to foreign investors that limit economic growth from the industry. Incentives such as corporate tax holidays, zero tariffs on inputs for exports and machinery, and subsidies on industrial space or utilities are common in export-oriented industries. Or, in some cases, countries actively lobby to extend trade preferences that in actuality stifle the upgrading potential of the industry (i.e. countries with market access agreements such as Nicaragua's TPL, HOPE in Haiti or AGOA).

These scenarios however, create a somewhat paradoxical situation. Without low labor costs or attractive incentive schemes it may be difficult or impossible to enter the value chain and attract investors that can provide needed employment opportunities and already have hard to establish links to global buyers. On the other hand, these types of investments provide little benefit to the host country outside of employment and limited upgrading opportunities beyond assembly.

4. Conclusion

In order for social conditions to improve in apparel factories, the distribution of value along the chain needs to change or the overall price paid must increase. For this to happen, one or more of the following could occur: consumer prices increase, lead firms reduce profit margins, apparel factory owners distribute gains equitably to employees and/or cost savings are achieved via improvements in productivity through process or labor efficiencies. There are several key groups of stakeholders involved.

[8] Source's Source: Merk, J. (2009). "Stitching a Decent Wage across Borders", CCC/AFW, www.asiafloorwage.org/Resource-Reports.html, pp.30–35.

Lead firms: In buyer driven chains such as apparel, 'power' is closely tied to brand ownership and brands are the firm in the chain responsible for purchasing apparel products and thus setting the price that will be paid to manufacturers. As such, the most common strategy has been to target these firms to promote improvements at supplier factories. This strategy has been successful in increasing the number of initiatives targeted to improving wages and working conditions, but effectiveness is stifled by their voluntary nature and focus on the largest buyers.

As such, one strategy is to target the *"second tier" of largest global buyers* or brands emerging in developing country markets. The leverage point in the apparel industry is typically focused on the top ten to 25 most well-known apparel brands and retailers. All of these companies are members or participants of multiple private standard organizations and/or have their own minimum standards. However given the structure of the apparel industry, implementing changes for the major global buyers only impacts a small share of the entire global industry. The top ten apparel companies account for less than ten percent of global apparel sales. As such, this also means that rules, certifications and standards mandated by these buyers only impact a similar share of apparel manufacturers. Future campaigns could target the next largest tier of apparel brands and retailers or a specific product category. These groups are more likely to use different sourcing strategies than the largest global buyers and represent an opportunity to research another level of apparel manufacturers (e.g., smaller buyers are more likely to use agents or intermediaries).

Stated differently, ***small and medium-sized apparel factories, single country manufacturers and subcontractors*** with limited global reach and direct access to buyers have the least power in the chain and the least resources available in terms of capital and workforce to make the productivity improvements necessary to compete with large multi-national manufacturers. They also face educational constraints in terms of developing realistic cost estimates. These factories need the most assistance in terms of improving wages and working conditions, but are often missed in private standard setting initiatives because they are not directly supplying global buyers.

Another top down strategy is to concentrate efforts on ***social and environmentally-focused brand owners*** to push real changes that could result in spillovers to manufacturers in other segments. Two groups that could be targeted using this strategy are European apparel retailers and U.S. athletic companies. In the case of European retailers, there are more strict requirements on meeting social criteria to receive tariff benefits and on restricted substances. In the case of athletic or outdoor companies, consumers are perceived to be more environmentally conscious and as such, brand owners have an incentive to market goods to consumers using an ethical angle.

Owners of transnational manufacturers and agents have the next most power in the chain, and hold some leverage vis-à-vis lead firms in situations where they have long term relationships and hold tacit knowledge that is difficult to replace. For these firms providing ***research to highlight cost benefits*** of improving wages and working strategies is a viable strategy. Firms are likely unopposed to improving social conditions, but outside of personal morals, have no incentive to improve working conditions if there is not a return on the investment. Both parties stand to gain when economic and social upgrading is hand-in-hand.

Educating ***governments*** on the types of upgrading that can provide sustainable benefits is also important. Keeping minimum wages low and targeting trade and industrial policies that attract low value activities may employ workers, but in low-paying, low-skill jobs with little room to upgrade. Another strategy is to target ***consumers***; the only group in the chain that holds more power than the brand owner is the ultimate consumer. If an apparel company cannot sell its products, it doesn't matter how much value can be attributed to the brand. As such, one strategy is to increase efforts to educate consumers on social and environmental issues.

Multi-stakeholder initiatives have made important first steps towards providing the framework to identify and address issues, but more could be done. One suggestion would be to mandate ***wage increases across all*** Asian suppliers to avoid isolating a single country. Another suggestion is to add clauses to codes of conduct and auditing procedures that require apparel manufacturers' accounting practices to be evaluated to ensure profits are being distributed to workers in line with the prices paid to the factory and operating costs.

Case Two: Pro-Poor Development and Power Asymmetries in the Cocoa-Chocolate GVC

Prepared by Ajmal Abdulsamad

Summary

The cocoa-chocolate global value Chain (GVC) has increasingly become concentrated over the last decades. In a 'bi-polar' governance system, the chain is dominated by two groups of lead firms that control how and where value is created and distributed along the value chain. Lead firms in the consumer markets control high-value functions in brand manufacturing and marketing. Their upstream counterparts in the processing segment dominate the global supply chain of cocoa ingredients and are operational in both producer and consumer countries.

While several developing countries, particularly, in West Africa, heavily rely on income-derived from cocoa production, the share of value retained by cocoa-producing countries has declined by more than 50% over 1970s-1990s, marking the rise of concentration and asymmetric power relationships in the chain. Small farmers, often depending on the sector for two-thirds of their income, have experienced persistently falling market prices in real terms. In contrast, they have simultaneously had to bear higher costs and risks in production driven by the dynamic global markets.

These developments culminated in widespread deterioration of social and economic conditions in producing countries. In return, the targeted campaigns by civil society organizations spurred a proliferation of private governance initiatives. Although a compelling feature of the private governance has since been its ability to reach across national jurisdictions, it faces a dubious prospect and is considered less effective to redress the underlying challenges, including pervasive poverty, surrounding cocoa farming now. A recent emerging alternative has been the renewed emphasis on public governance and re-regulation of the cocoa sector in major cocoa producing countries.

Key Findings are:

1. **The global chocolate confectionery market is controlled by five global brand firms:** Mondelez International (15%), Mars Inc. (14%), Nestle (12%), Ferrero (8%), and Hershey Co. (7%) (Euromonitor, 2014a). They rely on long-established brand recognition and scale economies offered by their worldwide network of manufacturing and market infrastructure. These firms have remarkable buyer power and own several brands that each generates multi-billion dollar annual retail sales in global markets.

2. **Three lead firms dominate the vertically-integrated global supply chains for cocoa ingredients.** Barry Callebaut[9] (23%), Cargill (15.3%), and ADM[10] (12.7%) control approximately 51% of the cocoa processed worldwide (Statista, 2014). These firms draw on their internal expertise and long-established capabilities in global supply chain

[9] Market share reflects acquisition of Petra Foods in 2013.
[10] Olam International, a global commodity trader, has agreed to acquire ADM's cocoa business. The acquisition is expected to complete in 2015.

management across multiple commodities. In the cocoa sector, they operate vertically-integrated supply chains that span from the rural areas in cocoa producing countries to major portal cities housing advanced processing facilities in Europe and North America.

3. **An asymmetric relationship in market power mirrors an asymmetric distribution of value along the chain.** Smallholder farmers facing an oligopsonistic market have experienced persistently declining cocoa prices from the 1980s to 2008. They currently receive just 4-6% of the final consumer price. Overall, the share of value retained by cocoa-producing countries declined from around 60% in 1970-72 to around 28% in 1998-2000 (World Bank, 2008). Branding and marketing accrue the most value, an estimated 70-72% of the final price.

4. **Income derived from cocoa farming is far lower than the amount needed to help smallholder farmers escape poverty.** Besides the declining real prices, small farmers have experienced increasingly higher costs and risks in production, particularly, in fully liberalized markets. Whereas they have to bear the costs of certifications, the promised premium price is not guaranteed. Nearly one-third of the certified cocoa production is still sold in the mainstream commodity markets. Regardless, the effective global market share of certified cocoa remains very small, just 7% of the estimated 4.1 million ton cocoa produced in 2012.

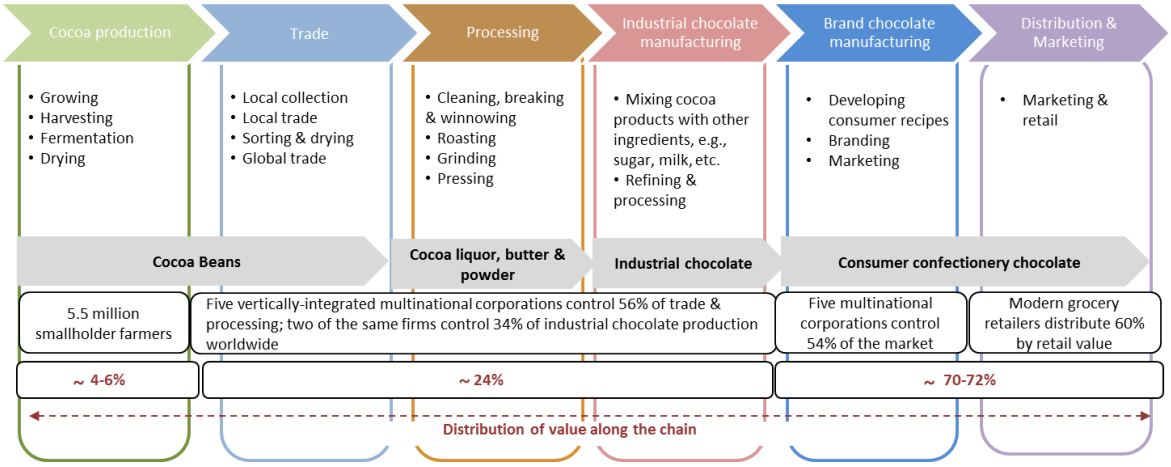
5. **Fueled by the growing fears about the future shortages of cocoa supply, the cocoa sector experiences a return of the regulatory state.** The International Monitory Fund (IMF) and World Bank (WB) now undo their past policy prescriptions. The Heavily Indebted Poor Countries (HIPC) scheme of the IMF/WB that once were used as a tool to roll out market liberalization in the 1980s have pre-conditioned debt-relief to re-regulation in the cocoa sector in Cote d'Ivoire. As part of the agreement to a US$4billion debt-relief deal, the Cote d'Ivoire government has reinstated regulatory measures in its cocoa sector since 2011.

1. The Cocoa-Chocolate Global Value Chain: Lead Actors and Power Asymmetries

1.1. Input-Output Structure

The cocoa-chocolate global value chain (GVC) encompasses the full range of activities related to cocoa production, cocoa trade and processing, chocolate manufacturing, marketing and retail (Figure 3).

Figure 3: The Cocoa-chocolate Value Chain



Source: CGGC

1.2. Lead Actors and the Growing Concentrated Markets

Two group of lead firms control the cocoa-chocolate GVC: the global brand manufacturers and the vertically-integrated cocoa processors. The latter primarily function as the global supply chain managers of cocoa ingredients. Their vertically-integrated operations cover global cocoa sourcing, trade and processing. They are further sub-divided into those with historical trading interests in a wide portfolio of commodity products, e.g. Cargill, Archer Daniel Midland (ADM) and Olam International, against Barry Callebaut, which has traditionally concentrated on the cocoa industry. Overall, as large intermediary firms, the global processors have no consumer-faced marketing activities, which is predominantly controlled by the leading brand manufacturers.

These leading chain actors, whether in the processing or branding manufacturing segment, have strategically pursued market expansion by frequent acquisition of competitors, rather than organic business growth. More than 200 acquisitions occurred in chocolate manufacturing industry between the 1970s and 1990s (Dand, 1999). The result has been rapid concentration in the chain, with 17 firms controlling 50% of the global markets in late 1990s (Dand, 1999; Fold, 2001). Over 2000-13, this number has further shrunk by more two-thirds, namely, more than 50% of the global market is now controlled by five firms: Mondelez International (15%), Mars Inc. (14%), Nestle (12%), Ferrero (8%), and Hershey Co. (7%) (Euromonitor, 2014a). Even though at a global level the five lead firms control 56% of the chocolate market, market concentration is much higher at the individual country level. The top three large firms control

between 60 to 80% of the country market shares in some of the main chocolate confectionery markets in the world (Table 4).

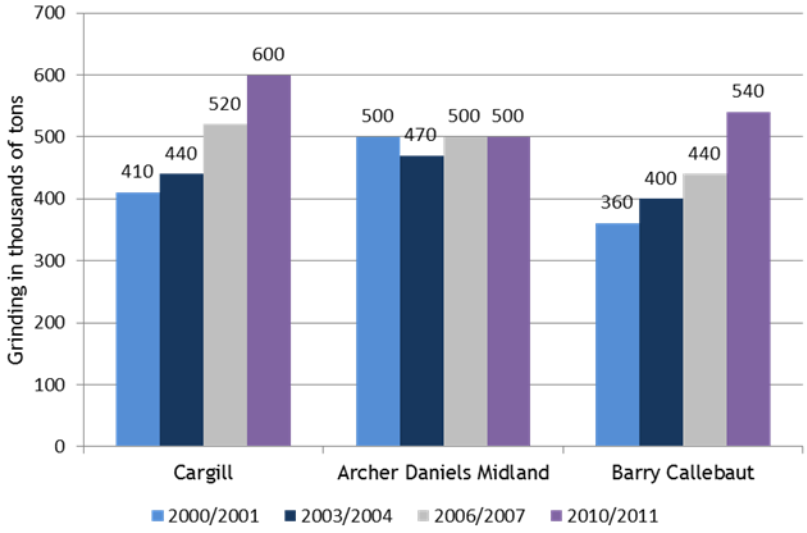
Table 4: Concentration at Individual Country Markets

Market	Market Value (US$ billions)	Market Share Top Three Firms
Brazil	5.2	80%
United States	17.1	69%
Australia	2.4	68%
United Kingdom	10.2	65%
Italy	3.2	61%

Source: (Euromonitor, 2012)

Concentration in brand manufacturing has restructured the chain. Lead manufacturers outsourced their processing activities and interacted with processors expected to be bigger and own strategic supply chain management capabilities. As a result, a similar consolidation trend occurred in cocoa trade and processing segments and stimulated the emergence of large vertically-integrated firms, controlling sizeable market shares (Figure 4). Between 1970 and 1990, the number of specialized cocoa traders operating in Europe and North America fell from 192 to 88, of which only 10 were active as international traders (Dand, 1999). The processing segment followed a similar trend. During 1990-2000, the number of cocoa processors in Europe declined by more than 75%, falling from around 40 to nine firms (Kaplinsky, 2004). By 2011, the five leading processors, Cargill (15.3%), Barry Callebaut (13.8%), ADM (12.7%), Petra Foods (9%), and Blommer (5%), controlled approximately 56% of the 3,923 thousand ton cocoa processed worldwide (Statista, 2014).

Figure 4 The World's Top Three Cocoa Processors



Source: (Statista, 2014)

Two recent developments will lead to further consolidation and the rise of new lead firms in the processing segment. In 2013, Barry Callebaut completed its acquisition of Petra Foods, which was the world's fourth largest cocoa processor (Euromonitor, 2014a). Similarly, Olam International, a global commodity trader, announced its agreement, in December 2014, to buy ADM's cocoa business for US$1.3 billion (Madden, 2014). The acquisition, which is expected to close in the second quarter of 2015, will position Olam to become one of the top three global cocoa processers. This deal came just three months after Cargill announced the company would buy ADM's industrial chocolate business for US$440 million (Euromonitor, 2014c).

At the local level in producing countries, the upstream segment of the cocoa-chocolate GVC has a highly fragmented market structure. Cocoa production occurs on an estimated five million small farms, producing cocoa on plots of 1-3 ha of land (ICCO, 2012). Local cocoa trade also involves large number of local collectors or local buying agents, often situated in captive relations or working on commission for large traders or subsidiaries of multinational corporations (MNCs). These local actor compete fiercely among to secure supply, driving down farmgate prices received by local farmers. Total employment in the sector reaches approximately 14 million workers worldwide, with its three-quarter concentrated in Africa (Table 5).

At the country level, cocoa production is geographically concentrated in a handful of countries in West Africa, which heavily depend on cocoa-derived revenue both for their macro and rural household economies. As the important source of global supply, West African countries -- Cote d'Ivoire, Ghana, Nigeria and Cameroon-- account for approximately 70% of production and 75% of total exports worldwide (FAOSTAT, 2014). The sector makes sizeable contribution to agricultural gross domestic product (GDP) of leading producers in West Africa, such as: Cote d'Ivoire (44%), Ghana (14%), and Cameroon (7%) (Table 5). As an export-oriented sector, it contributes even higher share of their annual export earnings. In 2011, cocoa derived export earnings for Cote d'Ivoire and Ghana, respectively, were estimated at US$3.91 billion and US$2.41 billion, accounting for 31% of total merchandize exports for the former (FAOSTAT, 2014).

