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Publication Date

2009-07-01



Center of Evaluation for Global Action
Working Paper Series

Agriculture for Development
Paper No. AfD-0903
Issued in July 2009

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Ethiopia Commodity Exchange

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Series Description: The CEGA AfD Working Paper series contains papers presented at the May 2009 Conference on "Agriculture for Development in Sub-Saharan Africa," sponsored jointly by the African Economic Research Consortium (AERC) and CEGA.

Recommended Citation: Eleni Z. Gabre-Madhin. (2009). A Market for all Farmers: Market Institutions and Smallholder Participation. CEGA Working Paper Series No. AfD-0903. Center of Evaluation for Global Action. University of California, Berkeley.

**A Market for all Farmers:
Market Institutions and Smallholder Participation**

by

Eleni Z. Gabre-Madhin

May 2009

Why Market?

The transition from subsistence to commercial agriculture, often referred to as the commercialization of agriculture, has long been considered an important part of the agrarian transformation of low income economies and a means of ensuring food security, enhanced nutrition, and enhanced incomes (Maarten et al, 1995; Strasberg et al, 1995; Kurosaki, 2003). It is increasingly recognized that the commercialization of output from small-scale farming is closely linked to higher productivity, greater specialization, and higher income (see Barrett (2007), for a recent review). Furthermore, in a world of efficient markets, commercialization leads to the separation of household production decisions from consumption decisions, supporting food diversity and overall stability. At the macro level, commercialization increases food security and, more generally, improves allocative efficiency (Timmer (1997), Fafchamps (2005)).

However, in the face of imperfect markets and high transaction costs, smallholders are rarely able to exploit all the potential gains from commercialization (de Janvry et al. (1991), Goetz (1992), Key et al. (2000)). In the absence of mechanisms to cope with these constraints, smallholders are less likely to participate in markets, or when they do, to realize the full benefits of participation. These challenges are particularly important in sub-Saharan Africa, where empirical evidence suggest that the proportion of farmers engaged in subsistence agriculture remains very high, and where those that participate in markets often do so only at the margins (Jayne et al. (2006), Barrett (2007)). An earlier active literature on cash cropping, essentially the thrust of thinking on commercialization, focused on identifying the factors inhibiting or promoting commercialization. In this perspective, the general driving forces include both demand and supply factors, such as population growth and demographic change, and non-farm development on the demand side, and technological

change in the form of improved varieties, the development of market infrastructure and services such as irrigation, and rising opportunity costs of labor on the supply side (von Braun et al, 1994; Pingali, 1997). Thus, with economic growth, as urbanization takes place and food demand patterns are consequently diversified, there is an increase in the demand for marketed agricultural output. On the supply side, the opportunity cost of labor employed in the household will increase, when the opportunities to find better-paid off-farm employment increase (Pingali 1997). This process assumes that well-functioning markets are in place, transaction costs are reasonably low and information dissemination is efficient.

Delving further into the determinants of commercialization, studies have focused on the specific issue of how the presence of transaction costs might impact supply response and ensuing market participation (Omamo, 1998; Key et al., 2000; Renkow et al, 2004); as well as the impact of risk on market participation (Finkelstein and Chalfant, 1991; Fafchamps, 1992). Generally, the earlier literature on commercialization has assumed a dichotomy between “food” crops and “cash” crops, assuming that households make a clear distinction between the two in their production and marketing decisions. Secondly, the literature has tended to focus on commercialization as a decision to sell in the market.

However, an emerging empirical literature on smallholder market participation suggests that these assumptions may not be appropriate. First, a significant share of rural households may in fact participate in commercialization of what are traditionally considered subsistence food staple crops. This suggests that the distinction of cash versus food crops, as concerns own-consumed goods produced on the farm, is a false dichotomy. Second, striking evidence has emerged in which rural households participate significantly in the market as *buyers* rather than as *sellers* of food grains, negating the long held assumption that smallholders participate in the market to dispose of surpluses following subsistence consumption (Jayne et al., 2003). Third, there is emerging evidence that, not only is buying an important aspect of smallholder behavior, but that

smallholders may be buying back the same product they have sold at a later date, even resulting in what might be considered “inverse arbitrage” in which producers sell early in the harvest at a low price and buy back the same good in a later period at a higher price. Thus, a key challenge is to understand the dynamic behavior of households as both buyers and sellers of agricultural product, alongside the complex factors underlying their production and market participation decisions.

