

Global value chains and agrifood standards: Challenges and possibilities for smallholders in developing countries

Joonkoo Lee^a, Gary Gereffi^{a,b,1}, and Janet Beauvais^c

^aDepartment of Sociology and ^bCenter on Globalization, Governance, and Competitiveness, Duke University, Durham, NC 27708; and ^cDesautels School of Management, McGill University, Montreal, QC, Canada H3A 1G5

Edited by Prabhu Pingali, Bill and Melinda Gates Foundation, Seattle, WA, and approved October 12, 2010 (received for review November 26, 2009)

The rise of private food standards has brought forth an ongoing debate about whether they work as a barrier for smallholders and hinder poverty reduction in developing countries. This paper uses a global value chain approach to explain the relationship between value chain structure and agrifood safety and quality standards and to discuss the challenges and possibilities this entails for the upgrading of smallholders. It maps four potential value chain scenarios depending on the degree of concentration in the markets for agrifood supply (farmers and manufacturers) and demand (supermarkets and other food retailers) and discusses the impact of lead firms and key intermediaries on smallholders in different chain situations. Each scenario is illustrated with case examples. Theoretical and policy issues are discussed, along with proposals for future research in terms of industry structure, private governance, and sustainable value chains.

food safety | agrifood supply chain | value chain governance

The proliferation of food standards, particularly private safety and quality standards, has brought forth an ongoing debate about whether they work as a barrier for smallholders in developing countries and hinder poverty reduction through agrifood exports (1, 2). Although evidence is mixed (3, 4), the existing literature generally suffers from its exclusive focus on the relationship between private standards and smallholders with little consideration of industry structure, which may affect both of them.

This paper uses a global value chain (GVC) approach to bring industrial structure back in the discussion of food standards and smallholders. It proposes a framework to investigate how value chain structure affects small-scale producers through the food standards imposed on them. Different value chain structures generate a welter of food standards and potentially divergent outcomes in the well-being of smallholders. Specifically, the type of lead firm and the degree of market concentration in a given chain differentiate the chain actor's incentives and capacity for adopting and implementing enhanced standards. Value chain structure and food standards shape the conditions of smallholders involved in the chain, offering them different options as they face growing burdens in complying with higher requirements. Based on the proposed framework, four scenarios are mapped for smallholders in diverse chain governance situations, and each of them is illustrated with case examples. Theoretical and policy issues emerging from the cases are evaluated, along with proposals for future research.

Smallholders, Food Standards, and GVCs

The GVC analysis of agrifood chains and their governance structure provides a conceptual framework to capture the diverse conditions of small-scale producers in the contemporary agrifood industry. It specifies the role and position of smallholders within the intersection of global and local agrifood value chains by mapping the geographic dispersion and organizational integration of these chains. It also highlights the governance structure of the chains by identifying lead firms that exert power to set the conditions for the inclusion of smallholders and the gains that accrue to them. This

approach allows us to identify leverage points in agrifood chains (i.e., those chain actors who can bring about desirable or deleterious changes for smallholders) (5, 6).

Recent Transformations in Agrifood Chains. The globalization of agrifood supply chains, consolidated retail power, and quality-based competition have significantly transformed how the global agrifood system operates and the role of smallholders in this system (6, 7). First, agrifood supply chains have a global reach. Liberalized international trade and foreign investment, along with advanced technologies, enable more agrifood products, fresh or processed, to travel unfettered across national borders (8). Transnational agrifood firms systemically integrate small growers in developing countries into global sourcing networks (9, 10). Expansive supply chains increase their flexibility to source high-volume, low-price, diversified products on a year-round basis, simultaneously integrating different agrifood regulation systems.