Table 5: Cocoa Sector's Footprint in the National and Rural Household Economies of Major Producing Countries

Country	Total Employment (millions)	Number of smallholders ('000)	2012 Production Quantity ('000 tons)	2012 Gross Value of Cocoa Bean Produced (US$ million)	2012 Agricultural GDP (US$ million)	2012 Cocoa Production as a Share of Agricultural (GDP) (%)	2011 Value of Cocoa Derived Exports (US$ million)	2011 Percentage of Cocoa Derived Export Earnings as Share of Total Merchandize Exports*
Africa	**10.5**		**2,919**					
Cote d'Ivoire	3.6	800	1,486	3,192	7,209	44	3,904	31%
Ghana	3.2	720	879	1,297	10,027	14	2,413	20%
Cameron	1.6	500	207	600	4,027*	7	592	13%
Others	2.1							
Asia-Pacific	**2.11**		511					
Indonesia	1.6	1,400	440	1,826	127,143	1	1,290	0.6%
Others	0.51							
Latin America	**1.39**		**655**					
Ecuador	0.28	N/A	198	230	8,572	3	564	2.5%
Brazil	0.21	N/A	220	92	119,613	<1	289	0.11%
Others	0.9							
World Total	**14**	**5,500**	**4,085**					

*****Derived from *f.o.b.* value of exports of cocoa beans and cocoa products and total country merchandise exports published by the (FAOSTAT, 2014)

Sources: (FAOSTAT, 2014; ICCO, 2012; World Bank, 2014b)

1.3. Asymmetric Power Relationships

Since the 1990s, the structure of cocoa-chocolate GVC has significantly transformed. Key features of this shift were characterized by the rising horizontal concentration in the chocolate manufacturing segment, the emergence of vertically-integrated cocoa processors, and the liberalization of the cocoa sector in producing countries in West and Central Africa (Fold, 2001; UNCTAD, 2008). This rapid structural transformation gave rise to asymmetric power relationship as well as growing control by the lead firms over how and where value is created and distributed along the chain (Fold, 2001, 2002)

As the "gatekeepers" to consumer markets, brand manufacturers have exhibited significant market power in controlling the higher value-added functions in the cocoa-chocolate GVC. This market power draws on brand recognition and scale economies offered by their worldwide network of manufacturing and marketing infrastructure. Several of the global chocolate brands generate over US$1 billion annual revenue (Euromonitor, 2014a). The popular global brand, Cadbury, owned by Mondelez International, is marketed in 41 countries and accounts for an estimated US$6 billion annual global retail value (Euromonitor, 2014a). It controls a remarkable share of the chocolate confectionery markets in both developed and developing countries, such as: India (52%), New Zealand (48%), South Africa (40%), Australia (36%), and United Kingdom (24%) (Euromonitor, 2014a). Chocolate products manufactured by Mars, the second largest brand manufacturer, are marketed in 80 countries under 29 brand names, including five of the billion-dollar global brands, namely, M&M's, Snickers, Galaxy/Dove, Mars, and Twix (OneSource, 2014). Kit-Kat, a major brand of Nestle, is distributed in 62 countries and annually generates nearly US$2 billion retail sales (Euromonitor, 2014a).

Table 6: Global Chocolate Confectionery Markets Controlled by a Handful of Brands

Company	Chocolate Confectionery Market	Top Five Brands			
		Brand Name	2013 Annual Retail Sales (US$ million)	# of countries marketed	Largest market (US$ million)
Mondelez International	75 Countries	Cadbury	5,894	41	United Kingdom (2,465)
		Milka	2,604	39	Germany (837)
		Lacta	1303	6	Brazil (1,221)
		Côte d'Or	600	10	France (296)
		Alpen Gold	480	7	Russia (334)
Mars Inc.	80 Countries	M&M's	3,092	65	USA (1,861)
		Snickers	2,864	75	USA (1,154)
		Galaxy/Dove	2,428	26	China (841)
		Mars	1,722	59	USA (428)
		Twix	1,220	64	USA (369)
Nestlé SA	76 Countries	Kit Kat	1,890	62	United Kingdom (484)
		Garoto	797	5	Brazil (722)
		Nestlé	746	34	China (237)
		Smarties	425	38	United Kingdom (132)
		Especialidades	337	1	Brazil (338)

Source: (Euromonitor, 2014a)

Given their overall business portfolio in food and beverages, brand manufacturers also draw on large-scale cost efficiencies offered by economies of scope. They typically operate across many adjacent categories, such as biscuits, bakery, beverages alongside chocolate confectionery. For Nestle, as the world's largest food and beverage manufacturer, chocolate confectionery only constitutes less than 10% of its US$96 billion annual revenue (OneSource, 2014). Its product portfolio is supported by an extensive global presence, including 461 production facilities in 83 countries (IBISWorld, 2014). Similarly, Mondelez International, operating across five consumer products, manages a global network production and marketing infrastructure that incorporate 171 manufacturing facilities in 58 countries (OneSource, 2014). Besides the physical infrastructure, brand manufacturers have mobilized remarkable workforce capabilities and sizeable annual research budgets. Mondelez International's research and development activities are carried out by 2,750 food scientists, chemists, and engineers and was financed by a US$471 million budget in 2013 (OneSource, 2014). These scale economies remarkably lower average cost and create entry barriers in these segments controlled by lead firms.

In addition, the dominant market presence, buttressed by customer loyalty of brands, provides chocolate manufacturers various options to retain higher profit margins. In 2011, they have used various mechanisms to manage the rising cost of raw materials. The commonly adopted approach was to directly pass on the rising costs to consumers. The US brand manufacturer, Hershey Co., increased prices by 9.7% in 2011(Euromonitor, 2012, 2014c). Alternatively, Kraft (now Mondelez International) reduced the size of Cadbury Dairy Milk in the United Kingdom from 140 to 120 grams but marketed the resized product at the full price (Euromonitor, 2014c). The other alternatives pursued by chocolate manufacturers included expanding or contracting particular recipes, e.g., a typical countline recipe contains 16.3% cocoa ingredients compared with 35.6% in tablets, or even substituting more of the cocoa butter with cheaper vegetable fats (if regulations allow) (Euromonitor, 2014c).

In their interaction with large processors, brand manufacturers are also in a relatively better price-negotiating position. Notwithstanding their enormous buyer power, they have inherent knowledge of the cost structure of cocoa processing (FLA, 2012). They generally require processors to report detailed information under specific supply contracts. 'The Nestle Cocoa Plan' (TNCP) contracts, representing 20% of cocoa volume Nestle sources from Cote d'Ivoire, requires contract suppliers to report on the volume, quality, and costs, as well as the number of farmers trained (FLA, 2012).

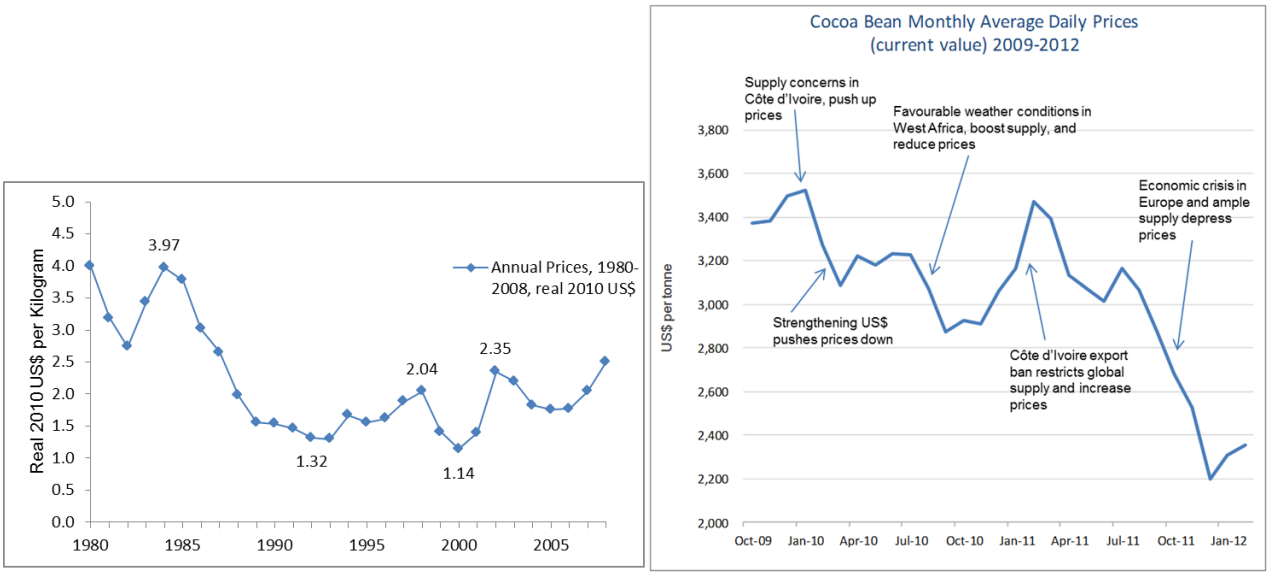
Cocoa processors are actually the global supply chain managers of cocoa ingredients. In a 'bi-polar' governance structure, they wield considerable market power in structuring the cocoa markets in producing countries. They manage a vertically-integrating business that spans both producer and consumer countries. They, however, lack consumer-faced brands and the presence of ADM and Cargill, two of the world's biggest commodity traders, is very recent in the cocoa-chocolate GVC. Cargill entered cocoa business in the late 1980s through the acquisition of a cocoa trading company, General Cocoa and its processing subsidiary, Gerkens (OneSource, 2014). ADM's involvement only goes back to 1997 when it took over the cocoa interests of Grace Corporation (OneSource, 2014). They, however, been able to rapidly consolidate market share through a series of acquisitions in downstream processing functions and simultaneous backward integration of cocoa sourcing within producing countries (UNCTAD, 2008).

Cocoa processors now have strong presence in the cocoa processing and increasingly in industrial chocolate manufacturing. Barry Callebaute (40%) and Cargill (30%) --after Cargill acquired ADM's (8%) chocolate business in 2014-- together control 70% of the industrial chocolate production in the open market (Statista, 2014). The open market represents 49% of the total 6.4 million ton global industrial chocolate (couverture) production whereas the 51% balance is still retained in-house by brand manufacturers (Barry Callebaut, 2007). Under the popular global business brands, for instance, Barry Callebaut (Cacao Barry and other six brands), Cargill (Gerken Cacao), and ADM (deZaan), cocoa processors supply industrial chocolate, also cocoa powder, to business customers such as specialty manufacturers, and artisanal producers, including bakers, pastry chefs, hotels, restaurants and caterers (Euromonitor, 2012).

After liberalization in producing countries, which was engendered by the Heavily Indebted Poor Countries (HIPC) scheme of the International Monetary Fund (IMF) and World Bank (WB), large cocoa processors integrated backward and established supply chain operations within cocoa producing countries. While Ghana partially resisted this trend, Nigeria, Cameroon, and Cote d'Ivoire have embraced full liberalization, although implementing it at different speeds, since the 1980s (UNCTAD, 2008). The resulting backward integration by large cocoa processors has culminated into a structural imbalance, characterized by an oligopsonistic market, upstream in the chain, between large number of smallholder farmers and a handful of large buyers in producing countries (Fold, 2001; UNCTAD, 2008).

Large cocoa processors have since rapidly consolidated their cocoa sourcing operations within origin countries. In Cameroon, where liberalization started in 1991 and completed in 1994, over 600 companies initially sought registration for cocoa exports, but only two international firms accounted for 80-90% of total exports by 1997 (Dand, 1999). Similarly, in the other fully liberalized markets, these firms have since established their own local sourcing networks, often involving local intermediaries through whom they control the farmgate prices received by cocoa farmers (Fold, 2001; UNCTAD, 2008). The primacy of asymmetric power relationship, together with the emergence of major new producing countries (Indonesia and Malaysia since the 1980s), has led to a secular decline of the cocoa prices between 1980s and mid-2000s (Figure 5). Cocoa farmers have since become directly exposed, without any protection measures, to international price fluctuations and cost-cutting pressures that increasingly suppressed cocoa-derived income to smallholders.

Figure 5: The Declining Trend and Volatility in Global Cocoa Prices



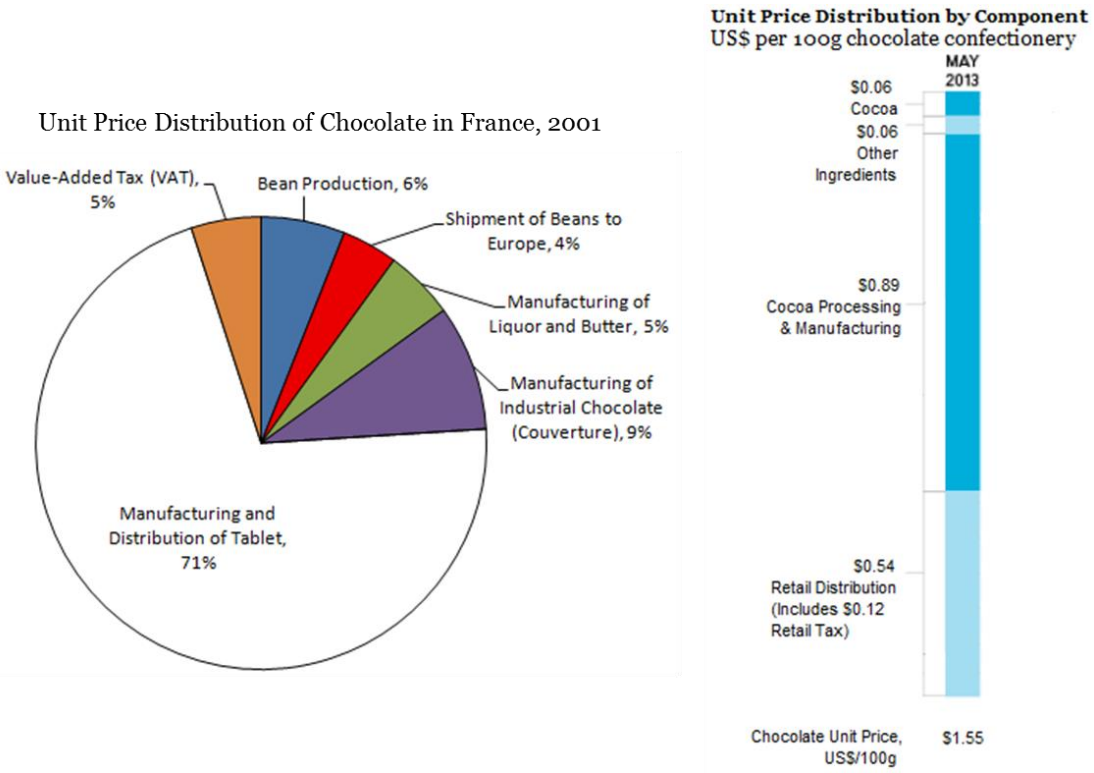
Source :(Euromonitor, 2012; World Bank, 2014a)

Large cocoa processors leveraged long-established capabilities in management of global commodity supply chains to solidify their competitive advantage in the cocoa-chocolate GVC. Internal expertise in logistics and bulk trade in grains were transferred to the cocoa sector. Beginning in 1995, large processors started experimenting containerized-bulk-cocoa transport, unbagged cocoa in containers (Dand, 1999). This new method resulted in major efficiency gains, lowering shipment costs by nearly 40% (Dand, 1999; Tollens & Gilbert, 2003). Later, in 1997, the transport cost was reduced to one-third when mega-bulk shipment (bulk cocoa being loaded directly into the holds of specialized double-hulled carriers) was introduced (Tollens & Gilbert, 2003). In effect, these developments galvanized further consolidation in the chain because only a few large processors themselves were able to make direct use of the mega-bulk shipment, requiring 3000-10,000 ton minimum efficient scale (Dand, 2011). Other exporters either had to use more costly traditional bag-based-export methods or to assign their beans to one of these large firms.

These structural transformations have also gradually reduced the opportunity for value addition at the farm level. Critical quality control points gradually shifted from the farmgate to the processing stage, reducing local buyer incentive to compensate farmers for better quality (Tollens & Gilbert, 2003). The required scale of bulk transportation necessitated blending of variable-quality beans. Not willing to sacrifice the cost advantage in transportation, large processors, instead, have developed internal mechanisms to meet quality requirements of the downstream buyers (Tollens & Gilbert, 2003). The asymmetric power relations along the chain have widened the spread in shares of value captured by the different actors along the cocoa-chocolate GVC. World Bank estimated that the share of value retained by cocoa-producing countries declined from around 60% in 1970-72 to around 28% in 1998-2000 (World Bank, 2008).

Figure 6 presents the value distribution as per price data related to a chocolate bar between two periods, 2001 and 2013. The share of value that accrues to smallholder farmers is just about 4-6% of the final consumer price. In 2001, an estimated 71% of the total price a chocolate bar was captured by global brands and retailers and almost 18% of the value is captured by traders and processors. Although these figures cannot be representative of the various brands and the associated different prices in the market, Figure 6 two-thirds of the value in cocoa-chocolate GVC is created and captured at the branding and marketing segments of the chain.

Figure 6: Distribution of Value along the Cocoa-chocolate Value Chain



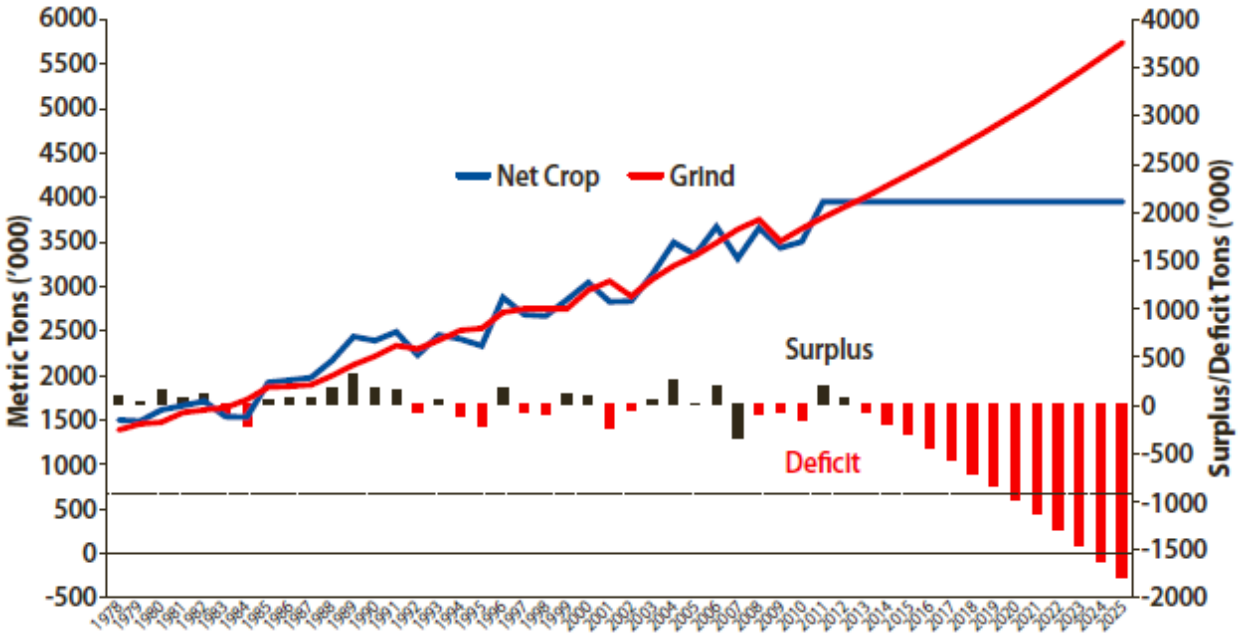
Source: (Dand, 2011; Euromonitor, 2014a)

Income from cocoa farming is now far lower than the amount needed to help smallholder farmers escape poverty. While cocoa production accounts for a large share of household income, an estimated two-third in Ghana, the average income from cocoa production was estimated to be approximately US$0.42/capita/day in Ghana in 2008 (Barrientos & Asenso-Okyere, 2008). Besides facing a protracted decline in real prices of cocoa (Figure 5), smallholder farmers have since liberalization been compelled to bear the increasing costs and risks of production. The commodity boards were dismantled and farmers lost access to subsidized input and services, including credit, extension, quality control and marketing. Expectation was that removing the state would free the market for private actors to take over these functions— reducing costs, improving quality, and eliminating inefficiencies. Too often, that didn't happen, mainly leaving majority of the smallholders exposed to extensive market failures, high transaction costs and

risks, and service gaps (World Bank, 2008). In return, cocoa farm have since entered a period of perpetual underinvestment, decreasing productivity, and increased incidences of pests and diseases. The future of chocolate industry is threatened as it is project that cocoa supply will not keep up with rising demand (Figure 7).