With the objective of better understanding smallholder participation in markets, the paper proceeds in Section 1 to examine the impact of early reforms on smallholder market participation. In Section 2, we characterize the dimensions of smallholder agriculture that constrain market participation. In Section 3, a conceptual framework for understanding market participation through the lens of market institutions is proposed, followed by an exposition to recent efforts to promote market development in Section 4 and an overview of participation through the market institution of a commodity exchange in Section 5, before proceeding to conclusions in Section 6.

1. Reforms and Smallholder Participation in Markets

We begin by examining how smallholders responded to earlier market reforms across Africa. An empirical study of aggregate productivity of smallholder farms in India, Kenya, and the Sudan by von Oppen et al. (1997) finds that improved market access results in increased on-farm productivity. They find that in the Nakuru district of Kenya, a 10 percent improvement in market access results in an increase of 1.5 percent in aggregate productivity, of which 0.4 percent is achieved through specialization and 1.1 percent through intensification. It also appears that, in Kenya, large farmers appear to gain the most from improved market access (Kamara and von Oppen, 1999).

Jayne and Jones (1996) argue that the “smallholder Green Revolution” achieved in the 1980s in parts of eastern and southern Africa, which featured state-led investments in inputs, credit, and purchasing centers, may be over with the advance of market reforms. Up to the initial reforms, a large proportion of smallholders benefited from implicit transport subsidies in pan-territorial pricing alongside input subsidies and concessional credit. Per capita smallholder grain production in Zimbabwe and Zambia increased by 51 percent and 47 percent between the late 1970s and late 1980s. In Kenya and Tanzania, it rose 30 percent and 69 percent between the 1970-74 and 1980-84 periods (Figure 2a-b). At the same time, production growth in this region was achieved at a cost greater than the value of the output and state-led provision of services to smallholders proved both politically and economically unsustainable (Jayne and Jones, 1996). With the partial or complete removal of explicit subsidies to smallholders, hybrid maize seed purchases and fertilizer use declined in the early 1990s in this region and population growth has outpaced grain production growth in most of eastern and southern Africa. While part of the food output decline in the early 1990s is due to the 1992 drought, the downward trend in production growth since the 1980s remains.

Despite improved incentives to smallholder agriculture from the currency devaluations and other macroeconomic and sectoral reforms, production has declined in the post-reform era in the highly interventionist countries of the region (Jayne and Jones, 1996). In contrast, liberalization promoted the removal of agricultural taxation and provided a boost to smallholder agriculture in other parts of Africa, notably West Africa.

Alternatively, Sahn and Arulpragasam (1994) argue that production in Malawi has not risen primarily because real producer prices have not risen. Moreover, smallholders exhibit price responsiveness by reallocating resources among crops. Thus, existing data suggest that an inverse relationship exists between maize production and the relative price of cash crops. In this view, this effect

explains the lack of intensification of maize production above population growth in Malawi. In Zambia, Kalinda et al. (1998) note that the results of a survey of smallholders in the post-reform era suggest that, while the majority of rural households had access to agricultural extension and credit services, smallholders faced problems in marketing their output under the liberalized system. Smallholders became more vulnerable vis-à-vis private agents because of their cash liquidity constraints that forced them to sell at the harvest rather than store output on-farm. Similarly, credit constraints led to barter transactions at disadvantageous terms for smallholders. Elsewhere, in Tanzania, Ghana, and Mali, liberalization has increased the smallholders' role in storing maize, although storage losses are considerable (Coulter, 1994).

The effect of market reforms on smallholders depends in large part on the extent to which the pre-reform taxed or subsidized smallholder production. In the eastern and southern African context, market reforms have resulted in the removal of input and credit subsidies, the positive effects of which have not been offset by the gains from lower cost, private, distribution systems in the short run. In contrast, reform in other contexts, such as West Africa and elsewhere where smallholders were taxed heavily, has had an initially positive, although limited, impact on production. Generally, it appears that market reforms have improved the distribution of inputs and outputs but have not led to increased demand by farmers for modern inputs. The increased costs of inputs after reforms are partly offset by increased output prices and an improved input distribution system. However, due mainly to lack of access to credit, modern input use and, consequently, gains in productivity remain low (Badiane et al, 1997).

Thus, market reforms have had limited impact on grain production and agricultural productivity; and have increased price instability for both producers and consumers (Jones, 1998). Remaining issues are the low level of investment and specialization by private traders, the lack of market development into more sophisticated arrangements such as forward trading and quality premia, and high

transport costs (Beynon et al., 1992). Almost universally, private sector agents are constrained by limited access to credit and storage facilities, as well as problems in securing transport (Beynon et al., 1992; Badiane et al., 1997). As a result, turnover of stocks is rapid and seasonal storage is rare, which serves to exacerbate the volatility of prices. The reform experience has thus been mixed in Africa.