Second, power has shifted in globalized agrifood chains in favor of retailers vis-à-vis producers. In advanced economies and developing nations as well, modern retailers and supermarkets have grown ever larger, and as lead firms, they drive the agrifood chains linking daily grocery shoppers to small farmers around the world. Their enormous buying power and well-known consumer brands allow them to dictate cost-cutting measures and enhanced standards to their suppliers. Exporters also play a key role as intermediaries and organizers in agrifood value chains, and it is the exporters who often decide how suppliers will meet supermarket demands. Retailers' sophisticated requirements that reverberate down the chains pose a major challenge to smallholders. This power shift has also occurred between producing and consuming nations. Diminished government capabilities following structural adjustment and the inflow of agrifood multinationals into producing countries have undermined the distributive power of developing country producers vis-à-vis global buyers, resulting in the declining gains of developing nations in the world agrifood trade (11).

Finally, quality-based competition tightens the vertical coordination of the chains by consolidated retailers. Unlike price-based transactions for undifferentiated commodities, competitive advantage increasingly lies in products that allow lead firms to distinguish themselves from competitors and cater to premium-paying consumers with sophisticated preferences. This requires closer coordination along the chains, and it contributes to consolidation among fewer, larger, and more capable suppliers. To facilitate traceability and ensure food safety and quality, lead firms handle a small group of preferred, generally large-scale suppliers capable of meeting their stringent and costly requirements. Small farms unable to do so are marginalized (4, 12).

Author contributions: J.L., G.G., and J.B. wrote the paper.

The authors declare no conflict of interest.

This article is a PNAS Direct Submission.

¹To whom correspondence should be addressed. E-mail: ggere@soc.duke.edu.

All these changes have led to an emerging dualism between industrialized large-scale production and smallholder-based production, resulting in the rise of multiple governance structures in agrifood chains (12). Both kinds of production systems frequently coexist in developing economies, and most agrifood sectors contain different mixes of them. The supply chain is managed in distinct ways even within the same product category, depending on factors like the type of buyers, the end market, and the degree of processing required. Accordingly, the role and position of smallholders in agrifood chains vary by chains, going beyond a simple dichotomy of inclusion and exclusion. Some chains that are populated by highly concentrated retailers and processors are characterized by the dominance of large-scale supply networks based on plantation agriculture, whereas others are relatively fragmented and have fewer barriers to the participation of individual small farms. One of the key mechanisms by which lead firms shape the situation of smallholders is the imposition of private standards.

Food Standards and Smallholders. Private food standards have proliferated as lead firms responded to the aforementioned changes of the global agrifood system. They are developed for the purpose of complying with tightened public food regulations as well as reducing costs and risks in increasingly complicated food supply chains (13). Elongated supply chains expose food products to greater risks for potential contamination and make it harder to verify their quality at multiple stages. This has created great public anxiety about the safety and quality of food, resulting in stricter public regulations. Although extensive outsourcing practices diffuse responsibilities, market concentration forces major consumer brands to ensure food safety and quality throughout the supply chains. Further, private standards become a form of competitive advantage as lead firms use them to differentiate products with certain attributes (e.g., organic, fair trade) that are often undetectable with a simple inspection of end products.

Although private standards are distinct from public regulations in that they are set and adopted voluntarily by individual and collective private actors,* they are part of a larger constellation of interconnected public and private food standards (2, 15). Public actors not only establish mandatory legal regulations and voluntary public standards but they can affect the proliferation of private standards, for instance, by holding private firms liable for the behavior of their suppliers. Conversely, private actors can influence public actions by preempting or coopting public regulations with private standards (16). In most advanced markets, public and private standards coexist and interact despite considerable variation across different value chains (17).

Both the geographic scope and the domain of private food standards have expanded. As supply chains go global, so do their standards. Originating in European Retail Produce Good Agricultural Practices (EurepGAP), set by 13 European retailers, Global Good Agricultural Practices (GlobalGAP) assume an expanding international role as one of the major private standards to link developing country farmers to international retailers. In terms of domain, the definition of food safety has broadened from pesticide use and residue limits to hygiene and traceability requirements. Quality-based competition also extends the scope of private standards to include social and environmental issues (e.g., ethical trade, animal welfare). The interaction of public and private standards and the expansion of the latter have generated increasingly complicated food standards systems, thus making compliance a more difficult task.