Figure 7: Trend in Cocoa Supply and Demand: Actual Figures for 1978-2011

(Projected Figures at 3% Demand Growth and Stagnant Supply for 2012-2025)



Source: Blommer, 2011

2. The Rise of Private Governance and Its Limitations

After a long period of neglect, two distinct developments, since the early 2000s, have triggered a burst of private governance responses which took many forms, including: industry codes of conduct, standard & certification schemes, and multi-stakeholder initiatives (Bitzer et al., 2012). First, the industry became the target of global campaigns by nongovernmental organizations (NGOs) and the media that made allegations of child labor and child trafficking on cocoa plantations in West Africa (Schrempf-Stirling & Palazzo, 2013). The connection of valuable brands with child exploitation posed serious threat to corporate reputation and sales (Schrage & Ewing, 2005). Second, the internal threat to the sector in the form of low productivity, old farms and a high incidence of pests and diseases fuelled concerns over the future shortages of cocoa supply (Barrientos, 2014; Barrientos & Asenso-Okyere, 2008). While a compelling feature of the private governance has since been its ability to create novel governing regimes that reach across national jurisdictions, its future prospect in the cocoa sector remains dubious at best, partly, because of the underlying challenges facing the sector in producing countries.

The future of private governance mechanisms, particularly, standards & third-party certification schemes, are tied to brands and the ability to compete for value in consumer markets. A market-based approach, however, gave rise to the emergence of multiple competing schemes, currently four in the cocoa-chocolate GVC, namely, Fairtrade, Rainforest Alliance, Organic, and UTZ Certified (Potts et al., 2014). While many of the leading brands have made certification commitments, often targeting a specific percentage of cocoa-sourcing by 2020, the full market potential of certified cocoa is not known. The future growth trajectory of certified production depends on demand by brand manufacturers. In this connection, much will depend on the dynamic interactions between consumer demand, capability to monitor enforcement of brand commitments, and the costs and benefits of certifications to smallholder cocoa producers over the coming years.

The current market-based approach, at least up to now, has illustrated considerable constraints in market demand. The supply of certified cocoa has expanded dramatically over the past five years. Starting from a small base, mainly Organic and Fairtrade, that accounted for less than one percent of global production in 2008 (KPMG, 2013; Potts et al., 2014), the net volume of certified cocoa supply reached 22% of total production[11] worldwide (Potts et al., 2014), an estimated 4.1 million tons in 2012 (FAOSTAT, 2014). The rapid growth was fueled by the industry supported UTZ certified and Rainforest Alliance, which expanded, respectively, at compound annual growth rates of 363% and 223% during 2008-12 (Potts et al., 2014). The astonishing growth rate in supply would have recorded more than twenty-fold increase in volume of certified cocoa only if market uptake was growing as fast.

The global demand for certified cocoa, however, trailed far behind the available supply in 2012. Just one-third of the certified supply was actually sold as certified (Table 7). Even if the gap between production and market-uptake of certified cocoa were transitional, the effective global market share of certified cocoa still remains marginal, just 7.3% of the estimated 4.1 million ton cocoa produced worldwide in 2012 (Potts et al., 2014).

Table 7: Volume of Certified Cocoa Produced and Sold by Certification Scheme, 2012

Certification Scheme	Production	Sale	% Sold as Certified
UTZ certified	534,614	118,641	22%
Rainforest Alliance	405,000	205,784	51%
Fairtrade International	175,900	68,300	39%
Organic*	103,554	77,539	75%
Total	1,219,068	470,264	
Total Certified (Adjusted for multiple certifications)**	890,000	300,000	33%

*Figures for 2011

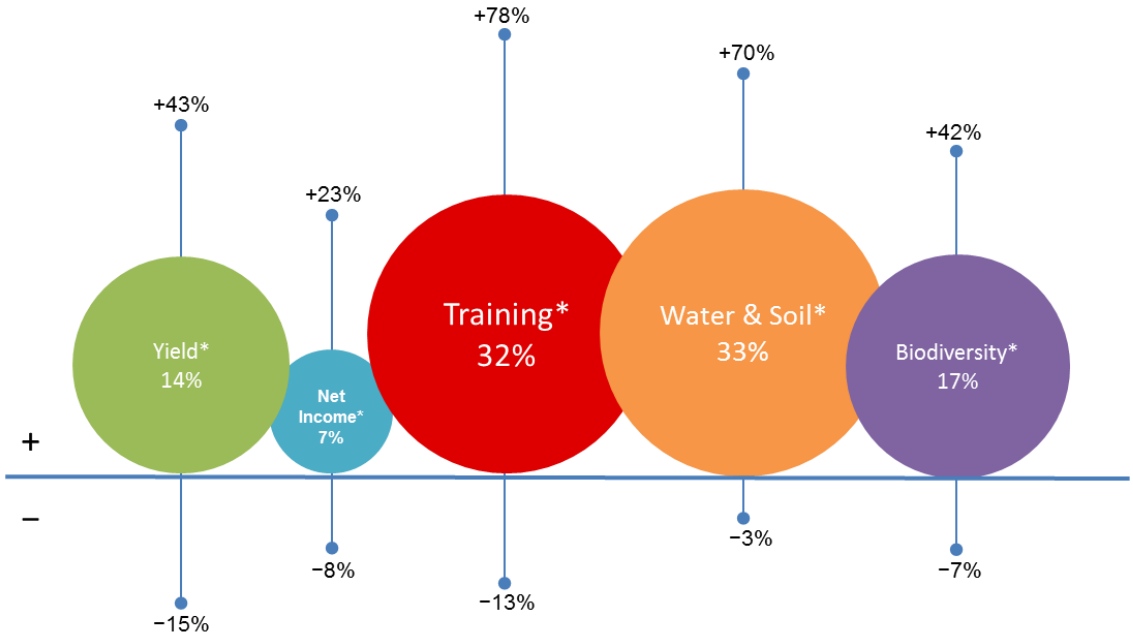
**Almost one-third of total certified production represented overlapping certification. As reported by the individual certification schemes, certified production approximately accounted for 30% of global cocoa production. Adjusted production levels of certified cocoa amounted to 22% of global production.

Source: (Potts et al., 2014)

[11] This volume accounts for total certified production after adjustment for overlapping & multiple certifications that together represented one-third of the total reported certified volume by the related organizations in 2012.

Concerning economic aspects, the standard & certification schemes can potentially lead to increased farmer productivity. Training to farmers, a required criterion by certifying agencies, can help improve yields, given the absence of, or dysfunctional, extension services (Kessler et al., 2012). A recent study by Committee on Sustainability Assessment reported on the differences observed across a number of indicators between certified and non-certified cocoa and coffee farmers in 12 countries (COSA, 2013). Drawing on data points derived from 3,500 to 16,000 farm surveys, the study noted that certified famers demonstrated better training in farming techniques, improved farm practices (soil and water conservation, conserving biodiversity), higher yield (+14%) and a modest difference in net income (+7%) (Figure 8).

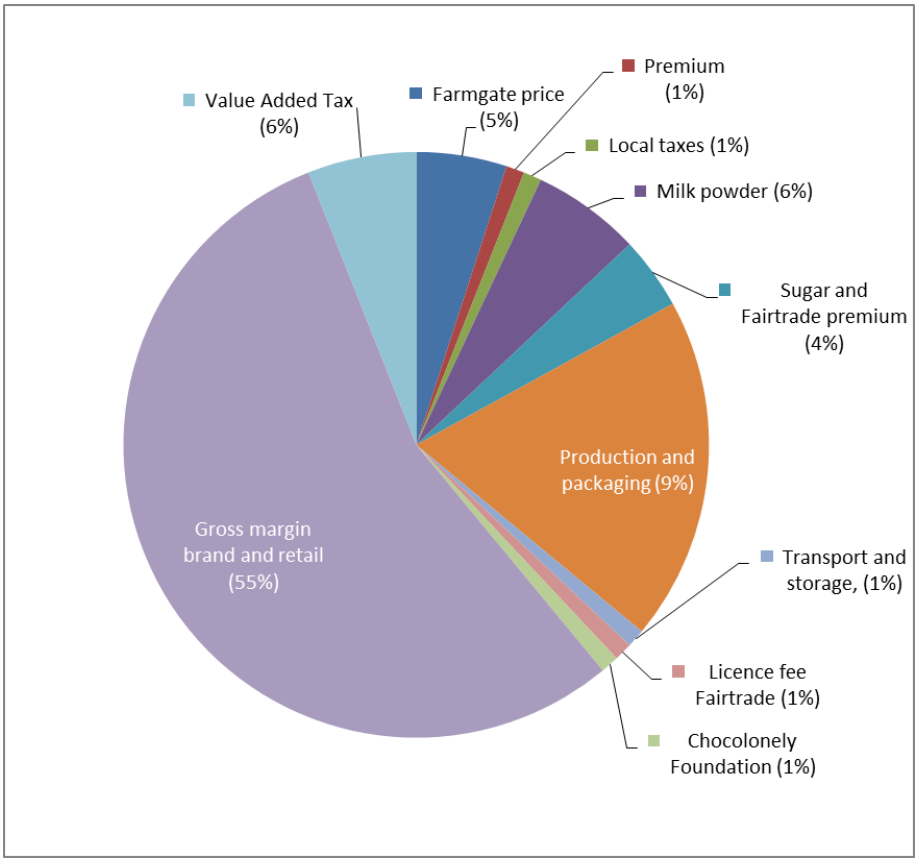
Figure 8: Certified Cocoa and Coffee Producers Compared to Uncertified Producers



Source: (COSA, 2013)

While moderate income improvement is possible, only when certified farmers receive price premiums, it is often not guaranteed. This is partly because one-third of the certified cocoa supply is marketed in the mainstream commodity markets. This goes against the general belief, underlying the market-based approach, that economic benefits will follow automatically upon reaching compliance requirements. Additional, the asymmetric value distribution along the chain remains unaffected by the certification schemes. According to a literature review by International Trade Center (ITC), even additional revenue, for the certified products, were distributed unevenly along the value chain and mainly captured by brand manufactures (ITC, 2011). The share of consumer price that accrues to a certified cocoa producer is still marginally small, not much different from conventional cocoa. Figure 9 presents the price structure of a Tony Chocolonely Fairtrade chocolate bar, which suggests that the farmgate price, including the premium, still adds up to just 6% of the final price. This is just about a tenth of the gross margin for brand and retailers.

Figure 9: Price Structure of a Fairtrade Chocolate Bar



Source: (Tony Chocolonely, 2014)

Beyond the market issues, the expansion, and the eventual full mainstreaming, of standard & certification schemes is undermined by the major structural challenges surrounding cocoa production. Smallholders are not homogeneous and not all cocoa producers can access certification, perhaps a key reason for the pervasive overlapping certified status of the easily accessible farmers. While about 90-95% of cocoa producers in West Africa are smallholders and relatively poor, they were classified into four segments in terms of their ability to participate in certification schemes (KPMG, 2011). The first is a small segment which is already certified. The second segment, also relatively small, which is not yet certified, but they can be certified if they make the required capital investment. A third, yet, larger segment, who are settled in remote areas and not yet organized, is difficult to reach and include in certification schemes. For this group, certification will require larger investment costs. A fourth, perhaps, the largest segment cannot be reached at all with certification: farmers live too remote and produce very small quantities, too little to cover the annual costs for certification (KPMG, 2011).

3. Global Value Chains and Public Governance

The pervasive serious challenges, constraining market-based solutions, have once again opened the door for a renewed emphasis on the public governance. The most prominent experience is the reinstatement of the government role in regulating the cocoa sector in Cote d'Ivoire. More than two decades after IMF/World Bank pre-conditioned debt relief to liberalizing the cocoa sector in Cote d'Ivoire, they again, in 2011, pre-conditioned a US$4 billion debt relief deal (IMF, 2012) to reforms in the cocoa sector, but they required re-regulation of the cocoa sector this time. The ongoing reforms, launched since November 2011, are based on three pillars, involving the establishment of (Agritrade, 2012): 1) the *Conseil du Café-Cacao* (CCC), a central body responsible for the management and regulation of the domestic market; 2) the new centralized marketing mechanism that guarantees a fixed seasonal farmgate price; 3) a reserve fund at the Central Bank of West African States (*Banque Centrale des États de l'Afrique de l'Ouest – BCEAO*) to cover risks and support price stabilization.

The central goal of the reform is to improve farmer income and reverse years of underinvestment in cocoa farms, now characterized by ageing trees, declining productivity, and abandoning of cocoa farming by youth. In this regard, the CCC aims to guarantee a minimum seasonal farmgate price at 60% of the average international price (Ecobank, 2014). This contrasts the liberalized system in which local buyers ('pisteurs'), often controlled by large processors, bargained down prices at the farmgate, paying as little as 20-40% of the international price (Ecobank, 2014).

Table 8: Reinstatement of Public Governance in the Cocoa Sector in Cote d'Ivoire

Liberalized System	New Reformed System
Aimed to promote competitiveness of Ivorian cocoa products in Europe & USA markets	Aims to ensure farmers receive at least 60% of the average international price during the season
Six independent & competing marketing systems	Centralized marketing authority (the CCC)
Fluctuating price as little as 20-40% of international price, bargained by large processors	Minimum reference price, enforced with prosecution
Protracted tax break for processors	End of export subsidies for processors
No futures contracts	Guaranteed buyers through future auctions

Source: (Ecobank, 2014)

Under the reformed sector, the centralized marketing authority will auction 70-80% of the upcoming season's crop, with the balance still marketed by the authority but in spot markets during the season (Agritrade, 2012). The auctions require traders and processors to place bid for export contracts, stipulating strict conditions related to export tonnage and validity period.

The reform, with no surprise, faced serious resistance by international cocoa traders and processors present in Cote d'Ivoire. The country's lead cocoa traders initially boycotted the auctions, protesting the pricing system. Large processors (Table 9) contested the associated change in the export tax system, threatening to move their operations to neighboring Ghana if the tax subsidy was not sustained (Agritrade, 2012). Previously, processors paid an export tax – droit unique de sortie (DUS) – which basically qualified them for a 25% tax deduction. The tax subsidy to processors, aimed to incentive investment, was initially intended for five years but had ended up lasting nearly 20 years (Agritrade, 2012).

Table 9: Cote d'Ivoire's Cocoa Processing Industry

Company	Capacity ('000 tons)	Market Share
Barry Callebaut (Saco)	190	28%
Cargill (Micao)	120	18%
Cemoi	100	15%
ADM (Uncao)	86	13%
Olam International	70	10%
Choco Ivoire (Saf Cacao)	32	5%
Ivory Cocoa Products	25	4%
Sucso	24	4%
Condicaf	15	2%
Tafi	8	1%
Total	670	100%

Source: (Ecobank, 2014)

Despite the initial resistance, the affected cocoa traders/processors had obviously no real alternatives and inevitably participated in the newly regulated market. The important underlying reasons for this early success were suggested to be: the inherent characteristics of global cocoa production and the evidence-based policy decision by the newly elected government in the country. As described earlier under the Section 1.3, cocoa production is geographically concentrated and Cote d'Ivoire is the world's large cocoa producer and exporter. This global dominance elevates the country's bargaining power to effectively negotiate with industry players. Nevertheless, due to the enormous political and economic implications of the reforms, the government viewed the threats seriously and hired PricewaterhouseCoopers to carry out an audit and make recommendations on the future of the 20-year-old tax subsidy, which was abolished (Agritrade, 2012).

There is a growing trend towards increased public governance in cocoa producing countries. In Ghana, where the sector was never fully liberalized, the industry has directly sought government leadership in coordinating the often scattered private initiatives. The Ghana Cocoa Platform (GCP), partly sponsored by Mondelez International and World Cocoa Foundation, is now hosted and chaired by the COCOBOD. The GCP initiative was launched to strengthen public governance required to coordinate planning and implementation of programs in the cocoa sector (GCP, 2014). It has already spearheaded a country-wide round of farmer consultation sessions across the seven cocoa growing regions (Wireko-Brobby, 2014). The assessments were aimed to directly solicit farmer views on challenges and issues facing the sector.

Such coordinated initiatives, championed by the producing country governments, offer the potential to concentrate on synergies between growth in the cocoa sector and farmer livelihoods. Nevertheless, it is too early to assess the outcome of the recent reforms and the associated stronger role for the public governance. In Cote d'Ivoire, the outcome of reforms is overshadowed by the recent decline in international cocoa prices. Average annual international prices have decreased from a high of US$3,133/ton in 2010 to US$2,440/ton in 2013 (World Bank, 2014a). Such a downward trend can diminish the basis for increased revenue both to the newly established regulatory institutions and to smallholder cocoa farmers.

4. Conclusion

The future growth of the cocoa-chocolate GVC is increasingly tied to whether it can fulfill a commensurate growth function to livelihoods of smallholders. Over the last decades, small farmers have experienced a persistent decline in real prices of cocoa and downfall in their cocoa-derived income. Lack of economic incentives at the farmgate, old trees, declining productivity, and the aging demographics now threaten the future supply of cocoa and the global chocolate confectionery industry. The remedial but scattered, often competing, initiatives sponsored by the industry stakeholders, have reached an impasse. In this connection, a complete reliance on the market-based solutions has illustrated its remarkable constraints to growth.