2. What makes smallholder production “small”?

In order to better understand what makes a smallholder farmer “small,” it is useful to consider the lens of poverty as the key attribute of smallholder production. In turn, poverty can be defined as asset scarcity, in all of its dimensions, including natural, physical, financial, human, and social.

Amongst a major cause of material deprivation is limited access to finance. Credit constraints stemming from problems of information asymmetry and moral hazard are well analyzed in the literature (Stiglitz; Stiglitz and Hoff). These factors, combined with inadequate access to collateral, particularly restrict access to finance for poor smallholders. In Kenya, for example, only 4% of poor have access to credit through banks and another 3 % through cooperatives. Even informal mechanisms can exclude poor from obtaining credit. For example, a study of moneylenders in Chambar, Pakistan, shows that average rate charged on interest was 79% a year for credit. The rates reflect a combination of high screening and administrative costs, and size of loans (Aleem, 1993).

In a theoretical model, Carter and Zegarra (2000) show how constraints in access to credit (and multiple market imperfections) can interact to reduce the underlying competitiveness of producers in the land market and result in different land market outcomes. In addition, weak credit supply for smallholder agriculturists constrains adoption of more productive agricultural technology, despite extensive liberalization. Analysis of the Sub-Saharan experience liberalization succeeded in boosting trader entry only in segments of the

marketing chain because information inadequate access to working capital were among key barrier preventing market entry into more value added segments. The food market liberalization in Madagascar illustrates the inability of traders to enter certain value-added niches of the food marketing chain due to these 'mobility' barriers (Barrett, 1997; Fafchamps, 1999).

Asset ownership or access to private endowments is amongst the most important dimensions of poverty, which impacts the extent to which households benefit from market reforms. This has been found consistently in a number of micro-level. For example, studies from Sub-Saharan Africa shows the importance of initial private endowments in education and land as key conditioning factors that impact the extent to which households benefit from reforms (Christiaensen, Demery, and Paternostro, 2002). Similarly in India, Datt and Ravallion find that initial literacy affects the extent of pro-poor growth in India states, or the capacity of the poor to participate in opportunities created (2002). Asset ownership impacts the gains from market reform both because it affects transactions costs and productivity.

Access to information, such as market information systems and grades and standards, is amongst the key assets, which impacts transactions costs. In many countries, market information systems perform poorly or are non-existent due to inadequate financing and the ability of government agencies to collect reliable market information. Following liberalization, new information systems to replace those previously administered by the state marketing channels are very underdeveloped, particularly since the private sector has not been able to assume the institutional role previously fulfilled by the state (Chaudhury and Banerji, 2001; Jones 1998). Poor producers and consumers, who lack the scale to collect their own information, are particularly adversely affected. Transactions costs, such as costs of acquiring information or search for marketing and trading partners, increases. Similarly, inadequate access to standardized system of grades and standards, which can provide a greater level of certainty about the

quality of produce, also increases search and screening costs. It implies that traders visually inspect each product. More generally, inadequate access to market information implies that the poor they are unable to plan their production, harvesting and sales according to market demand, or to sell their products in the most lucrative markets.

Access to physical assets such as infrastructure (roads, electricity) or storage and transport facilities, along with the spatial dimension of poverty, also have an impact on transactions costs. Empirical studies evaluating the characteristics of groups who benefit from food market reform show that access to roads and land were significant (Dercon, 1998 Ethiopia). Inadequate infrastructure and distance from markets implies that transactions costs rise not only due to higher transport costs, but also due to the increased costs of screening, bargaining with, and monitoring distant trading partners (Staal et al, 1997).

Limited access to assets has several implications for the commercialization strategy that the poor adopt. First, reliance on trader information and limited access to reliable information implies that smallholders often end up selling, as producers, in a buyers' market and, as consumers, buying in a selling market (Parriss 1999). Second, access to information, particularly for communities far from markets, impacts their decision to commercialize. For example, studies by SEWA show how poor women in a region called Banaskantha, in northern part of Gujarat, India, did not commercialize their traditional craft work because they had no understanding of the market value or demand for their products. As a result, they simply used to barter their craftwork with occasional traders for plastic buckets, which were significantly below the value of their own handicrafts. Only following SEWA's intervention, educating the poor women about market prices and commercial value for their products, did they begin to commercialize and generate a livelihood from this source. Finally, information asymmetry also impacts the power relations between poor producers and traders, and lowers the bargaining power of the former.