*Private standard setters include commercial entities like firms as well as nonprofit bodies like nongovernmental organizations (NGOs). While NGO-initiated certifications (e.g., fair trade) have surged recently, it is still unclear whether they make a marked difference in improving sustainability along the chain compared to their commercial equivalents, which both coopt and challenge the nonprofits (14).

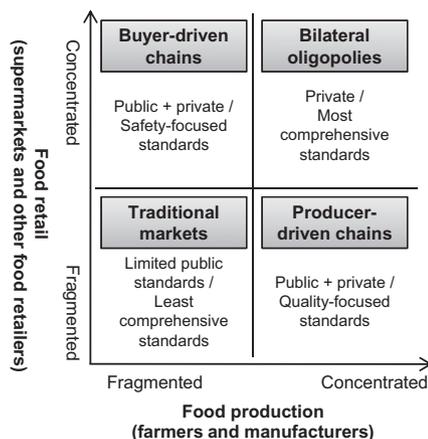
Overall, the presence of multiple governance structures and stringent private food standards shape the strategic options available to smallholders, who confront three basic choices: upgrading, downgrading, or exit. Private standards can be a catalyst for upgrading. Improving farming techniques and product quality to meet higher requirements permits participation in high value-added chains (18). Some smallholders have proven to be successful in growing niche markets for organic- or fair trade-certified products. This “branding from below” strategy can often counter the “branding from above” effort by retailers (19).

Private standards also can work as a barrier to market access for smallholders, thereby forcing them to downgrade their activities or exit the market. Compliance with private standards often requires considerable financial, informational, and network resources. It tends to cost small farmers more than their larger peers with economies of scale (2, 20). Further, standards continue to move upward and their scope widens as competition intensifies. Consequently, smallholders can be squeezed out or blocked from supply chains whenever stringent private standards are in place.

The last choice is exit, either to the domestic market, which may have more lax regulations, or to chains for other crops with lower entry barriers. This option would not require additional investments as does upgrading, but the gains can be short-lived and illusory because supplier consolidation and private standards are on the rise as modern supermarkets expand their presence in developing economies (18, 21). In sum, from a GVC perspective, the strategic choices of small farmers are significantly determined by the chain structure they are embedded in and the food standards that are already in place.

Framework Linking GVC Structure and Agrifood Standards. To highlight the conditions under which smallholders confront private standards and the consequences on their economic welfare, this paper proposes a framework dealing with the relationship between GVC structure and the agrifood standards system. Depending on the degree of concentration in food production (farmers and manufacturers) and in food retail (supermarkets and other food retailers), four different value chain structures are identified (Fig. 1). Each box links a form of chain governance to the type of agrifood standards most likely to occur.

Although acknowledging the analytical complexity involved in disentangling the multiple layers of agrifood standards, our framework focuses on two dimensions of the system: the relative importance of public and private standards and safety and quality standards. Although motivation and capabilities do not translate into action in a straightforward manner (17), our key premise is that



Source: Authors' diagram

Fig. 1. GVC structure and agrifood standards.

lead firms have different incentives and capacity to develop and adopt enhanced private standards, with varying emphasis on food safety and quality attributes.

Retailers and manufacturers have distinct motivations and interests in agrifood standards. Retailers tend to be more concerned with product safety and brand reputations. Rather than promoting certain products as safer or better, their primary interest lies in controlling potential risks at multiple nodes along the GVC, and thereby securing consumer confidence in all the food products they sell. In contrast, food manufacturers mainly approach standards in terms of their potential for product differentiation, including not only safety but social and environmental concerns. Their key goal is to communicate with both retailers and end consumers that their products are safer and better than those of their competitors' (22, 23).[†]

Each type of value chain structure is therefore associated with a distinctive constellation of food standards reflecting the attributes of its lead firms. Buyer-driven chains have emerged in many agrifood sectors as retailers in developed economies became highly concentrated. Retailer-led private standards tend to prevail along with public standards, with a focus on food safety, although quality standards are also on the rise (7). Exporters and wholesalers play an intermediary role of collecting products from numerous farmers and supplying large retailers whose buying decisions are highly centralized. This situation is found in many export-driven chains, such as fresh fruits and vegetables (FFVs).