The industry stakeholders and international institutions are returning to a stronger role for public governance and state leadership in planning and coordinating implementation of sectoral initiatives. This is a step in the right direction and can potentially enhance the bargaining position of smallholders in market, currently characterized by an oligopsonistic structure. Unless the public and private actors collaborate in supporting the cocoa sector, the producing countries will, however, continue to faces the challenge of dealing with the highly concentrated and increasingly complex global markets. Driven by the profit-seeking interest, which is inherently positive, lead firms have undoubtedly introduced remarkable efficiency in modus operandi of the cocoa-chocolate GVC over the last decades. But, their market power has effectively blocked transmission of the generated value upstream to producing countries. Instead, smallholders have even lost value-addition opportunity that traditionally was embedded in farm level activities of cocoa production.

Thus, for the ongoing efforts, their effectiveness, under the best possible scenario, is constrained by the regulatory jurisdiction of governments in producing countries. Under the reformed markets, smallholder will receive a higher share of the global price. But, the cocoa price itself is still going to be determined by buyer power in the concentrated global markets. Lowering prices can quickly erode the gains. The reforms in Cote d'Ivoire is overshadowed by the recent decline in global market prices, that constitute the basis for domestic price received by small farmers and is fundamental to revenue for the newly established regulatory institutions.

Case Three: Pro-Poor Development and Power Asymmetries in the Sugar-Soft Drinks GVC

Prepared by Andrew Guinn

Summary

Sugar-soft drink global value chains span two heterogeneous industries – the sugar industry and the sweetened soft drink industry – which are each dominated by different sets of lead firms. Whereas global commodities traders and sugar milling groups play leading roles in the sugar industry, branded soft drink companies lead the bottling, distribution and marketing activities of these chains. Since sugar is almost entirely produced and traded as an undifferentiated commodity and faces high competition from multiple substitutes (beet sugar, corn syrup and a growing array of artificial and natural sweeteners), linkages between mills and their buyers (including soft drink bottlers) generally occurs through market transactions, with neither party exercising substantially more power than the other.

Whereas the soft drink industry is relatively concentrated within two corporate players, The Coca Cola Company (TCCC) and PepsiCo Inc., the global sugar industry is relatively diffuse, covering millions of farmworkers, tens of thousands of farms, and thousands of sugar mills. The largest sugarcane milling group, the Brazilian company Raizen, accounts for only about 2.5% of global sugarcane production.

Nevertheless, the global production and export of sugar is geographically very much concentrated within a small handful of players. Brazil is, by leaps and bounds, the largest sugar producer and exporter in the world. India is the second largest producer, though most of the country's production is destined for the domestic market. Thailand is the world's second largest exporter of sugar. These countries have each increased their share of global sugarcane production since 2001, indicating growing geographic concentration.

The global sugar industry has grown rapidly since 2001, with production expanding by 22% and total exports growing by 46%. Nevertheless, this expansion has been accompanied by growing reports of labor violations, environmental degradation and "land grabs" associated with sugarcane production. There have been a handful of private governance initiatives to reverse these trends, including the proliferation of supplier codes of conduct among lead firms, the emergence of a multi-stakeholder roundtable initiative (Bonsucro) and the growth of a small number of certification programs. While these initiatives have expanded farmer and farmworker incomes and eliminated environmentally damaging production practices in a handful of cases, they remain piecemeal efforts and, combined, cover less than 5% of global sugar production. Furthermore, adverse labor practices are commonly associated with informal labor subcontractors, whose activities can be difficult for private stakeholders to monitor. Evidence from Brazil, India and Thailand shows that illegal labor subcontracting relationships, child labor practices and land grabs can undermine the potential benefits of participation in sugar GVCs. Thus, there is growing interest in the role of public governance to promote improved developmental outcomes in sugar value chains. In recent years, the most important efforts to roll

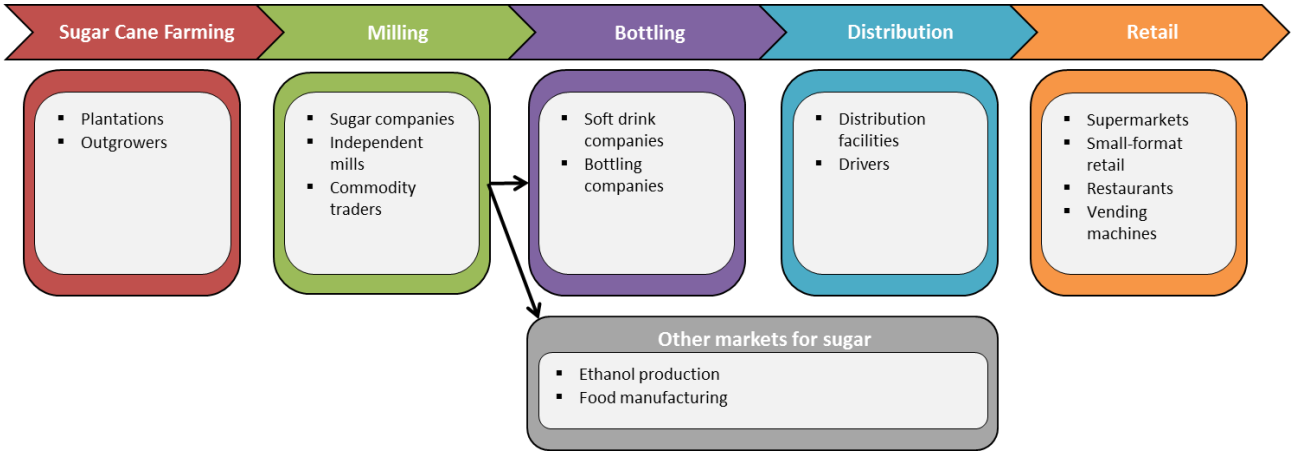
back labor exploitation and environmental degradation, while few in number, have typically originated in the governance activities of public, rather than private, actors.

1. The Sugar-Soft Drinks Global Value Chains: Lead Actors and Power Asymmetries

1.1. Input-output structure of global industry

The sugar-soft drink value chain includes all of the activities required to manufacture sugar-based soft drinks. These activities include sugar cane production (on farms), the processing of sugar cane (in mills), the production and bottling of soft drinks, distribution and retail. Figure 10 indicates Farming and milling activities are always carried out proximately to one another, given the perishability of harvested cane. Bottling, distribution and retail are also activities that occur near each other, due to the licensing practices of lead firms in the soft drink sector.

Figure 10: The sugar-soft drinks global value chain



Rather than directly engaging in all parts of the supply chain, lead firms in the soft drink industry, including TCCC and Pepsi, use a franchise model to orchestrate their value chain and manage their brand. That is, these firms do not produce soft drinks themselves but rather manage and support a network of bottlers. Some bottlers are owned, in whole or in part, by TCCC or Pepsi, but it is more common that bottling is outsourced to other large (typically multinational) beverage companies, such as SAB Miller, or to smaller nationally based companies. While TCCC and Pepsi provide some technical assistance and insist that their bottlers comply with corporate codes of conduct, bottlers are responsible for selecting their own suppliers and managing their own sourcing and distribution networks. The only physical input provided by the parent company to bottlers is the unique flavoring syrup that differentiates specific soft drinks from one another.

The soft drink industry accounted for the use of roughly 25.4 million tonnes of sugar in 2011, or 12.5%[12] of the sugar produced globally in that year (Euromonitor, 2014; FAOStat, 2014). Considering the substantial market share of TCCC and PepsiCo, these companies can be tied to significant flows within sugar GVCs. TCCC alone accounted for 3.2% of sugar produced in

[12] This figure is based on Euromonitor's (2014) estimate of the amount of sweeteners purchased by the soft drink industry, divided by the FAO's estimate of total raw sugar equivalents produced globally.

2011, while PepsiCo's beverage products accounted for 1.4%.[13] Similar data is not available for biofuels producers, so market power over the sugar sector cannot be compared across soft drink and biofuels companies.

Sugarcane farming: Sugarcane is a species of grass that grows in tropical and subtropical regions. It requires 12-18 months to mature and is a perennial plant (unlike sugar beets), meaning that it regrows from the roots after cutting. Though sugarcane cultivation requires several months, harvesting is a relatively quick process, which must be completed within a few days of the plants reaching peak maturity.

Typically, harvesting is carried out manually, though some farms (especially in Brazil) have been increasingly shifting to mechanized methods (Deininger & Byerlee, 2011). Manual cane harvesting is a difficult job, and it is associated with adverse working conditions for sugar cane harvesters as well as negative environmental consequences. It is at this stage in the chain that the negative development consequences of the sugar-soft drinks value chain (and the sugar industry more broadly) may be found. These are described in more detail on p. 16. The alternative is to use mechanized harvesting practices. However, introducing mechanized harvesting requires a change in the organization of production not only on sugar farms, but also at mills. Farms must resize their tracts, realign rows of cane, eliminate terraces, remove rocks and tree stumps, and plant specific varieties of cane. Mills must also adapt their practices under mechanized harvesting methods because cane harvested by machines contains a higher proportion of organic matter and therefore depreciates more quickly than manually harvested cane (Coslovsky & Locke, 2013; Doner & Ramsay, 2010).

The cultivation and harvesting of sugar may occur on large or small farms. Large farms may be owned by mills and serve as a source of raw material for milling activities, or they may be owned by independent landowners. Small farms which grow sugarcane typically sell cane to a nearby mill on an outgrowing contract basis. In Brazil roughly half of the country's total sugar yield produced by small- to medium-sized farms of less than 50 hectares, and half is produced in large, vertically integrated farms which have a mill on-site. Similarly, in Thailand and India, production is also distributed across a mix of large and small farms. In the United States and Australia, on the other hand, production occurs primarily on large, mechanized estates. In several Sub-Saharan African countries, including Tanzania, Kenya and South Africa, production more typically occurs on small farms, which develop supplier relationships will mills on an out-grower basis (Chisanga et al., 2014). There may be technological pressure towards the further concentration of sugarcane farms within vertically integrated enterprises, as mills are increasing the scale at which they operate. Whereas a new mill in 2000 processed about 20,000 hectares worth of sugar cane, by 2011 new mills were able to produce as much as 70,000 hectares. The expansion of environmental standards has also promoted the consolidation of farmland within large farms. This is because environmental best practices prohibit the burning of cane after harvest, which produces substantial carbon emissions, essentially ruling out manual harvest. As only larger, more capital-intensive operations can afford to introduce mechanical harvesting methods, these are favored by the expansion of environmental standards (Coslovsky & Locke, 2013; Deininger & Byerlee, 2011).

[13] These figures are based on Euromonitor (2014) estimates that TCCC controlled a 25.9% market share of the soft drinks market in 2011. In that year, PepsiCo controlled 11.5% of the market.

Milling: Once sugarcane is harvested, it must be transported to a mill within a couple of days of cutting. At the milling stage of the value chain, fresh cane is first chopped, shredded, mixed with water and crushed in order to create a juice of sucrose and water.[14] This juice is then evaporated until it forms a thick syrup, which is then placed in a centrifuge and then dried until it forms crystals of "raw sugar", which are chemically stable but still contain some molasses. Raw sugar may be sold as-is, or it may be further refined into white sugar, which has a higher concentration of sucrose. Sugar refineries may be collocated with mills, but not necessarily. Raw sugar is the commodity that is most typically traded internationally, though refined white sugar is what is used by bottlers for soft drink manufacturing (Bouckley, 2013).

Bottling: The bottling stage of the value chain entails the production of soft drinks from sugar and other inputs and the packaging of the soft drinks within bottles. Aside from sugar (which is supplied by mills) and the flavor concentrate (which is supplied by the parent company), key inputs for bottlers include water, carbon dioxide and other chemicals, as well as bottles and labels (Oxfam, 2011). Bottling is a highly capital-intensive process, and it tends to be located close to major centers of product demand, i.e. large cities. Bottling plants may produce multiple brands or types of soft drink, simply substituting one flavor concentrate for another on their filling lines and shifting other ingredient levels accordingly. However their activities are governed by non-compete clauses and licensing agreements issued by the parent companies who own the brands under which bottling companies produce.

Distribution and retail: Distribution comprises the logistical activities necessary to bring bottled soft drinks from the bottling plant to retail outlets. Typically, it is bottling companies (rather than parent companies) that are responsible for distribution. As a part of their licensing contract with the parent company, bottlers are granted licenses to distribute branded soft drinks within a particular geographic area. As such, bottlers must negotiate distribution deals with retail outlets and other points-of-sale. Typical distribution arrangements include direct store delivery, delivery to customer warehouses, and delivery to foodservice businesses (including both the delivery of bottled drinks as well as the installation and maintenance of soda fountains), and delivery to vending machines. Distribution practices may vary according to customer needs, product characteristics and local business norms (PepsiCo, 2011).

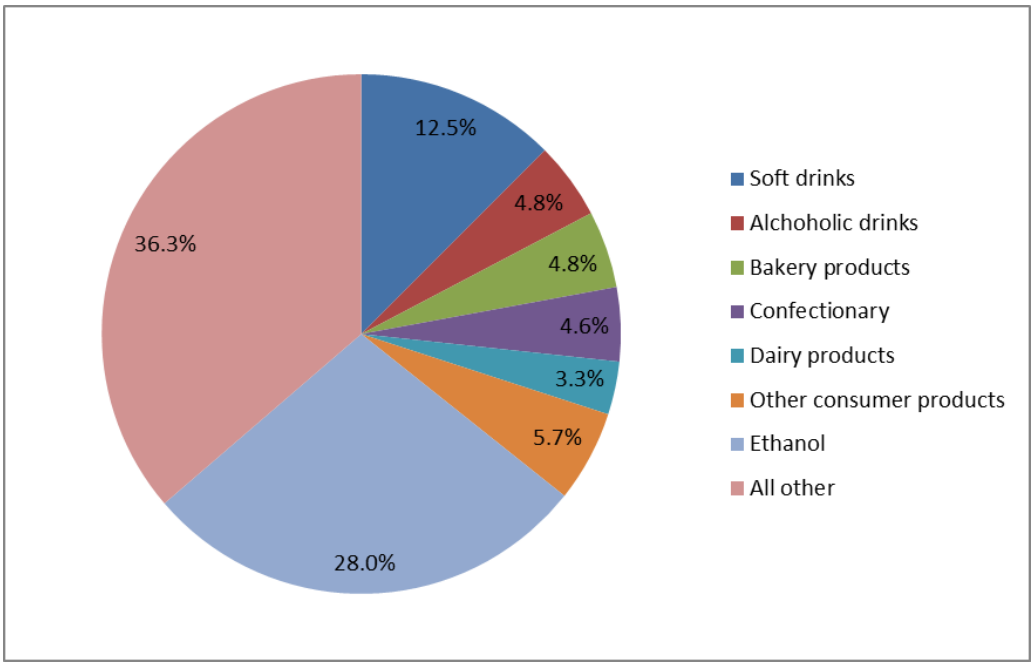
Other markets for sugar: The soft drink industry accounts for a greater share of global sugar demand than any other consumer-facing industry. Soft drinks use more sugar than the bakery and confectionary (candy) industries combined. Nevertheless, industrial uses – particularly the production of ethanol – represent an even larger share of global demand for sugar. This implies that soft drink companies have substantial market power with respect to the sugar industry, their influence is limited.

Figure 11 shows the top sugar-using industries. With respect to consumer products, sugar is, unsurprisingly, primarily found in food and drinks. Of these, soft drinks represent the largest source of global demand for sugar (12.5%). The next three largest consumer categories – alcoholic drinks, bakery products and confectionary – each account for between 4.5% and 5% of global demand. The dairy industry, which produces ice creams and yogurts that incorporate sugar, represents a slightly smaller share of sugar demand (3.3%). Other consumer products

[14] The remaining cane stalks, known as bagasse, are usually burned for the cogeneration of electrical energy at the mill.

(canned foods, dried foods, ready-made meals, etc.) account for a further 5.7% of sugar demand. In total, consumer-facing products account for 35.7% of global sugar demand.

Figure 11: Distribution of sugar demand, by industry (2011)



Source: Euromonitor 2014, OECD 2014 FAOState 2014

Nevertheless, the single largest source of demand for sugar is the production of ethanol. Though sugar has been used to produce ethanol for decades, this source of demand for sugar has grown in importance since 2000. As of 2010, roughly 28% of the sugar that was produced globally was used to manufacture ethanol biofuel (OECD, 2014). Thus, biofuels already constitutes a larger market for sugar than soft drink manufacturing, and nearly as much as all consumer-facing products combined. The countries where most sugar ethanol production occurs are Brazil, China and Thailand. Trade in biofuels remains a small share (7%) of global production, though this figure is growing, driven almost entirely by growing Brazilian exports of ethanol biofuel (OECD, 2014). By 2020, the ethanol industry will account for an estimated 33% of global sugar cane production.

The use of sugar for ethanol production is especially important in Brazil, which is, by far, the world's leading sugar grower. In Brazil, more than half of the sugarcane that is grown is used for the production of ethanol fuel. Ethanol use in Brazil is higher than in other countries because the government mandates that ethanol fuel be blended with gasoline for use in motor vehicles. In fact, the dynamics of the global sugar industry can be affected by institutional changes in the Brazilian ethanol blending mandate, as a moderate increase in the share of ethanol blended into gasoline in Brazil can have large implications in terms of global demand for sugar-based ethanol. Consequently, there is a fierce political lobbying in Brazil among sugar ethanol refineries and oil companies over the level at which ethanol fuel mandates should be set (Doner & Ramsay, 2010).

In response to the dynamic growth of the Brazilian ethanol industry (and the subsidies which support it), there have been several investments by international players in the Brazilian sugar ethanol industry. For example, in 2010 Dutch Royal Shell formed a joint venture with Cosan, one of the Brazil's largest sugar processing and ethanol distilling companies, to form a joint venture called Raizen. Louis Dreyfus Commodities (LDC) has long been a major player in Brazil's ethanol market, owning a full stake in 13 mills. In 2008, BP formed a joint venture with LDC and the Brazil-based Maeda and began acquiring mills in the country. The commodities trader Bunge has full or partial ownership of nine mills, producing both ethanol and sugar. Similarly, commodities traders ADM, Cargill and Glencore each own mills in Brazil. Other global trading companies, including the Hong Kong-based Nobel Group and the Japanese Sojitz also have ownership stakes in ethanol-producing mills in Brazil (ISO, 2012).

Finally, a new end-market for sugar is emerging in plastic polymers. That is, one of the chemical inputs (mono-ethylene glycol, or MEG) used in the creation of PET bottles can be replaced by resins made from sugar-based ethanol. In fact, TCCC has recently begun introducing plant-based resins to the PET bottles used by some of the company's bottlers (TCCC, 2012). It is not clear how much of global sugar demand is accounted for by the plastics or other chemicals industries, nor how quickly this source of demand is growing.