It is important to bear in mind that asset ownership impacts gains from reforms, not only by increasing transactions costs, but also has important implications for productivity. Asset ownership, in particular access to credit, notably impacts productivity of existing assets, which would allow the poor to expand scale of present activities, or enter into value added activities. For example, the importance of financial capital is particularly evident for the underlying competitiveness of the poor in land markets. Imperfect credit markets, subject to information and moral hazard problems, lead to credit rationing for small and near-landless farms. Hence, the rural poor may not be able to compete for land, and moreover, face a severe disadvantage in improving the productivity of their land and labor without access working capital.

In addition to asset ownership, risk and vulnerability are also key dimensions of poverty, and have recently been brought to the fore (World Bank, 2000). Poor smallholder farmers are particularly exposed to natural disasters, seasonality, year-to-year variability, and commodity price volatility. Given their limited ability to cope with risk due to resource constraints and absence of formal risk insurance markets, the poor are left vulnerable. With limited options to manage risk through formal market mechanisms, they experience significant fluctuations in income and makes consumption smoothing difficult. A study of South Indian villages shows that the coefficient of variation of annual income from main crops ranges from 0.37 to 1.01 (World Bank, 2000). In rural China, where those in the poorest wealth decile are also the least well-insured, 40 percent of an income shock is passed on to current consumption, in contrast to richest third of households whose consumption is protected almost 90 percent from an income shock (Jalan and Ravallion, 1997). A case study of dairy transactions in East Africa illustrates some of these issues (see Box 1). It represents a case where liberalization of the sector provided producers more options with respect to marketing outlets they could use, but the ability to use these alternative outlets -

some of which offered higher prices and more stable payments - was determined by their level of transactions costs.

Smallholder market participation is also associated with lack of power, both in the economic sphere and with respect to state institutions. While empirical evidence between income poverty and powerlessness are scarce, participatory poverty assessments reveal the nature of concerns felt by the poor. For example, in the economic sphere, concerns about exploitation by middlemen and traders are consistently voiced by the poor.

Finally, we also consider the spatial dimension of smallholder production. The literature on spatial poverty has attempted to identify whether location can make the difference between growth and contraction in living standards for otherwise identical households. Empirical work in rural China shows that indicators for geographical capital do indeed have an impact on living standards. One explanation is that neighborhood endowments of physical and human capital influence the productivity of a household's own capital (Jalan and Ravallion, 1997).

3. Institutions for Market Exchange

According to North (1991), institutions are the humanly devised constraints that structure human interaction in three spheres: political, economic, and social. Aoki (2001) identifies six basic types of domains in which institutions can become viable within and across domains: commons, economic exchange, organization, social exchange, and polity, and generic organizational fields. We are primarily concerned with the economic exchange domain.

For the present purposes, institutions for markets are defined as a set of constraints --formal or informal, exogenously or endogenously determined-- that

govern the relations between individuals or groups in the exchange process. Following North, this definition clearly excludes organizations, such as trade unions, producer groups, and government agencies. The set of institutions for market exchange includes: formal and informal contracts between individuals or groups; trading practices, codes of conduct, and social norms, such as repeated interaction, trust, and reciprocity; formal commercial laws and regulations that govern market relations; and institutional arrangements between actors such as vertically or horizontally integrated supply chains. This definition, although relatively broad, is specifically tied to a focus on the *relations between* human beings in the market, rather than focusing on the actors themselves or the market itself. Second, it is concerned with *behavior* rather than outcomes. These relations are influenced by both the extent of transaction costs in the Williamsonian and Northian tradition, as well as the extent of social capital or embeddedness in the Polanyi sense. Using the analogy of a chain, which links individuals and groups, institutions thus constitute the *links* between the various actors. That is, institutions are defined as the structure of relations between individuals within the chain (Figure 1). The set of institutions for market exchange includes:

- formal and informal contracts between individuals or groups;
- trading practices, codes of conduct, and social norms, such as repeated interaction, trust, and reciprocity;
- formal commercial laws and regulations that govern market relations; and
- institutional arrangements between actors such as vertically or horizontally integrated supply chains.