In producer-driven chains, food manufacturers play a major role in organizing supply chains. Although increasingly challenged by large retailers, their power lies in supplying and processing key commodities, such as high-value bean crops (e.g., coffee, cocoa) or key ingredients for a wide variety of processed foods (e.g., processing tomatoes). Manufacturers affect small-scale producers by intervening in on-farm activities and controlling the international trade of large-scale commodities (11, 24). Given the demand for differentiated products, private standards are expected to emerge focusing on quality and social and environmental standards.

Bilateral oligopolies are characterized by the presence of concentrated producers and retailers with tight chain coordination. This chain provides fertile ground for the most comprehensive private standards on top of public regulations. Competition is driven by safety and quality, with brand assets vigilantly protected from any wrong-doing. The lead firms are powerful and resourceful enough to set and enforce individual and collective private standards. These standards are generally implemented for products with potentially high health risks (e.g., animal products) or products for which consumers are willing to pay a premium for differentiated quality (e.g., fair trade products).

Finally, traditional markets consist of numerous producers and retailers, generally small in size, with little explicit demand and supply coordination. Products are traded by price and quantity, with little or no brand recognition. Public standards are limited to minimum quality requirements, and private standards are least developed in traditional markets compared with the other three governance categories. Traditional markets still account for the majority of the agrifood chains in developing countries, making them the baseline for comparison.

Although retailers and manufacturers are the key lead firms, global agrifood value chains also involve various types of intermediaries. For instance, international traders play a major role in some primary commodities by commanding a wide coverage of

supply sources across regions (25). In the UK-African fresh vegetables chain, UK importers and African exporters were instrumental in linking African farmers to UK retail buyers (12). In general, intermediaries play a more important role in implementing than setting standards. Their sourcing strategy, reflecting the requirements set by retailers or manufacturers, is critical to the integration of smallholders into export chains (25).

The influence of intermediaries on smallholders is particularly important in buyer-driven and producer-driven value chains but is less so in bilateral oligopolies, where traders may be vertically integrated or merely buying agents for large producers (26). The key intermediaries in buyer-driven chains are the traders (importers and exporters), and in producer-driven chains, they are the processors. The role of processors tends to be negative for smallholders because the processors are often larger firms that dictate the terms of purchase, whereas the role of traders/exporters in buyer-driven chains is more mixed, depending on their location and ownership. The chances of a positive outcome for smallholders are greater if intermediaries are located in the exporting country and domestically owned. Thus, value chain structure affects smallholders through the standards that are in place as well as the intermediaries implementing them.

Four Scenarios for Smallholder Access in Agrifood Markets

This section discusses each of the four scenarios to show how the participation of smallholders and their potential gains are affected by the coevolution of value chain structure and agrifood standards, with examples drawn from existing studies. Given that systematic information on food standards and smallholder conditions is limited at the value chain level, these case examples aim at generating useful hypotheses within the conditions outlined by the proposed model.

Buyer-Driven Chains. Buyer-driven retail chains present a major challenge to smallholders as retailers tighten their private safety and quality standards and consolidate their supply networks around a handful of "category captains." The rise of buyer-driven chains in agrifood is well documented by the United Kingdom's horticultural trade with Africa (12, 22). In response to heightened public safety regulations, British retailers shifted toward greater vertical coordination with fewer and larger UK importers and African exporters, and their use of private standards (e.g., EurepGAP) has led to the rise of large-scale export chains for big supermarkets, using plantations and large contract farmers alongside smallholder-based production.