The diversity of end-markets for sugar indicates that a variety of tactics may be required of civil society organizations who are interested in promoting improved social and environmental standards in the sugar industry. That is, soft drink companies and other branded food and drink manufacturers may have relatively less power over sugar markets, as new, highly capitalized energy companies such as Shell and BP expand their interest in the sugar industry. However, energy companies and plastics manufacturers are more difficult targets for naming-and-shaming campaigns. As these firms expand their share of the sugar market, will they also feel compelled, as TCCC and PepsiCo have, to engage in certification programs as a means of protecting their brand?

1.2. Geographic concentration of sugar cane production and trade

In recent decades, sugar has been increasingly cultivated for its potential as an export crop. This trend has been facilitated by growing international demand for sugar, including in countries where sugarcane is not produced commercially, as well as the introduction of mechanized harvesting and milling technologies which enable strong economies of scale in the sugar sector (Coslovsky & Locke, 2013; Doner & Ramsay, 2010; Valdes, 2011). Whereas in 1991, only 23.6% of all sugar produced was exported to world markets (rather than consumed in the country of origin), in 2011 35.8% of sugar was traded internationally (Table 10). This section will explain how the sugar production and exports have grown increasingly concentrated within a small set of countries since 2000.

Table 10: Global sugar production and exports

Year	Production*	Exports*	Share traded
1981	115.5	30.8	26.6%
1991	140.1	33.1	23.6%
2001	166.8	49.6	29.7%
2011	203.5	72.9	35.8%

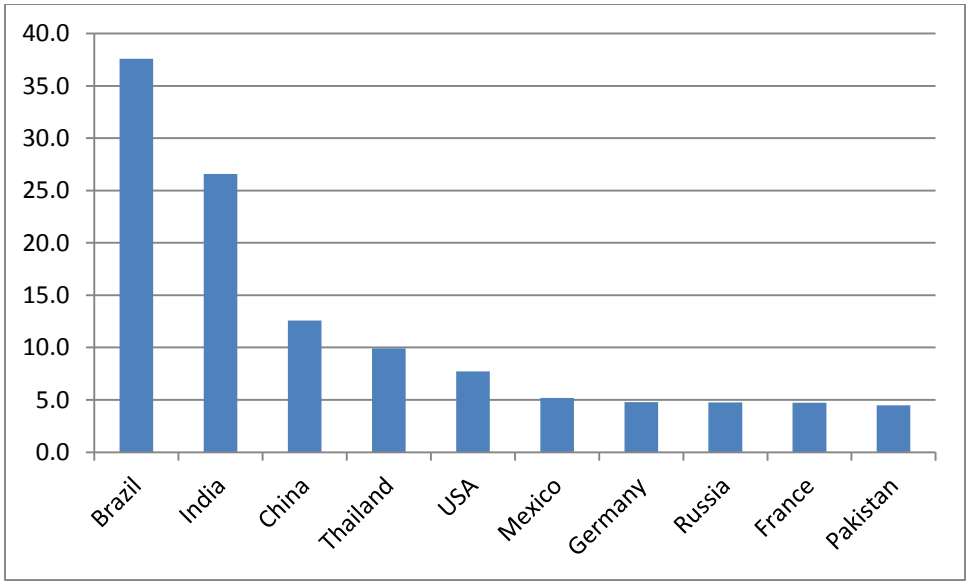
*Production and exports are expressed in millions of tonnes
Source: FAOStat 2014

1.2.1. Production

Total global sugar production in 2011 was 170.7 million metric tons. Though 121 countries are engaged in the cultivation of sugarcane, sugar production is largely concentrated within just a few countries. Brazil is the world's largest producer of sugar, accounting for 37.6 million tonnes of sugar production in 2011, or 22% of the world total (FAOStat, 2014).[15] The Brazilian sugar industry has 413 mills and 80,000 farms. It employs 1.3 million workers and generate US$20 billion in annual revenues, or 2.3% of national GDP (Coslovsky & Locke, 2013).

Other large producers of sugar include India (16% or global production), China (7%) and Thailand (6%). Though India is a major producer of sugar, it is also a massive source of demand; the vast majority of sugar which is produced in India is consumed domestically, so the country does not participate heavily on the export market.

Figure 12: Sugar production by top producers, 2011 (million tonnes)



Source: FAOStat 2014

[15] This share (22%) is taken with respect to total world production of raw sugar equivalents. This includes beet sugar, but not corn syrup.

The concentration of sugar production within a handful of countries is a trend which has intensified since 2001. Table 11 shows how much sugar, by volume, the largest ten sugar producers grew in 2001 and 2011, as well as the share of world production that each country accounted for in both years. All of the top ten producers captured a larger share of global production in 2011 than they did in 2001, indicating that sugar production grew more geographically concentrated during the decade. Brazil increased its share more than any other country. Whereas other countries increased their share of global production by one or (in the case of Thailand) two percentage points, Brazil expanded its share by seven percentage points. The rapid growth of the global export market during the last decade as well as the growing concentration of production has occurred in the context of a historic spike in the price of sugar (Figure 13).[16] During this time also, prices have grown increasingly volatile due to a combination of demand and supply factors (McConnell et al., 2010). On the demand side, rapid economic expansion developing countries in recent years, particularly in South and Southeast Asia, has generated volatile demand cycles for internationally traded sugar. On the supply side, changing policies in major sugar producers have led to swings in the price of sugar on global markets. For example, India and Thailand have shifted their policies surrounding export subsidies for sugar; these affect the quantity and thus the price of sugar in global markets (Agarwal, 2014). In addition, Brazil's large presence in the export market means that small fluctuations in Brazilian production, due to either climactic fluctuations or policy change (such as shifting mandates for ethanol fuel blending) can have an outsized effect on global prices.

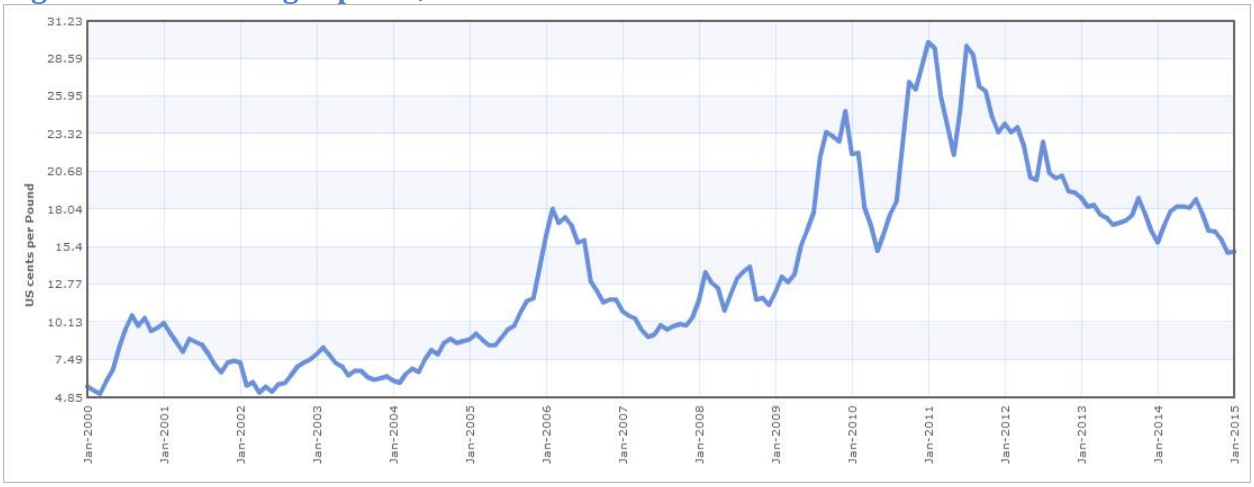
Table 11: Top sugar producers in 2001 and 2011

	Production (million tonnes)		Share of world production	
Country	2001	2011	2001	2011
Brazil	20.4	37.6	15%	22%
India	20.5	26.6	15%	16%
China	9.5	12.6	7%	7%
Thailand	5.4	9.9	4%	6%
USA	7.2	7.7	5%	5%
Mexico	5.6	5.2	4%	3%
Germany	4.1	4.8	3%	3%
Russia	1.7	4.8	1%	3%
France	4.0	4.7	3%	3%
Pakistan	3.2	4.5	2%	3%
TOTAL	133.6	170.7	100%	100%

Source: FAOStat 2014

[16] The data contained in Figure 13 shows the average daily future position for sugar (#11 contracts) on the Coffee Sugar and Cocoa Exchange (CSCE) of the New York Stock Exchange. Sugar #11 is the most common type of futures contract for sugar, differing from #14 primarily in the shipping terms of the contract, rather than the quality specifications of the sugar.

Figure 13: Global sugar prices, 2000-2015



Source: IndexMundi

The importance of the sugar sector across these ten major producing countries can be felt in different ways. As sugar's share of a total output, exports and/or employment grows within a given country, the sugar industry gains political leverage, so with respect to understanding sources of private power over sugar governance, it is important to identify in which countries' economies sugar plays the greatest role. Table 12 compares the top ten sugar producing countries in terms of the sugar industry's share of each country's total output, exports and employment. Measured in these terms, the sugar industry is not terribly important in overall national economies of the US, Germany, Russia or France. However it accounts for a large share of total employment in India, China, Mexico, Pakistan and Mexico due to the prevalence of labor-intensive harvesting practices in these countries. Sugar is an important export sector and accounts for a substantial share of national GDP in Brazil and Thailand, and to a lesser extent India.

Table 12: Importance of the sugar sector in major producing countries, 2011

	Gross production (USD billions)	Production as % GDP	Exports of sugar (USD billions)	Exports of sugar as % total exports	Employment in sugar sector (million workers)	Employment in sugar as % total employment
Brazil	22.8	0.9%	14.9	5.8%	1.1	1.0%
India	6.1	0.3%	1.9	0.6%	45	9.4%
China	3.7	0.1%	0.3	0.0%	40	5.0%
Thailand	3.1	0.9%	3.7	1.6%	1	2.5%
USA	2	0.0%	0.3	0.0%	0.14	0.1%
Mexico	2.4	0.2%	1.2	0.3%	0.93	1.7%
Germany	6.1	0.2%	0.8	0.1%	0.03	0.1%
Russia	2.6	0.1%	0	0.0%	0.2	0.3%
France	1.8	0.1%	1.8	0.3%	0.03	0.1%
Pakistan	0.9	0.4%	0	0.0%	4.2	6.4%

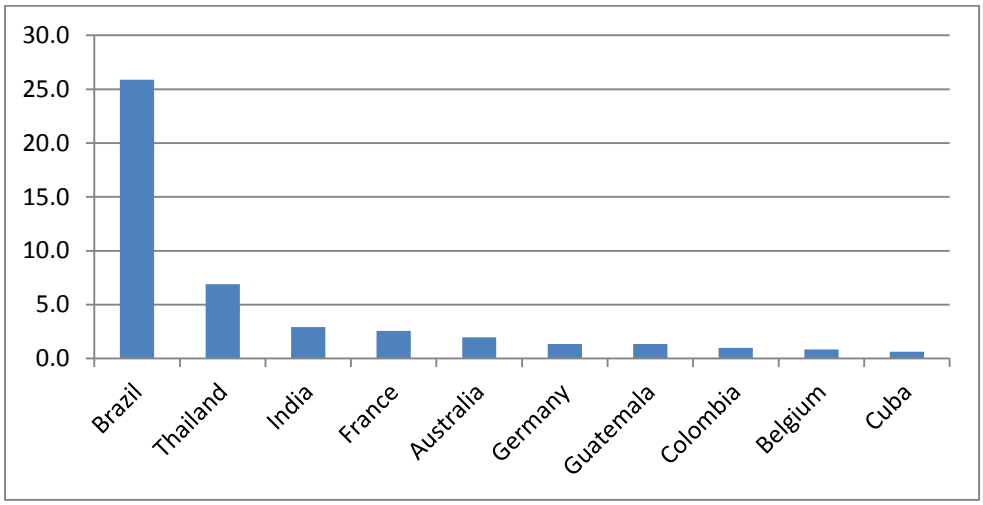
Sources: FAOStat, UNComtrade, World Bank, USDA Gain Reports

1.2.2. Trade

Roughly 30% of sugar that is produced is traded internationally; the rest is consumed in the country where is it grown. Sugar cane exports are, unsurprisingly, even more concentrated than production. Brazil is, far and away, the leading exporter of sugar, accounting for 25.9 million tonnes of sugar exports, or 44% of the world export market in 2011 (FAOStat, 2014). During that year, the country exported 70% of the sugar that it produced. Brazil is followed by Thailand (11%), India (5%) and France (5%).[17]

Even as the total export market has grown worldwide in recent years, the production of sugar for export has become increasingly concentrated geographically since 2001 (Table 13). Whereas the top three exporters of sugar in 2001 (Brazil, Thailand and Australia) accounted for 41% of global sugar exports, the top three exporters in 2011 (Brazil, Thailand and India) accounted for 56%. Most of this growth can be accounted for by the expansion of Brazilian exports, which more than doubled between 2001 and 2011 from 11.6 to 25.9 million tonnes. As of 2011, Brazil alone accounted for 44%, or nearly half, of the world export market, indicating that the country's sugar industry has substantial influence over the global sugar trade.

Figure 14: Sugar exports by top exporters, 2011 (million tonnes)



Source: FAOStat 2014

[17] Though France is not geographically suitable for the production of sugarcane, the country nevertheless has a substantial sugar industry based on the cultivation and processing of sugar beets and on the processing of imported sugarcane.

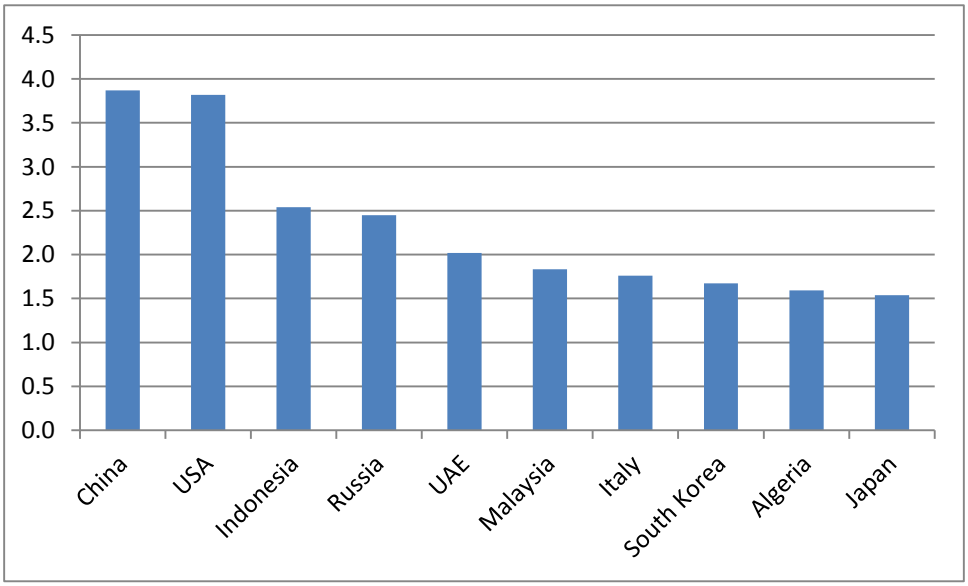
Table 13 Top sugar exporters in 2001 and 2011

Country	Exports (million tonnes)		Share of world exports	
	2001	2011	2001	2011
Brazil	11.6	25.9	26%	44%
Thailand	3.4	6.9	8%	12%
India	1.5	2.9	3%	5%
France	3.1	2.6	7%	4%
Australia	3.2	2.0	7%	3%
Germany	1.9	1.3	4%	2%
Guatemala	1.1	1.3	3%	2%
Colombia	1.0	1.0	2%	2%
Belgium	1.5	0.8	3%	1%
Cuba	2.9	0.6	7%	1%
TOTAL	44.5	59.3	100%	100%

Source: FAOStat 2014

The global import market is far less concentrated than that for exports (Figure 15). Though Russia was the world's leading importer in 2001, representing 14% of global sugar imports, today no country accounts for more than 6% of global sugar imports (Figure 15). Today, the top importers of sugar are China (importing 6% of internationally traded sugar), USA (6%), Indonesia (4%) and Russia (4%). As the global export market is far more concentrated within a small number of countries as compared to the global import market, exporting countries have relatively more bargaining power in international sugar markets.

Figure 15: Sugar imports by top importers, 2011 (million tonnes)



Source: FAOStat 2014

Table 14: Top sugar importers in 2001 and 2011

Country	Imports (million tonnes)		Share of world imports	
	2001	2011	2001	2011
China	1.9	3.9	5%	6%
USA	1.5	3.8	4%	6%
Indonesia	1.4	2.5	3%	4%
Russia	5.6	2.4	14%	4%
UAE	1.1	2.0	3%	3%
Malaysia	1.3	1.8	3%	3%
Italy	0.5	1.8	1%	3%
South Korea	1.5	1.7	4%	3%
Algeria	1.0	1.6	3%	3%
Japan	1.6	1.5	4%	2%
TOTAL	41.2	62.3	100%	100%

Source: FAOStat 2014

1.3.Key actors and power in sugar value chains

Large MNCs can be found among soft drink companies, bottling companies, sugar traders and sugar milling companies. This section of the report will describe the specific lead actors that are involved in the various segments of the sugar-soft drinks value chain, examine the extent of market concentration among these companies, and consider how power dynamics lead to adverse development outcomes further down the chain. Finally, it will examine the participation of MNCs in Bonsucro, a certification initiative intended to improve the economic, social and environmental sustainability of global sugar production.

1.3.1. Soft drink companies

TCCC and Pepsi, both headquartered in the United States, are the world's largest soft drink companies. These companies are known as "parent companies" in the soft drink industry, as they do not directly produce soft drinks but rather manage a network of bottlers, some of which are partially or fully owned as subsidiaries. Though these firms do not directly own manufacturing plants or engage directly in the manufacturing process, they are able to exert power over their bottling network through their control of highly desirable brands and the advertising campaigns which support these. Thus, bottling companies are willing to pay substantial licensing fees in order to gain the permission to manufacture and distribute branded Coca Cola or Pepsi products to consumers.