Despite these consolidating trends, buyer-driven chains provide significant opportunities to smallholders. First, buyer-driven chains are relatively short and direct with fewer yet more capable intermediaries, such as large exporters and importers, compared with traditional markets. Local and domestically owned exporters appear to have a greater incentive to support small-scale production. Second, despite the rise of industrialized farming, production in buyer-driven chains is often smallholder-based, attributable, in part, to the greater efficiency of smallholders in land and labor use. For example, many FFV items require extensive care throughout the growing phase, in which small-scale farming can excel.

Some FFV cases from Mexico and Peru illustrate the upgrading option available to small producers in the face of food safety incidents in buyer-driven export chains. When green onions from Mexico sparked US import alerts in 2003 in the wake of an outbreak of hepatitis A, many growers had already been certified as complying with Good Agricultural Practices (GAPs) and Good Manufacturing Practices (GMPs). In addition, a group of large growers took immediate action to develop an export protocol customized for green onions in collaboration with their government agencies. This upgrading effort clearly contributed to maintaining their access to the US market (27).

[†]Despite its analytical merit, the distinction between safety and quality attributes is not clear-cut. Many food quality assurance schemes involve both of these attributes. Thus, the distinction is based on the relative rather than exclusive emphasis on each aspect. There are the exceptions of retail-led standards clearly aiming at product differentiation, such as Tesco's "Nature's Choice," as well as the standards set by producer groups that incorporate the food safety element, such as the British meat industry's "Red Track" standard (22).

A similar positive process was reported in Peru's asparagus industry. The rising year-round demand for fresh vegetables in US and European Union markets significantly boosted Peruvian exports of fresh asparagus during the off-season. When these exports were affected by the botulism scare caused by Peruvian canned asparagus in the late 1990s, proactive measures by the industry and government to implement the Codex Alimentarius protocol on food safety significantly improved the overall quality and safety of Peruvian asparagus. A newly established standards body published national technical standards for asparagus, and many producers have attained certification via GAP, GMP, Hazard Analysis and Critical Control Points (HACCP), and Eur-eGAP standards. This upgrading effort helped Peru to maintain its position as the world's largest asparagus exporter (28).

These reported successes highlight several upgrading lessons for smallholders in buyer-driven chains. First, the success of smallholders hinges on public institutional support as well as the active upgrading efforts of large agroexporters who link smallholders to foreign buyers. As the case of stagnant nontraditional agroexports in Jamaica illustrates (29), without local efforts and resources for upgrading, the promise of high-value exports can remain unfulfilled. Second, failure to address safety and quality concerns quickly and effectively is particularly destructive to small farmers focusing on niche products, as exemplified by Guatemala's loss of raspberry export markets to Mexico following the outbreak of *Cyclospora*-related illness (30).

Producer-Driven Chains. The condition of smallholders in producer-driven chains is distinct from that of smallholders in buyer-driven chains. There is a less pressure for food safety because many key commodities undergo multiple processing steps before reaching consumers; thus, the responsibility for potential safety failures lies with the processor. Relatively more attention is given to quality. Farmers have very little choice in the varieties of crops to plant and the fertilizers to use. The ability of lead firms to embed requirements in specified biological inputs like seeds increases their control over farming activities. Compared with buyer-driven chains, smallholders' gains are likely to be limited in producer-driven chains because of the presence of large processors in the middle of the chain. High-quality niche products like organic and fair trade coffee and cocoa are popular and clearly possible for small-scale producers. Nevertheless, they not only have to compete with retailer- or manufacturer-branded specialty products but must deal with dismantled local quality support systems following structural adjustment (31).

Coffee and cocoa, two major export crops, are significant income sources for a vast number of smallholders. Market liberalization and consolidation have empowered branded manufacturers (coffee roasters and cocoa grinders) as lead firms vis-à-vis cultivators (11). Quality-based competition is attributed to the proliferation of private standards, certifications, and labels as well as the growth of specialty products (31). Coffee and cocoa are two of the leading fair trade-certified items (32). The lead firms increase their footprints in producing countries through direct sourcing, and intermediaries have become highly consolidated, for instance, with three international traders dominating the global coffee trade (11, 33).

These changes have influenced the welfare of small-scale coffee and cocoa growers. First, the prices of these crops have dropped, and the proportion of total income retained in producing countries has shrunk (11). In coffee, the smallholder share decreased from 20% of total coffee income, on average, in 1981–1989 to 13% in 1989–1995 (33). Second, higher quality standards and vertical coordination have given rise to bifurcated structures in producing countries: estate producers, large exporters, and small contract growers tied to prominent global buyers on the one hand and smallholders outside these chains on the other (34). Although the export-tied small growers may receive assistance for market access and quality upgrading, their functional upgrading option

remains limited because most chain nodes from bean to cup are tightly controlled by a few large transnational producers.

Processed tomatoes illustrate another dynamic of producer-driven chains (24, 35). Unlike fresh varieties under buyer-driven chains, the processed tomato chain is concentrated by a few branded food manufacturers, such as Heinz and Campbell Soup Co. Virtually all their processing tomatoes, the key input commodity for a variety of tomato products, are supplied under contract with outgrowers. Specialty varieties are developed to meet product and quality requirements for efficient processing. For example, Heinz has established its own seed firm to develop proprietary seeds that the contract growers are required to plant. Although the company has outsourced much of its global procurement of tomato paste to large suppliers in China (24), it ensures the quality of its key ingredient by controlling varieties and inputs along the global supply network.

Bilateral Oligopolies. Smallholders in bilateral oligopolies face higher entry barriers than in any other type of chain. Many of them are directly incorporated in the chain as "outgrowers" (i.e., contract farmers who rely on the resources and market access offered by the lead firms). Tight control by consolidated producers over on-farm activities leaves little role for intermediaries like exporters and traders. As long as the contract is secured, smallholders can expect resource provision and market access from their buyer. They compete fiercely with one another to maintain their contracts, however, which often require substantial investments to comply with the enhanced safety, quality, social, and environmental standards set by both retailers and processors. Their upgrading opportunities in niche markets are very limited because smallholders tend to be crowded out by the specialty products of the lead firms. The primary examples of bilateral oligopolies are plantation-based fruit products, such as bananas and pineapples.

The global banana chain is vertically integrated, with five banana companies controlling 80% of the world exports. These transnational producers use their own plantations and transportation and ripening facilities in different continents to grow and supply bananas globally. Retailing is considerably concentrated as well. In the United Kingdom, for example, the vast majority of bananas are sold by a few large retail chains. Their competitive use of bananas as a promotional "low-price" item is enabled by long-term contracts with transnational producers. Extensive public and private standards are in place concerning safety and quality (e.g., freshness, ripening), and bananas are the second most dynamic and valuable market, next to coffee, for organic and fair trade varieties (32).

Bananas also illustrate the importance of multiple governance structures in agrifood value chains because a clear division exists in banana production between export-oriented plantations and small-scale growing. Transnational banana companies leverage their plantation production to deflect the pressure for price cuts onto plantation workers and small contract growers. Only 12% of banana revenues remain in the producing countries, and labor conditions on plantations and small farms alike have improved little despite the adoption of labor and environmental standards by transnational firms (36). Although upgrading opportunities are present in growing organic and fair trade niches, these specialty markets are not immune to price wars driven by certified transnational producers, placing smallholders at a disadvantage (36, 37).

Similarly, consolidated producers and retailers exert strong power over the global fresh pineapple chain. Transnational fruit producers have shaped the geography of production and promoted the rise of plantations vis-à-vis small-scale growing. The success of a unique hybrid, MD2, which Del Monte introduced in Costa Rica, has allowed the Central American country to take the global lead away from Côte d'Ivoire, whose specialized variety has lost ground in advanced country markets (38). Transnational producers control the entire production chain via vertical integration ranging from varietal innovations to logistics and branding, leaving few upgrading spaces for smallholders.