TCCC, in particular, has a commanding share of the global market, representing 20.9% of global soft-drink sales. Pepsi's global market share (9.6%) is roughly half of that of TCCC's. The next largest soft drink manufacturer, Danone, controls 4.7% of global soft drink sales, followed by Nestlé (3.9%) and Ting Hsin (1.8%).[18]

[18] Note that Pepsi, Danone and Nestlé are highly diversified corporations which manufacture products for several different consumer markets, including packaged foods, confectionary, dairy and coffee.

However, TCCC and Pepsi have lost world market share over the last ten years (Table 15). This appears to be attributable to the rise of regional and national soft drink brands in emerging markets, particularly in East Asia, such as Ting Hsin. This indicates that the world soft drink industry may be growing less concentrated at this juncture.

Table 15: World soft drink market share (off-trade) 2004-2013, top 15 companies

Rank	Company Name	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1	Coca-Cola Co, The	22.2	22.3	22.1	22.1	22.1	22.1	21.8	21.6	21.4	20.9
2	PepsiCo Inc	11.9	11.9	11.7	11.5	11.3	10.8	10.4	10.3	9.9	9.6
3	Danone, Groupe	4.9	4.6	4.7	4.9	4.8	4.1	4.3	4.5	4.5	4.7
4	Nestlé SA	3.4	3.6	3.8	4.0	3.9	3.8	3.9	4.0	4.0	3.9
5	Ting Hsin International Group	0.3	0.5	0.8	1.1	1.1	1.4	1.8	1.8	1.6	1.8
6	Dr Pepper Snapple Group Inc	0.0	0.0	0.0	0.0	1.7	1.6	1.6	1.6	1.5	1.4
7	Suntory Holdings Ltd	-	-	-	-	-	1.0	1.0	1.0	1.0	1.1
8	Hangzhou Wahaha Group Co Ltd	-	-	-	-	-	0.9	0.9	0.9	0.9	0.9
9	Yangshengtang Co Ltd	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.8
10	Uni-President Enterprises Corp	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.8
11	Acqua Minerale San Benedetto SpA	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
12	Kirin Holdings Co Ltd	0.4	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.6	0.6
13	Aje Group	0.0	0.3	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5
14	China Resources Enterprise Ltd	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5
15	Parle Bisleri Ltd	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5
											Source: Datamonitor 2014

There is substantial regional variation in TCCC's and Pepsi's shares of the soft drink market (Table 16). TCCC's position is especially strong in Australasia, Latin America and North America. Pepsi's market share is relatively strong in Eastern Europe, Latin America and North America. Both countries have a below-average market share in the Asia Pacific region and in Western Europe.

Table 16: Soft drink market shares of TCCC and PepsiCo Inc. across world regions, 2013

	The Coca-Cola Co.		PepsiCo Inc.	
	Volume (mn liters)	Market Share (%)	Volume (mn liters)	Market Share (%)
World	111,394.0	20.9	51,175.6	9.6
Asia Pacific	25,828.5	16.1	8,538.1	5.3
Australasia	1,656.1	40.3	329.5	8.0
Eastern Europe	6,022.9	17.5	4,069.0	11.8
Latin America	34,395.3	36.1	11,210.8	11.8
Middle East and Africa	9,831.5	16.1	5,925.1	9.7
North America	20,172.6	22.5	17,482.5	19.5
Western Europe	13,623.0	15.7	3,620.6	4.2
				Source: Datamonitor 2014

How much of global sugar consumption do products marketed by TCCC and Pepsi represent? The soft drink industry accounted for the use of roughly 25.4 million tonnes of sugar in 2011, or

12.5%[19] of the sugar produced globally in that year (Euromonitor, 2014; FAOStat, 2014). Considering the substantial market share of TCCC and PepsiCo, these companies can be tied to measurable flows within sugar GVCs. TCCC alone accounted for 3.2% of sugar produced in 2011, while PepsiCo's beverage products accounted for 1.4%.[20] Similar data is not available for biofuels producers, so market power over the sugar sector cannot be compared across soft drink and biofuels companies.

1.3.2. Bottlers

Though bottling plants produce branded products for TCCC and Pepsi, due to the franchise model that guides both parent companies, bottlers are in fact separate corporate entities. Nevertheless, parent companies maintain a close relationship with their bottlers by providing technical assistance including marketing support, financial assistance, and capacity building. Bottlers must pay a licensing agreement to the parent company in exchange for the right to produce soft drinks under their brand, and they are typically required to engage in non-compete agreements, so that bottlers may not produce competing products under multiple brands at the same time (Lefevre, 2013).

There are multiple ownership models by which parent companies may take a stake in their bottlers. Bottlers may be fully or partially owned by the parent company, or they may operate as completely independent businesses. There is substantial geographic variation with respect to the models which are favored in different countries, and some countries may feature multiple ownership models. For example, in USA, Europe, Brazil, Philippines and some of Sub-Saharan Africa, there are many bottlers which operate under a "shared investment model"; that is, they are jointly owned by TCCC and other corporate entities. In India bottlers are either fully owned by Coca Cola's bottling arm, Hindustan Coca Cola Bottling, or operate as independent franchisees (Bhushan, 2010). Similarly, TCCC does not pursue a shared investment model in China.

The cornerstone of both companies bottling networks are a handful of relatively large bottling operations that feature full or partial ownership of the parent company. These are known as "anchor bottlers." TCCC's anchor bottlers include: Coca-Cola Refreshments (North America), Coca Cola Enterprises (Western Europe), Coca Cola Helenic (Eastern Europe and Africa), Coca Cola Amatil (Australia and Southeast Asia), and Coca Cola FEMSA (Mexico and Latin America). Pepsi has three anchor bottlers – Pepsi Bottling Group, Pepsi Americas Inc. and Pepsi Beverage Ventures – all of which are located in North America.

SAB Miller and AmBev, the two largest beverage companies in the world, operate several independent bottling facilities throughout the world that license with either TCCC or Pepsi. SAB Miller, the South Africa-based beverages MNC, is a major TCCC-licensed bottler in Brazil, El Salvador, Honduras, Angola, Botswana, Lesotho, Swaziland, Zambia and South Africa (SABMiller, 2007). AmBev, the Brazilian-based beverages MNC, has exclusive franchise rights for a range of Pepsi-branded soft drinks in several Latin American countries, including Brazil, Argentina, Bolivia, Uruguay, Peru and the Dominican Republic (Ambev, 2014).

[19] This figure is based on Euromonitor's (2014) estimate of the amount of sweeteners purchased by the soft drink industry, divided by the FAO's estimate of total raw sugar equivalents produced globally.
[20] These figures are based on Euromonitor (2014) estimates that TCCC controlled a 25.9% market share of the soft drinks market in 2011. In that year, PepsiCo controlled 11.5% of the market.

In the last several years, both TCCC and Pepsi have consolidated their control over leading bottlers by purchasing shares or outright acquiring bottling companies that form major parts of their networks. These moves signal a reversal of the companies' previous strategy of keeping bottlers at arm's length, a practice which was based in the belief that a looser relationship with the parent company would foster entrepreneurship among its bottlers (Financial Times, 2009).In 2009, Pepsi purchased a larger stake in its largest bottlers in the Americas, Pepsi Bottling Group and PepsiAmericas (Financial Times, 2009). Coke followed suit in 2010, buying its largest bottler, Coca Cola Enterprises, and using this entity to gain further control over bottling operations in Norway, Sweden and Germany (Burrit & Stanford, 2010). Nevertheless, declining returns from soft drink sales could lead TCCC and Pepsi to reverse these investments in the the coming years (Jakab, 2015).

In addition to this move towards greater parent company control over bottling groups, there has been consolidation within the bottling segments of both the TCCC and Pepsi value chains since 2010. Though systematic global data about ownership patterns across bottling companies, the following stories provide evidence that the bottling segment of the chain is facing ongoing consolidation.

- FEMSA purchased a 51% share of Coke's largest Philippine bottler in 2012, its first acquisition outside of Latin America: (Fenner & Case, 2012)
- FEMSA has acquired several bottlers in Brazil in recent years. In the wake of the bottler's most recent acquisition of a company called Spaipa in 2013, FEMSA now controls the distribution of roughly 40% of the Coca Cola sold in Brazil.
- SAB Miller, Sabco (Coca Cola's largest South African bottler) and TCCC have agreed to merge their operations across more than 30 bottling plants in Sub-Saharan Africa (Financial Times, 2014).
- PepsiCo entered a joint venture with Tingyi-Asahi Holdings, a major Chinese bottling company, in 2011, granting the newly formed company exclusive rights to manufacture and distribute Pepsi soft drinks in China. There has also been consolidation among independent bottlers in India, where RJ Corp has emerged as the country's leading Pepsi bottler (Bhushan, 2013)

1.3.3. Traders

A handful of commodity trading companies are involved in the international trade of sugar. Commodity traders are involved in the sugar industry through the ownership (full or partial) of mills, participating in futures markets for sugar, physically shipping raw sugar internationally, and engaging in the production and sale of ethanol fuel. Though a comprehensive list of commodity traders involved in the sugar industry is not available, a review of news articles and industry sources finds that the following eleven global commodity traders are involved in the international sugar trade:

1. Bunge
2. ADM
3. Wilmar
4. Noble Group
5. Louis Dreyfus
6. Czarnikow

7. Sucden (Sucres & Denrées)
8. Cargill[21]
9. ED&F Man
10. Armajaro Trading
11. Vitol
12. Dangote

Unfortunately, data regarding the scale of international flows of sugar controlled by the various commodity traders or the revenues that they realize from the sugar trade is not available, so it is impossible to rigorously assess the market power of these firms in a quantitative fashion. Nevertheless, a review of news articles reveals that in recent years these companies have made substantial investments in global sugar and ethanol production, investing billions of dollars in sugar mills and, especially, ethanol distilling capabilities in Brazil (see p. 4).

1.3.4. Sugar milling companies

Globally, sugar milling companies are not very concentrated; no single milling company controls a commanding share of the global market – though some companies may control large shares of particular domestic markets. Table 17 shows the world's twenty leading sugar milling companies, as well as their output in 2013 and their corresponding share of the global market.[22] The top five sugar producers globally are Sudzucker, Raizen (a joint venture between BP and Cosan), Tereos and Mitr Phol. This figure shows that no single milling company controls more than 3% of the global market, and the combined market share of the top ten companies is 18.5%, indicating that (at the global level), mills do not have substantial market power with respect to their buyers.

Table 17: Leading sugar milling companies, 2013

Rank	Company	Headquarters	Production, 2012/13 (million tonnes)	Market share*
1	Sudzucker	Germany	4.9	2.7%
2	AB Sugar	UK	4.4	2.4%
3	Raizen (Cosan/Shell)	Brazil	4.3	2.4%
4	Tereos	France	3.9	2.2%
5	Mitr Phol	Thailand	3.7	2.1%
6	Nordzucker	Germany	3.1	1.7%
7	Biosev (Louis Dreyfus)	Brazil	2.1	1.2%
8	Wilmar	Australia	1.9	1.1%
9	Pfeifer & Langen	Germany	1.7	0.9%

[21] Cargill's sugar trading business formed a joint venture with Copersucar, the largest cooperative of mill owners in Brazil, in 2014. The new business is called Alvean.

[22] Note that Copersucar, Brazil's largest marketer of sugar, is not included in this list. This is because Copersucar is organized as a cooperative of 88 independently owned mills, rather than a single group which directly owns mills. If Copersucar operated as a single entity, it would be the largest sugar milling company in the world. During the 2012/2013 season, it produced 7.8 million tonnes of sugar (Copersucar, 2014). 6.1 million tonnes of this was exported.

10	Thai Roong Ruang	Thailand	1.7	0.9%
11	Feesa	Mexico	1.6	0.9%
12	American Crystal	USA	1.5	0.8%
13	Santa Terezinha	Brazil	1.5	0.8%
14	Turkseker	Turkey	1.4	0.8%
15	Guanxi Nanhua	China	1.4	0.8%
16	Bajaj Hindusthan	India	1.4	0.8%
17	Shree Renuka	India	1.3	0.7%
18	Cristal Union	France	1.3	0.7%
19	Tongaat	South Africa	1.3	0.7%
20	Cosun	India	1.2	0.7%

Source: Kuhlman 2014, FAOStat 2014

Some of the twenty largest milling companies are state-owned, national companies. Turkseker, a company that refines cane sugar and produces beet sugar, is owned by the Turkish government. Guanxi Nanhua is a state-owned milling group in the southern Chinese province of Guanxi. And Feesa is owned by the Mexican government, though the company has been gradually privatizing its mills since 2012 (USDA, 2012). States may decide to invest directly in sugar cultivation for several reasons. For example, sugar is considered a staple food item in many cultures, so governments have an interest in keeping domestic prices below the market rate. In addition, sugar cultivation represents an important source of employment generation, so governments may choose to invest in sugar milling in order to generate demand for cane within the agricultural sector.

Though global time-series data is not available to assess changing patterns of market concentration among leading milling companies, recent country-level data for Brazil, China and India is shown below in Table 18. The data indicate that milling is growing more concentrated in Brazil, but less concentrated in the other countries. Nevertheless, in late 2014, prices for sugar had fallen as a result of overinvestment in recent years. There is much speculation in the financial press that this could lead to further consolidation among sugar milling companies in the coming months (Brough & Ewing, 2014).

In response to pressure from Oxfam and other civil society organizations that they make their supply chain practices more transparent, both TCCC and Pepsi agreed to announce their top three suppliers of sugar in 2014. The top three suppliers of sugar to TCCC were Copersucar (a Brazilian cooperative made up of sugar mill owners), Mitr Phol (a Thai sugar and bioenergy producer) and Dangote (a Nigeria-based commodities trader, which sources most of its sugar from Brazil). Copersucar and Mitr Phol are leading sugar milling groups which each control more than 2% of the global sugar market. Dangote is not on the list of the top 20 milling companies, though it is the largest private enterprise in Nigeria. The top three suppliers of sugar to Pepsi are Sucden (a global commodities and financial futures trader), Savola (a Saudi diversified food manufacturer), and TRR (a Thai milling company).

Table 18: Top sugar companies in Brazil, India and China, by market share

		2010	2011	2012
Brazil	Copersucar SA	13.4	16.1	16.1
	Cosan Ltd	-	9.0	9.6
	Biosev SA	6.5	6.3	7.3
	Tereos Internacional SA	4.8	5.4	5.4
	São Martinho SA	2.6	2.5	2.9
	Cosan SA Açúcar e Álcool	8.6	-	-
	Others	64.2	60.8	58.8
	Total	100.0	100.0	100.0
India	Shree Renuka Sugars Ltd	5.9	5.2	5.9
	Bajaj Hindustan Ltd	5.5	3.7	3.7
	Balrampur Chini Mills Ltd	3.1	2.1	3.0
	Triveni Engineering & Industries Ltd	2.0	1.8	1.8
	Sakthi Sugars Ltd	2.1	0.9	0.9
	Others	81.4	86.3	84.7
	Total	100.0	100.0	100.0
China	Guangxi Nanning East Asia Sugar Group	8.5	8.5	8.5
	Nanning Sugar Industry Co Ltd	3.6	3.2	2.3
	Liuzhou Fengshan Sugar Group Co Ltd	2.0	2.0	2.0
	Dongguan Sugar Factory Co Ltd	1.1	1.1	1.1
	Guangxi Guitang Group Co Ltd	1.2	1.0	0.7
	Others	83.6	84.2	85.4
	Total	100.0	100.0	100.0
				Source: Datamonitor

1.4.Power asymmetries and governance in sugar GVCs

Sugarcane milling companies, including commodity traders that have investments in mills, have limited power with respect to their buyers. Since sugar is a globally traded commodity that is difficult to differentiate based on quality standards, bottlers and other buyers of sugar face very low switching costs with respect to the mills which supply them. Thus, sugar mills face a highly elastic (horizontal) demand curve, such that they cannot transfer costs onto buyers. Buyers, on the other hand, may choose between multiple mills when buying sugar, so they are able to negotiate low prices.

Mills do have substantial power over farms, however. Though many mills own plantations, which serve as a source of raw material for milling activities, many mills also buy cane from surrounding small and medium farms, typically on an outgrower (contract) basis. Mills have monopsony power over surrounding farms; since cut sugar deteriorates rapidly after being harvested, farms have no choice but to send it to the nearest mill for processing. Thus, farms cannot negotiate with multiple mills in the way that bottlers and other buyers can. In other words, farms are “captive” suppliers to nearby mills. As a result, the pressures of low and fluctuating sugar prices are pushed onto farms and the labor that they employ. However high levels of structural unemployment in rural areas provide a ready supply of farmworkers, either workers from nearby farms or migrant workers from greater distances, who are prepared to harvest sugarcane under adverse conditions, including contractual arrangements that do not meet national legal requirements regarding the minimum wage, worker health and safety laws, and the right to collectively bargain. Finally, due to the capital-intensity and scale requirements

associated with milling, it is uncommon for farms to enter into this segment of the chain; this barrier to upgrading among farms helps to sustain the market power of mills vis-à-vis upstream actors such as farms and farmworkers.

The precarious situation of sugar farms has led to adverse outcomes in a number of areas, including poor labor and environmental practices and a tendency towards "land grabs", or the acquisition of land rights without providing former users with free, prior and informed consent. Given the difficulties that sugar farms face with respect to upgrading into milling or other value-added activities, the main options available to farmers in order to expand profits and/or deal with falling prices is to reduce the cost of operation or expand production onto new land. As the main source of cost with respect to sugar harvesting is labor (particularly where manual harvesting is used), farms thus face an incentive to pay less for farm labor, for example by turning to labor contractors employing informal workers. Conversely, farms may expand their revenues by growing sugar on larger land areas. This situation creates an incentive for farms to engage in land grabs as a means of acquiring additional land for sugar cultivation or to expand cultivation in such a way that it produces environmentally harmful runoff onto neighboring farms.

1.5. Challenges for pro-poor development in sugar GVCs: Labor and land

Since the era when slaves harvested sugarcane, sugar farms have been the site of egregious labor violations. Though sugarcane is usually harvested by wage laborers today, working conditions remain generally poor, particularly in areas where sugar cane is harvested manually rather than by machine. This is because most of the sucrose is concentrated near the base of the stalk, so harvesters must bend low and use significant force when cutting the cane. When the farms hiring laborers do not invest in the proper trainings and safety equipment, workers can easily become injured (Coslovsky, 2013). Also, given the tight profit margins faced by sugar farms, farmers sometimes seek to reduce labor costs by outsourcing labor-intensive harvesting activities to third-party labor contractors, who charge based on production and are able to provide a labor force on demand. Labor contractors serving the sugar industry have been found to violate labor standards – such as child labor laws, minimum wage laws, the right to free association, regulations limiting the length of the workday, and regulations mandating the use of adequate health and safety equipment – in multiple countries including Brazil (Coslovsky, 2013), Nicaragua (STR, 2009b), Honduras (STR, 2009a), India (Chisanga et al., 2014), and Thailand (DOL, 2014a), among others. The US Department of Labor has documented child labor in the sugar sectors of seventeen countries: Belize, Bolivia, Burma, Colombia, El Salvador, Dominican Republic, Ghana, Guatemala, India, Kenya, Mexico, Pakistan, Panama, Paraguay, Philippines, Thailand, and Uganda (DOL, 2014b). Labor contractors in the sugar sector are also commonly reported to withhold pay from workers and to rely on migrant and unregistered labor (Coslovsky & Locke, 2013). Since farms so often outsource harvesting activities, it can be legally difficult to detect labor violations and hold these farms accountable for the labor violations that occur on their land.

Efforts to improve labor standards on sugar farms are scarce, however those that have occurred have typically been undertaken as a result of actions taken by the state, rather than through the use of "buyer power" by major buyers like TCCC and Pepsi. For example, Brazilian labor inspectors and government prosecutors have, since 2005, taken legal action against several farms which have subcontracted harvesting activities to unscrupulous labor contractors. As a result, there has been a substantial decline in labor violations and reports of "slave-like" conditions on

Brazilian sugar farms (Coslovsky & Locke, 2013).[23] Similarly, Thai labor inspectors have recently partnered with the US Department of Labor in order to promote compliance with labor laws on sugar farms (DOL, 2014a).

In addition to violations of labor standards, sugar cane farms are also frequently the cause of various forms of environmental degradation. Since most of the sugar produced globally is grown in monocultures that depend on the application of chemical fertilizers, sugarcane production has been tied to chemical runoffs into streams, lakes and oceans (Davis et al., 2011). In addition, under manual harvesting methods, farms burn their fields immediately before workers move in to cut the cane in order to eliminate extraneous foliage, which allows the workers to move more quickly. Although this practice nearly doubles labor productivity, it also creates air pollution, increases the incidence of respiratory diseases in neighboring towns, and kills wildlife (Coslovsky & Locke, 2013; IISD, 2014).

Finally, as indicated on p. 5, there has been pressure towards the consolidation of larger and larger tracts of land for sugar farms. There are multiple reasons for this, including the ability of larger, mill-owned farms to more easily plan supply and demand for milling activities than multiple small farms. In addition, large farms are more easily able to finance the investments in mechanization, training and environmental compliance that lead to improved productivity and minimize legal liabilities. However, the expansion of large sugarcane farms qualifies as a land grab if it occurs in the absence of free, prior and informed consent. In 2013, Oxfam showed that Usina Trapiche, a mill owned by the commodity trader Bunge, sourced sugar from a farm that had engaged in land grabbing (Oxfam, 2013). This sugar was eventually purchased by a local Coca Cola bottler, implicating the global soft drink brand in the practice of land grabs. Also in 2013, a Cambodian sugar farm supplying Tate & Lyle, which is itself a supplier to Coca Cola, was shown to have engaged in land grabbing (Hodal, 2013). This episode eventually precipitated in Tate & Lyle's expulsion from the Bonsucro initiative. Mitr Phol, which is Thailand's largest sugar company and also a supplier to Coca Cola, has also been accused of engaging in land grabs in Cambodia (Heimkhemra, 2014).

While it is of course critical to hold TCCC and Pepsi to account for legal and human rights violations in their supply chains, it is also important to consider the broader dynamics of the market system in which these adverse practices are embedded. While poor labor and environmental outcomes have long been characteristic of sugarcane harvesting, the recent uptick in the number of land grabs occurred during a period of extraordinary expansion in the global production and trade of sugar. Much of this has been driven not by growth in the consumption of sugary soft drinks, but rather by rising demand for sugar-based ethanol as a renewable source of energy. Given the overlaying patterns of ownership and exchange that link together multiple actors across the farming, milling, trading and energy segments of the sugar value chain as well as the diffuse set of end-markets into which sugar is sold, however, it is the responsibility of all actors in sugar value chains to ensure that harvesting may occur in compliance with prevailing labor, environmental and social standards.

[23] This improvement in labor standards was facilitated by auditors from TCCC, who trained large farms on the business practices necessary to introduce mechanized harvesting methods. Such methods increase labor productivity and decrease demand for unskilled contract labor, thus indirectly promoting improved labor practices.

2. The Rise of Private Governance and Its Limitations

There are three main sources of private governance to promote improved labor, environmental and social standards in sugar-soft drink value chains. These are: corporate codes of conduct (covering the supply chains of major buyers like TCCC and PepsiCo), multi-stakeholder governance (Bonsucro), and third-party certifications (Fairtrade, Rainforest Alliance and Organic). However even as these initiatives set specific and meaningful standards for labor and environmental practices for actors in the supply chain, each covers such a small share of global sugar production that it has a very limited impact on the organization of the entire industry.

2.1.Coca Cola and Pepsi: Corporate Codes of Conduct

Before 2000, bottlers within the Coca Cola network were tasked with verifying that their suppliers complied with food safety and other standards. After substantial negative publicity in the late 1990s and early 2000s, including an incidence of food poisoning in Europe and reports of flagrant labor violations in the Americas, TCCC decided to take charge of monitoring suppliers within the franchise's value chain. In 2000, the company introduced the T1 Compliance Audit to rate the reliability and quality of bottlers' suppliers. In 2002, it unveiled a code of conduct known as the Supplier's Guiding Principles (SGP). These efforts were aimed at ensuring product quality and protecting the firm's brand from allegations of labor violations at bottling plants (Coslovsky & Locke, 2013). Shortly afterwards, Pepsi followed TCCC in creating a supplier code of conduct. TCCC most recently updated their code of conduct in 2011 to emphasize the International Labor Organization's Decent Work standards (TCCC, 2011). Pepsi most recently updated its supplier code of conduct in 2013 (PepsiCo, 2013). Though both codes of conduct feature strong language against labor and environmental violations and states that all suppliers to TCCC and PepsiCo bottlers must obey local laws, enforcement mechanisms remain dependent upon third-party providers and leave room for non-compliant sugar mills to slip through the cracks. Audits are performed through self-assessments using third-party service providers such as SEDEX (Supplier Ethical Data Exchange) or directly by third-party organizations.

2.2.Bonsucro: A private, multi-stakeholder governance initiative

More recently, both companies have become members of Bonsucro, which grew out of the World Wildlife Fund-supported Better Sugarcane Initiative (BSI) in 2008. Bonsucro is a organized as a roundtable, meaning that it draws on members from across the sugar value chain, including farms, mills, commodity traders, buyers (in the confectionary, soft drinks and energy industries) and civil society organizations. Both TCCC and Pepsi are member of Bonsucro and have committed to buying 100% Bonsucro-certified sugar by 2020. Prominent members include BP,Bunge, Cargill, ED&F Man, General Mills, Mondelez, Nestle, Odebrecht, Petrobras, Rabobank, SAB Miller, Shell Energy, Syngenta, Unilever and the World Wildlife Fund (Bonsucro, 2014a). Due to the fact that certification efforts began in Brazil, the vast majority of Bonsucro members are found in Brazil.[24] Most of these are mills and farming organizations (such as co-ops), though a handful of Brazilian lead firms and large agro-business entities are also involved.

[24] Certification has also commenced in Australia, and there are plans to begin certification in India and Thailand soon.

The Bonsucro standard is awarded at the mill-level, rather than to farms. To be certified by Bonsucro, sugar must be produced under conditions in which auditors have found that producers comply with the initiative's guiding principles.[25] The initiative began certification efforts in 2011. The first Bonsucro-certified sugar was produced in 2011 by a mill in São Paulo and sold to a Coca Cola bottler in Brazil (TCCC, 2013). Bonsucro currently covers 3.74% of the sugarcane produced in the world (Bonsucro, 2014a). However, Bonsucro CEO Nick Goodall had expected that by the end of 2014 5% of the world's sugarcane would be certified by Bonsucro, so the organization is already falling behind its goals (The Guardian, 2014). Bonsucro's target is to certify 20% of world sugarcane production by 2017. As of late 2014, it appears unlikely that Bonsucro will meet this goal.

2.3.Third-party certifications

In addition to Bonsucro, there is a handful of other, third-party certification programs. Whereas Bonsucro is governed by a set of members who are industry stakeholders and who pay a membership fee to participate in the organization, these certification programs are overseen by non-profit organizations which do not have a direct stake in the sugar industry. Outside of Bonsucro, the main certification initiatives with programs in sugar are Fairtrade, Rainforest Alliance and IFOAM/Organic. Table 19 displays all four certification initiatives as well as their annual production in 2012. Not all sugar which is produced under certified processes are necessarily sold as "certified" sugar; as with certified cocoa and other certified commodities, some is sold into commodity markets. The ratio of sales to production of sugars produced under the various certification initiatives is also indicated in Table 19.

Table 19: Ratio of Sales to Production of Certified Sugar

	Production (MT)	Share of global production	Share of global exports	Ratio of sales to production
Bonsucro	2,960,000	2%	6%	n/a
Fairtrade	450,000	0%	1%	64%
Rainforest Alliance	69,788	0%	0%	n/a
Organic	339,133	0%	1%	90%

Source: IISD 2014

Fairtrade: The Fairtrade certification program for sugar is monitored by the Fairtrade Labeling Organizations (FLO). As with other Fairtrade certification programs, the FLO initiative in sugar provided a "premium" of $60 per tonne in addition to the negotiated price and offer some funds for producer organizations to finance inputs (FLO, 2013). In order to participate in Fairtrade, producers must work in small, democratic producer organizations, eliminate forced and child labor and comply with environmental requirements. FLO is currently focusing its sugar program

[25] These are: Obey the Law, Respect Human Rights and Labor Standards, Manage input, production and processing efficiencies to enhance sustainability, Actively manage biodiversity and ecosystem services, Continuously improve key areas of the business, Meet additional mandatory requirements for biofuels under the EU Renewable Energy Directive and revised Fuel Quality Directive (Bonsucro, 2014b).

on small producer countries in Central America, South America and Africa, rather than major global producers. The organization currently has the largest programs in the following countries: Belize (accounting for 38 % of global Fairtrade production), Fiji (22%), Zambia (16%), Paraguay (11%) and Malawi (5%) (IISD, 2014). Almost all Fairtrade sugar is sold on the EU market.

Rainforest Alliance: Rainforest Alliance launched a sugar program in 2009, introducing a set of standards that cover both environmental as well as social/labor issues. This program is still in its pilot stage. The organization began certification efforts in 2011 and as of 2013 had only certified one farm in Brazil and one farm in El Salvador, representing a total of 70,000MT of production (IISD, 2014), or less than 0.05% of global sugar production.

IFOAM/Organic: In contrast to Fairtrade, certified organic sugar is sourced from traditionally larger exporting countries. The top source countries for organic sugar account for 68 per cent of global Organic sugar supply (IISD, 2014). While major producing countries may matter a lot for IFOAM/Organic, it is not follow that organic production methods are important to these countries. For example Brazil was the largest producer of Organic sugar, at 94,000 MT, in 2011 but this represents only 0.5% of Brazilian exports. Thailand produced 51,700 MT of organic sugar, accounting for 1.3% of the country's exports (IISD, 2014).

2.4.The Limitations of Private Governance

While all of the three types of private governance serve to promote improved labor and environmental standards along sugar value chains, each covers only a very small share of global sugar production. Thus, private governance initiatives lack the broad industry coverage necessary to have a transformative impact across the multiple countries and firms involved in sugar GVCs. For example, TCCC's code of conduct covers only up to 3.2% or global sugar production, and PepsiCo's only 1.4%. Bonsucro represents roughly 2% of global production (and nearly 6% of exports). And the various non-profit third-party certifications each cover far less than 1% of global production. Among the three types of private governance in the sugar industry, the multi-stakeholder approach, Bonsucro, has the greatest likelihood of expanding its market share substantially; however the organization's slow progress thus far indicates that for the foreseeable future the vast majority of world sugar production and trade will be processed through commodity channels with minimal oversight from certifying bodies.

Beyond the small market share that they provide, private initiatives are ultimately not well suited to address the power asymmetries that lie at the heart of adverse outcomes at the farm-level in sugar value chains. These power asymmetries are rooted in the commoditized nature of sugar and the monopsony power that mills hold over nearby farms, due to the high perishability of newly harvested sugarcane. As raw sugar (the output of milling) is an undifferentiated commodity, mills are price-takers on national and global markets. Since mills have substantial market power with respect to farms, however, they are able to push the costs of adjustment to low or volatile prices onto farmers, who in turn displace these onto farmworkers. Given the weakness of labor markets – particularly rural labor markets – in the major sugar producing countries, farms seem to have little trouble identifying local or migrant workers willing to harvest sugarcane, even under conditions that do not meet national labor laws. In short, the power of sugar mills over upstream actors is the key source of negative development outcomes

in the sugar sector, and this power asymmetry is simply not addressed by the existing menu of private initiatives.

Ultimately, these challenges are particularly difficult to address through private initiatives, given the nature of sugar as a product, namely its status as an undifferentiated, globally traded commodity that is used in multiple final goods, from soft drinks to ethanol to plastics. Since there are so many buyers for sugar scattered across so many different industries, buyers interested in promoting private governance initiatives face important challenges with respect to generating the critical mass of lead firms that would be necessary to drive collective action. Furthermore, not all buyers of sugar, either in domestic or international markets, have a strong incentive to promote new governance arrangements in sugar value chains. Manufacturers of sugar-based plastics or ethanol, for example, do not market a branded, consumer-facing product and thus do not face substantial reputational threats from being associated with adverse conditions in their supply chain. Furthermore, demand for sugar is growing most quickly among developing countries, where calls for pro-worker governance are weaker than in traditional leading markets like the US and the EU. Finally, most (65%) of the sugar produced globally is consumed within the country where it was grown. Thus, the pressure created by private initiatives, which relies crucially on lead firms' market power on the demand side, is not sufficient to drive system-wide transformation of sugar harvesting. Other channels to promote change include the introduction of new production technologies (e.g. mechanization)[26] and improving the capacity of government actors to successfully engage in private governance, particularly by holding mills and farms accountable for labor violations that occur on their land.

3. Global Value Chains and Public Governance

A solid understanding of private governance, in terms of both the direct value chain relations as well as broad certification initiatives that are described above, is important to understanding value chain dynamics. However public governance activities also shape sugar value chain activities in important ways, such as subsidy and trade policies, biofuel mandates, and labor and environmental laws. Public policies, particularly those regulating labor practices and land transactions, have an important role to play in determining whether or not participation in sugar value chains has pro-poor development outcomes, but such policies are not always well enforced. Indeed, ensuring compliance with labor laws in the sugar sector is a vexing challenge, even for regulatory agencies that are serious about enforcement. Teams of sugarcane harvesters move quickly through the fields, so tracking them can be challenging, particularly when they are not using mechanized harvesting technologies. Furthermore, as indicated above, farms may

[26] Evidence drawn from the South-Central Brazilian sugar sector suggests that one way to improve environmental and working conditions in the sugar sector is to shift to mechanized harvesting, (see Coslovsky, 2014; Coslovsky and Locke, 2013). While mechanization reduces overall number of jobs available to sugarcane harvesters (by increasing labor productivity), it also removes health and safety hazards associated with manual harvesting, such as repetitive motion injuries, accidents with machetes and inhalation of soot from burning sugarcane fields. In Brazil, the shift to mechanized production was initially resisted by farms, so the government needed to encourage the adoption of mechanized harvesting. It did so by creating a national roundtable, which put a spotlight on the plight of the sugar worker and generated popular pressure for improved working conditions, and through loans provided by the National Economic and Social Development Bank (BNDES) to mills and farms in order that they mechanize production (Ramos, 2011).

attempt to elide responsibility for the conditions of farmworkers by relying on third-party labor contractors for workers.

Public policies that generate demand or guarantee minimum prices to producers act to support sugar production in most of the leading sugar producing countries. These policy efforts are usually targeted at mills, in order to help them manage fluctuations in demand (international price) and supply conditions. In Brazil, this support is largely managed through the country's ethanol policy. Brazilian law mandates that fuel be sold as a 25% ethanol / 75% gasoline blend, and Brazil has a large fleet of flex-fuel vehicles. The large (and growing) sugar-ethanol market has served as a source of stable demand for sugar mills in the face of volatile global prices. In some cases, this steady demand creates certainty for mills and allows them to make investments in mechanization and improved production processes that improve labor and environmental outcomes (Coslovsky and Locke 2013). In India, the world's second largest sugar producer, sugar mills also benefit from public governance activities. The Indian government periodically introduces export subsidies and uses a minimum price program to support sugar mills (Agarwal, 2015). In addition, the Thai government implemented a sugar price support program in order to encourage increased production and investment in productivity improvements (USDA 2014).

Public governance aimed at improving development outcomes takes the form of labor and environmental regulations. Labor practices are a particular area of concern because 1) sugar cane harvesting is notoriously physically difficulty work (Coslovsky and Locke 2013) and 2) farms and mills often contract out harvesting activities to labor contractors, which are difficult to regulate. Public action in this area is necessary, because private governance efforts (including Bonsucro) do not include strong guidelines about labor and environmental practices, other than that participants follow the law.

Brazil, particularly around the state of São Paulo, has been a leader in creating and enforcing pro-labor and –environmental legislation in the sugar sector. After a roundtable hosted by the federal government, state officials and industry mills moved to implement mechanized production methods that minimize the need for burning harvested cane, a practice that generates large amounts of air pollution and harms the health of workers (Coslovsky and Locke, 2013). They also moved to more tightly regulate labor contractors in order to improve safety conditions and ensure that laborers received legal protections, including a minimum wage and the right to due process (Coslovsky 2013). These regulatory efforts were successful because 1) they held mills (the value chain segment that is relatively concentrated) responsible for legal compliance in their upstream supply chain and 2) they were driven by an aggressive and empowered team of labor inspectors.