Outgrowers in the chain are subject to extensive monitoring of their on-farm activities (26).

Enhanced private safety and quality standards are driven by fruit transnationals as well as large retailers. Major producers have developed their own MD2 brands since Del Monte's patent expired in 1993, and large retailers introduce their own food standards using Dole, Del Monte, and other transnational companies as category managers to ensure fruit safety and quality (38). As a result, vertically integrated production and tight coordination among lead firms leave small pineapple growers with narrow upgrading opportunities and local exporters with limited roles within the chain.

Traditional Markets. This chain type can be found in many smallholder-based agrifood chains in developing countries that cater to the domestic market (e.g., subsistence crops, fresh produce). For export items, this can be found in small-volume niche agricultural crops. Traditional markets pose minimum entry barriers for smallholders, with few safety and quality requirements. Therefore, they provide a buffer zone for those who eschew exports because of their inability to meet higher standards (6). Small growers often switch to crops with fewer safety problems or to market segments with lower entry barriers (15). However, the critical question is how sustainable such switching strategies are for smallholders, because developing country markets are adopting similar standards to those in the export market as consolidated retailers serve an emerging urban middle class with higher quality products (18).

The case of Mexican cantaloupe illustrates the opportunities and challenges that smallholders confront in traditional markets. Faced by US and Canadian import bans following a series of *Salmonella* outbreaks in 2001–2002, many small cantaloupe growers in Mexico chose to exit from the export market and moved to the domestic market instead, citing the high cost of compliance with the required standards. A field study conducted 5 y after the exit shows that many small growers have remained in traditional markets (39). Contract-based sales are not common, and most transactions are made in the fields with immediate cash payment. Only two smallholders of 48 growers in Colima, the western Mexican state studied, knew about GAPs. Although the farmers recognize that they would be paid higher prices in export markets and even the domestic wholesale market, their hurdles included lack of credit, limited economies of scale, poor infrastructure, complex safety regulations, the presence of middlemen, and no technical assistance. Although the exit of Mexican farmers was partly attributable to the decision of global buyers to relocate their supply to neighboring Central American countries, it led to the collapse of their US exports, which have not recovered (30, 39).

Discussion: Industry Structure, Private Governance, and Sustainable Value Chains

This paper has sought to demonstrate the strength of a GVC approach to the study of private standards and smallholders. We argue that the effect of agrifood standards and the gains of smallholders critically depend on the type of GVC in which they are involved. This section addresses general theoretical issues that emerged from our framework and case examples.

Unlike previous research on standards and smallholders in buyer-driven export chains, this study highlights different opportunities and constraints facing smallholders in diverse chain structures. Although the rise of consolidated lead firms (both retailers and producers) is a driving force that cuts across different sectors, global agrifood chains have divergent governance structures whose effects on food standards and smallholders vary widely. Buyer-driven chains and producer-driven chains provide distinct opportunities for smallholders, given their differing emphasis on standards: Safety-focused standards are of primary importance for the former, and quality-focused standards are of primary importance for the

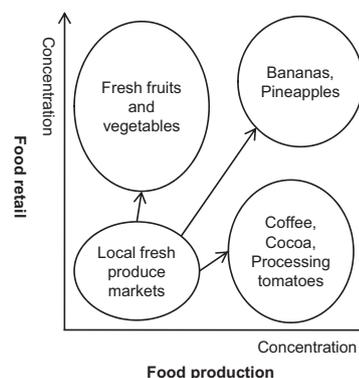
latter. Upgrading options appear greater in buyer-driven chains because they lack the strong midstream actors (processors and wholesalers) who are expanding their control over producer-driven chains. Bilateral oligopolies are the least beneficial to smallholders because of their strict requirements and direct control by lead firms. In contrast, smallholders in traditional markets have more autonomy with wider control of their activities but lack adequate support for upgrading because even domestic chains are increasingly subject to enhanced standards and supply consolidation.