Thailand has recently come under scrutiny for illegal labor practices, including child labor and slave-like conditions, among labor contractors in its sugar value chain. The government, under pressure from the US Department of Labor, has committed to better monitoring and regulating labor practices on sugar farms, including more tightly regulating the activities of labor contractors and eliminating all forms of forced labor and child labor from sugarcane production (DOL, 2014a).

Public governance of sugar GVCs in the areas of land tenure and land transactions also have implications for development outcomes. When rights to land tenure are weak or ambiguous, sugar mills may extend sugar cultivation onto land owned by marginal groups, either because

land rights are legally ambiguous and/or because the large farmer believes that land disputes will be settled in his favor or will not be brought before the courts at all. In addition, sugar mills may lease land under exploitative terms from small farmers, including beneficiaries of land reform, under terms which are not consistent with the principles of fair prior and informed consent (FPIC). Such practices are commonly referred to as "land grabbing". Such practices have been widely documented in Brazil (Bernardo Mançano Fernandes et al, 2010) and Cambodia (Heimkhemra, 2014), two countries in which sugar cane production has expanded in the last decade (many Cambodian sugar farms sell sugar to Thai-owned milling groups). A farm supplying Bunge in Brazil, for example, was found to have expropriated land from indigenous groups in order to expand production (Oxfam, 2013). These examples illustrate the challenges for pro-poor development that are associated with a *lack* of strong public governance over land tenure systems.

4. Conclusion

Since 2000, there has been a significant expansion in the global sugar industry, driven by trends such as the advance of sugar-ethanol biofuel technologies and the growth of middle class consumers in emerging economies who are consuming larger quantities of artificially sweetened foods and drinks. While the growth of demand for sugar has yielded important benefits for economic development, including the creation of a large number of on- and off-farm employments, labor violations, environmental degradation and a growing incidence of "land grabs" have in many places undermined the pro-developmental impacts, particularly among rural communities and sugar cane harvesters.

Addressing these negative outcomes in the areas of labor, land and the environment is difficult, because the sugar industry is extremely diffuse, involving millions of workers, tens of thousands of farms and thousands of mills across the globe. Improving labor practices in particular is all the more problematic because labor violations are often hidden behind informal labor contracting arrangements. Furthermore, sugar is a commodity-grade product characterized by tight competition based on price, with few opportunities for product differentiation and value-addition before it is sold from mills to buyers such as soft drink bottlers, ethanol companies, and food manufacturers, so mills face low profit margins and few incentives to pass these on to farms or to laborers. Though a handful of private governance efforts have arisen in order to increase farmer incomes or promote the environmental sustainability of sugar production, these initiatives remain very piecemeal in nature and unlikely to have a systematic effect on the global sugar industry.

In light of the limitations with respect to private actors' ability to promote pro-poor outcomes in sugar GVCs, efforts to improve working conditions, environmental standards and land tenure in should refocus on the role of the state. A focus on strengthening public governance is particularly important at this moment due to the prevalence of informal (unregulated) labor subcontractors in driving down wages for sugarcane farmworkers in the main sugarcane producing countries, particularly Brazil and Thailand. Public governance has had a handful of important successes, including the strict enforcement of labor and environmental standards in by the state-level labor inspectorate in São Paulo, Brazil. Expanding pro-poor public governance initiatives in sugar GVCs will require the active participation of national policy-makers, who may be disinclined to draw attention to illegal or unethical behavior in the supply chains of their most important export crops.

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Appendix

Li & Fung Ltd. Profile

Li & Fung (L&F) Limited is a Hong Kong-based trading and brand marketing company for hard and soft goods with $20.7 billion in sales in 2013 (ending December 31) (Li & Fung Ltd., 2014c). In 2008, apparel represented 2/3 of total sales, the largest product category (Kapner, 2009). In 2009 L&F represented an estimated 6 percent of the U.S. apparel market (Patton, 2009).

L&F does not own production facilities, yet their size is one of their main advantages. The company maintains a larger network of buying offices than any clothing firm (just-style.com, 2009). Li & Fung has 65 global trading offices, 66 distribution offices and 49 logistics offices. The company has approximately 15,000 suppliers in over 40 economies, up from only 13 countries in 1994 (Kapner, 2009; Li & Fung Ltd., 2014a). In 2008, 49 percent of softgoods were sourced from China, followed by Vietnam and Bangladesh (Li & Fung Ltd., 2014c).

Geographically the U.S. is the largest market for L&F, representing 62 percent of the Group's sales in 2013, followed by Europe at 19 percent and Asia (12 percent)(Li & Fung Ltd., 2014a). In the mid-2000s, L&F's largest customer was Kohl's, accounting for approximately 12 percent of sales (Li & Fung Ltd., 2009; Patton, 2009).

Li & Fung has a multi-faceted business model with operations organized into three business networks: trading, distribution and logistics. For fiscal year 2013, the trading group accounted for over three-quarters of sales, followed by distribution and logistics (Li & Fung Ltd., 2014c).

Intermediary/Trading Company

Li & Fung began as a trading company, and is still primarily known a buying agent responsible for sourcing products from its global network of suppliers on behalf of retailers and brands. In 2008, Gymboree, The Limited Stores, Ecko Unlimited, Kohl's, Timberland, American Eagle, Carter's (Oshkosh), Hudson Bay Trading (Lord & Taylor), Mervyn's and Goodies (before bankruptcy in 2008) and about 30 percent of UK retailers are customers of Li & Fung (Einhorn, 2009; Fung, Fung, & Wind, 2008; Kapner, 2009; Samaraweera, 2007; Telegraph, 2008). Recently L&F has also been purchasing the sourcing operations from retailers (just-style.com, 2009). Li & Fung has taken over sourcing and the sourcing operations of: Tommy Hilfiger, KarstadtQuelle (Germany), Liz Claiborne and Talbot's (Datamonitor, 2008; Kapner, 2009).

New: Brand Marketer via Licensing and Exclusive Brands: Global Brands Group

In 2014, L&F announced plans to spin-off its Global Brands Group (GBG) into a separate company. GBG is primarily from the distribution group and sales were approximately $3.3 billion in 2013 (Li & Fung Ltd., 2014b). This group represents operations related to "brand marketing" and includes sales from licenses and controlled brands.

Related to the GBG was a shift for the company to "on-shoring." Instead of sending container-loads of products to the U.S. from China as an exporter, the company opens a base in the U.S. and becomes an importer instead. This has the advantage of allowing Li & Fung to be geographically closer to its customers (Telegraph, 2008). As part of this movement, Li & Fung has also been buying and licensing brands to increase market share and expand skills and services. In 2004, L&F established a U.S. licensing agreement for the Levi Strauss Signature label for tops (Abernathy, Volpe, & Weil, 2006; Datamonitor, 2008). In 2005, L&F acquired Briefly Stated Holdings (U.S.), an apparel group with a portfolio of over 40 character brand licenses and Young Stuff Apparel, an apparel group focused on supplying private label products to mass-market retailers. In 2006 and 2007, Li & Fung acquired Oxford Womenswear Group

(private-label apparel for discount mass merchants) and four Liz Claiborne brands (Datamonitor, 2008; Driscoll & Wang, 2009; Platt, 2007).

In 2007, L&F acquired Regatta, an apparel and brand management company offering proprietary brands and private label products including Simply Vera and Daisy Fuentes (exclusively at Kohl's), LL Cool J (exclusively at Sears), LOGO by Lori Goldstein (exclusive to QVC), Argyle Culture (mostly in Macy's and some specialty stores), American Classics by Russell Simmons, Metro7 and America's Next Top Model (ANTM) only at Walmart), Tapemeasure and Intuitions (previous Liz brands), Nicole Miller (Nicole Miller boutique shops), Geoffrey Beene and Kristin Davis (Belk) (Datamonitor, 2008; Driscoll & Wang, 2009). Li & Fung also acquired American Marketing Enterprises (AME), a company that designs, sources, and markets premier children's entertainment character licensed private label U.S. sleepwear to leading US retailers AME holds over 40 licenses (Datamonitor, 2008). In 2008 they acquired Van Zeeland, a handbag importer (Kapner, 2009).

In 2009, L&F acquired Wear Me Apparel who manages a portfolio of licensed national brands, proprietary labels, private labels, and character licenses including Calvin Klein, Ecko, Timberland, Rocawear, US Polo Association, Hurley (Nike), Disney, Marvel, Nickelodeon, Warner Brothers and Hasbro. The brands are distributed through traditional and mid-tier department stores and mass merchants including Macy's, Kohl's, and Walmart (Kapner, 2009). More recently L&F acquired SICEM International (2013), TVMania (2011) and Jimlar (2010).

Appendix Tables

Table A-1: World Company Shares, by RSP, Apparel: 2005, 2009 and 2012

Company (Global Brand Owners)	Value ($, Billion, RSP)			World Share (%)		
	2005	2009	2012	2005	2009	2012
Total	**1,028**	**1,182**	**1,381**			
Inditex, Industria de Diseño Textil SA	8	14	18	0.7	1.2	1.3
H&M Hennes & Mauritz AB	8	13	17	0.8	1.1	1.2
Gap Inc.	15	14	15	1.5	1.2	1.1
Nike Inc.	8	10	12	0.7	0.9	0.9
PVH Corp	3	4	11	0.3	0.3	0.8
adidas Group	4	8	11	0.4	0.7	0.8
Fast Retailing Co Ltd	4	7	11	0.4	0.6	0.8
VF Corp	7	7	10	0.7	0.6	0.7
C&A Mode AG	7	9	10	0.7	0.8	0.7
Levi Strauss & Co	8	7	8	0.7	0.6	0.6
Hanesbrands Inc.	0	7	8	0.0	0.6	0.6
Ralph Lauren Corp	4	5	6	0.4	0.4	0.5
Bestseller A/S	2	4	6	0.2	0.3	0.4
Limited Brands Inc.	6	6	5	0.5	0.5	0.3
Target Corp	4	4	5	0.4	0.4	0.3
Shimamura Co Ltd	2	3	5	0.2	0.3	0.3
LVMH Moët Hennessy Louis Vuitton SA	2	4	4	0.2	0.3	0.3
Hugo Boss AG	3	3	4	0.3	0.3	0.3
World Co Ltd	2	4	4	0.2	0.3	0.3
Next Plc	4	3	4	0.4	0.3	0.3
Top Company	**15**	**14**	**18**	**1.5**	**1.2**	**1.3**
Top 10 Companies	**74**	**97**	**123**	**7.2**	**8.2**	**8.9**
Top 20 Companies	**95**	**133**	**170**	**9.2**	**11.3**	**12.3**

Source: (Euromonitor/Passport, 2014a); Apparel World Company Shares by Retail Selling Price (RSP), Year-on-Year (YoY) Exchange Rates. Companies are by Global Brand Owner.

Table A-2: Size and Significance of the Textile and Apparel Industries in Select Countries

Country	T&A Employment	Apparel No. of Establishments	Apparel Domestic Output ($B)	Apparel Exports ($B)	T&A FDI ($M) & Time Frame	Apparel Foreign Ownership Share	Female Share of Employment
World	**9,089,635**	**149,876**		**355.2**			
Bangladesh	4 mil (A)	5,400	--	22.8	1,157 (2002-11)	5-9%	63-90% (A) 11% (T)
Cambodia	350,000 (A)	315	--	6.2	948 (2007-11)	93-95%	89-91% (A)
China	4.5-10 mil (A)	100,000	244.0	145.5	--	40%	63% (A)
India	922,725 (A) 2.4 mil (T&A) 12-17 mil (T&A)	9,168	14.1	12.5	200 (2000-10)	< 1%	51-37-50% (A) 8-14% (T)
Indonesia	502,930 (A) 1.04 mil (T&A)	1,830	6.7	9.6	1,669 (2006-11)	--	--
Pakistan	734,805 (A) 7 mil (T&A)	3,500 (A) 1,500 (T)[27]	1.7 (2006)	4.2	350 (2001-11)	< 2%	11-30-50% (A) 2.5%-few (T)
Sri Lanka	280,872 (A) 333,300 (T&A)	1,553	3.3	4.4	502 (2000-09)	15-20%	82-75% (A) 61-48% (T)
Vietnam	1,013,113 (A)	4,654	5.0	15.2	2,023 (2007-11)	19-50%	81-82% (A) 69-61% (T)
	T&A Employment Years Represented	**Apparel Share of Establishments (%)**	**Apparel Share of Domestic Output (%)**	**Apparel Share of All Exports (%)**	**T&A Share of Country's FDI (%)**	**Apparel FDI Share Years**	**Female Emp. Years**
Bangladesh	2012 (A)	--	--	83	16	2002; 2011	1998, 2012 (A) 1998 (T)
Cambodia	2012 (A)	--	--	67	24	2008; 2012	2000, 2011 (A)
China	2009, 2012 (A)	5	2	7	--	2007	2007 (A)
India	2011 (A, T&A) 2013 (T&A)	5	2	5	< 1	2014	2000, '09, '14 (A) 2000, 2009 (T)
Indonesia	2011 (A, T&A)	8	2	5	3		--
Pakistan	2010 (A) 2014 (T&A)	5	4	19	1	2009; 2014	2006, '09, '14 (A) 2006, 2014 (T)
Sri Lanka	2011 (A, T&A)	10	19	45	14	1999	2000, 2010 (A) 2000, 2009 (T)
Vietnam	2012 (A)	9	5	12	5	2009; 2012	2001, 2010 (A) 2001, 2010 (T)

Source: Author (Frederick, S.); adapted from (Frederick, S., 2014); Notes: Textiles (T); Apparel (A); Textiles & Apparel (T&A)

[27] Represents registered export-oriented firms; there are also approximately10,000 unregistered establishments supplying the domestic market.

Table A-3: Average Apparel Labor Costs per Hour, 2002-2011/12

Country	Apparel Avg. Labor Cost per Hour			Change (2002-2011/12)
	2002	2008	2011-2012	
Asia				
Cambodia	--	$0.33	$0.43	17%
Bangladesh	$0.39	$0.22	$0.51	31%
Sri Lanka	$0.48	$0.43	$0.55	14%
Pakistan	$0.41	$0.37	$0.58	41%
Vietnam	--	$0.38	$0.76	159%
India	$0.38	$0.51	$1.06	179%
Indonesia	$0.27	$0.44	$1.08	300%
Thailand	$0.91	$1.33	$2.14	135%
China	$0.78	$0.89	$2.60	296%
Latin America				
Haiti	$0.49	$0.52	$0.93	90%
Nicaragua	$0.92	$1.00	$1.23	34%
El Salvador	$1.58	$1.79	$1.71	8%
Guatemala	$1.49	$1.65	$1.89	27%
Honduras	$1.48	$1.77	$1.98	34%
Mexico	$2.45	$2.54	$3.24	32%

Sources: 2002 (Abernathy, Volpe, & Weil, 2005); 2008 (Jassin-O'Rourke Group, 2008); 2011: China, India, Indonesia, Pakistan, Thailand: (Saheed, 2014); 2012: BNG, Cambodia, China, Vietnam and Latin America (O'Rourke Group Partners, 2014). China: 2011/12 is an actual average of data available for the two years; data for 2002 and 2008 represent averages of data; in 2002 is an average of inland and costal and 2008 averages coastal 1 and 2 and inland; SL 2011 calculated using wages & salaries and employment data (Sri Lanka DCS, 2014).

Table A-4: Apparel-Related Private Labor Standards, Codes and Organizations

Name	Members	Funding Model	Scope	Est.	Certified Factories
Global					
FLA Workplace Code of Conduct	Yes: Buyers, Suppliers, Colleges, Civil Societies	Membership Fees (Annual)	Multi-industry, majority apparel	1999/ 2001	44 companies; 21 suppliers (2013)
WRAP	No	Application Fees; Auditor Fees	Multi-industry; majority apparel	2000	1,826 (2013); China (33%), India, BNG, Vietnam (~10% each)
SAI 8000	Yes: Corporate Members	Certification Fees; Donations	Multi-industry; ~25% apparel	1997	3,388/892 (Total/T&A; 2014, June); India (55%); China (21%) of T&A
ETI Base Code	Yes: Buyers, NGOs, Unions (88 members)	Membership Fees; Government	Multi-industry	1998	
WRC	Yes: Colleges & Universities (180)	Membership Fees	Apparel	2000	
BSCI	Yes: 520 (April, 2010)	Membership Fees	Multi-industry	2003	
Regional/National					
FWF Code of Conduct	Yes: EU Buyers (80)	Government, Membership Fees, NGOs	Apparel	1999/ 2001	15 production countries
ILO/IFC Better Work Programs	Buyer Partners (28)	Membership Fees (Annual) + Cost per Factory/Year	Apparel		
	39 (2014)	GMAC, Cambodia Gov., US DOL		2001	Cambodia: 500 factories (government mandatory)

Name	Members	Funding Model	Scope	Est.	Certified Factories
	28 (2013)	US DOL; Jordan MOL		2008	Jordan: 60 factories (government mandatory)
	--	US DOL		2009	Haiti: 29 (all government mandatory)
	43 (2014)	SECO, Irish Aid, NL MOFA, Service Canada		2009	Vietnam: 200 factories
	7 (2014)	US DOL		2010	Lesotho: 23 factories
	9 (2013)	US DOL		2011	Nicaragua: 23 factories
	18 (2014)	NL MOFA, SECO		2011	Indonesia: 100 factories
	--	US DOL, SECO, NL MOFA, Service Canada, DFID, Travail		2014	Bangladesh: n/a
Accord	Yes: 180: Global	Membership Fees	Apparel	2013	Bangladesh: 1,613 factories (2014, Dec)
Alliance	Yes: 26 US Buyers	Member Fees	Apparel	2013	Bangladesh
Garments without Guilt		Government; Members	Apparel	2002	Sri Lanka
Advocacy Groups/Initiatives					
CCC[28]	Yes: EU: trade unions, NGOs	Government & Private	Apparel	1989	

Source: compiled by Author (Frederick, S.)
ILO Funding: comprised of private sector fees; donor grants to overall program and individual countries
Notes: State Secretariat for Economic Affairs, Switzerland (SECO); Netherlands Ministry of Foreign Affairs (NL MOFA); Fair Labor Association (FLA); Worldwide Responsible Accredited Production (WRAP); Ethical Trading Initiative (ETI); Fair Wear Foundation (FWF); Business Social Compliance Initiative (BSCI); Worker Rights Consortium (WRC); Clean Clothes Campaign (CCC)

[28] Labour behind the Label is the UK branch of the CCC and is particularly active. A list of local affiliates is provided: www.cleanclothes.org/about/contact.