Although far from comprehensive, our case examples illustrate considerable sectoral differences in value chain structure and the position that smallholders occupy in these chains (Fig. 2). Agrifood chains have evolved away from traditional markets populated by small farmers and fragmented buyers. High-volume crops used for a wide range of food products, such as coffee, cocoa, and processed tomatoes, are controlled by large quality-conscious processors. Meanwhile, many export-oriented FFV chains tend to become buyer-driven as retailers use fresh and healthy options as competitive advantages. The contemporary chains of plantation-based crops like bananas and pineapples have become bilateral oligopolies, where consolidated producers and retailers closely coordinate the entire chain. The rise of powerful FFV exporters or coffee roasters could challenge big retailers and potentially shift these chains toward bilateral oligopolies, thereby forcing smallholders into more tightly constrained outgrower systems. This remains an empirical question for further research.

The cross-country divergence in governance structures and upgrading strategies is another topic to be explored. Production systems vary across countries and regions, and their upgrading strategies and capabilities are far from unitary. In coffee, large-estate cultivation prevails in Brazil, the world's large exporter, and in the instant coffee subsector that incorporates low-quality commodity coffee exporters like Vietnam, whereas small-scale growers are more prominent in the countries targeting high-quality specialty markets like Colombia and El Salvador. Also, Peruvian asparagus and Mexican green onion growers chose to upgrade, but Mexican cantaloupe producers did not. Although a variety of factors are enlisted to explain this choice at country and sectoral levels, including industry size, market share, concentration, and supplier capabilities, to name a few (40), more empirical research on both product-specific and institutional factors is needed for a definitive answer.

Conclusion

A central question surrounding private governance and smallholders is how to strike a balance between economic, social, and environmental well-being at both ends of the farm-to-fork chain: farmers and consumers. This study points to a few policy impli-



Source: Authors' diagram

Fig. 2. Sectoral illustration of global agrifood chains.

cations. First, it highlights different leverage points for improving the sustainability of agrifood chains. Key change agents vary by chain. Retailers play a critical role in most nontraditional agrifood chains. Their impacts are biggest in buyer-driven chains yet are significant in other types of chains as well. Food manufacturers have a direct impact on growers in bilateral oligopolies and producer-driven chains because of their immediate influence on the terms of trade with primary producers.

The role of intermediaries varies across agrifood value chains as well. Intermediaries are significant in both buyer-driven chains (i.e., exporters) and producer-driven chains (i.e., processors), but they appear less significant in bilateral oligopolies, where more vertically integrated operations create fewer opportunities for intermediaries to play a role. The impact of intermediaries on smallholders appears more beneficial if the intermediaries are based in the exporting rather than importing countries of global agrifood chains and if the intermediaries are domestic rather than transnational firms.

Despite the rising importance of private governance in the global economy (41), public institutions play a key role in agrifood chains. Countries that stood against the private governance trend are now benefiting from it, as exemplified by the state-run

Ghana Cocoa Board (42). The importance of local supporting institutions for export-driven chains is also confirmed by the Peruvian and Mexican cases, which show that regulatory and legal institutions regarding land use and labor and environmental standards are critical for nurturing local capabilities. Given that the impact of private standards is often limited to “standard-certified enclaves” like fair trade-certified banana plantations (26), collective arrangements to regulate agrifood trade at the global level, such as an International Banana Agreement, should be part of future discussions to protect smallholders from market vagaries and to complement private governance schemes.

The GVC framework helps to extend the existing literature on private standards and smallholders by bringing industry structure back in and by raising promising questions for future research. Because our paper is an effort in theory building, many of our arguments will remain hypotheses until being tested against more systematic data on standards and smallholder conditions. Nonetheless, this study highlights the need to examine the structural context under which smallholders make choices at the intersection of global and local value chains.

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