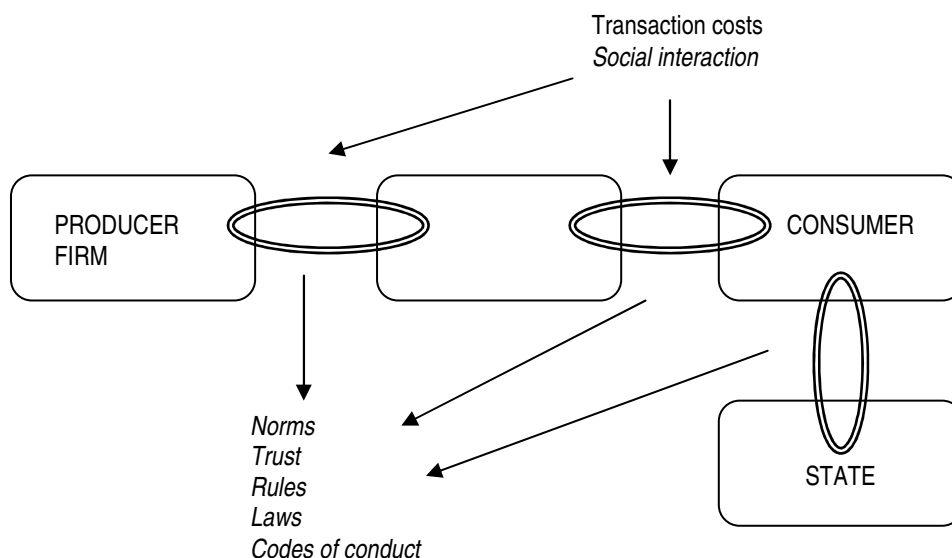
This analogy is particularly well suited to the analysis of markets, where the market literature has long elaborated the concept of the marketing chain. In the second half of the twentieth century, industrial organization theory emerged to explain entry and exit conditions and market concentration (Bain, 1956) and the organization of food distribution channels (Scherer, 1971). In analyzing the organization and coordination of U.S. agriculture, a body of work known as sub-

sector analysis adapted the Structure-Conduct-Performance paradigm of industrial organization theory to agricultural problems (Henderson, 1975; Marion, 1976) and more explicitly focused on vertical coordination (Mighell and Jones, 1963).

Related to sub-sector analysis, the francophone tradition of the *filière*, or commodity chain, approach also emerged in the same period. This approach, less tied to a particular theoretical construct, focused on the totality of structures and relations around specific commodities, in a “product system” approach (Leplaideur, 1992; Coste and Egg, 1996). In contrast to the institutional perspective, which focuses on the relations between actors in the chain, both the subsector and *filière* approaches are concerned with the organizational structure of the chain.

More recently, a third approach which explicitly acknowledges the importance of human relations within marketing chains is the emerging literature known as global commodity chain analysis (GCC), which emphasizes the shifting bases of power exercised by lead firms in globalized chains linking producers, processors, distributors, and consumers and the impact of the governance structure on shaping outcomes for the market (Greif, 1994). The main focus is on the linkages and co-ordination between economic agents and the outcome for the whole chain (Kaplinsky, 1999).

Figure 1 Institutions as links in the chain of market interactions



In attempting to understand the role of market institutions, our first objective is to directly explain why and how institutions matter for markets and how these institutions emerge and evolve over time. The second objective is to perceive what role policy might play in the design of functioning markets in low-income countries, through the implementation of sound, empirically oriented institutional analysis.

In understanding the role of institutions for market exchange, we focus on two types of problems. The first is to understand the role and complexity of institutional arrangements and the second is concerned with the mechanism of institutional change over time (Aoki, 2001). The first problem can be viewed from two dimensions. The first dimension is that of coordination. Coordination is primarily viewed as an information problem, or more broadly, as a transaction cost problem. What are the sources and extent of transaction costs related to search, negotiation, monitoring, and enforcing contracts? How do transaction costs determine contractual choices? How do transaction costs determine the economic organization of the market and the types of hierarchies that exist? How can transaction costs be reduced? What would be the likely impact on market organization and on performance?

The second dimension concerns enforcement. How are interactions in the market, embodied in contracts, enforced? What are the informal and formal rules that define interaction? How are the rules enforced? What is the role of trust, community norms, morality, and social capital in enforcement? What is the motivation, or incentive-compatibility, of enforcement? What is the impact of breakdown or limitations in enforcement mechanisms on markets?

With regard to the problem of institutional emergence and change, where do the rules of the game come from? Does the current institutional arrangement represent an efficient outcome? If so, in the context of multiple equilibria, how

can institutions be designed to achieve a higher Pareto-ranked equilibrium? How context-dependent are given institutions? When and why do institutions emerge spontaneously? When and how can institutions be transferred or externally created?

Market Coordination

A fundamental concern of all societies is how the economy is organized, how market exchange is coordinated. It is often said that Nobel-laureate Ronald Coase (1937) started a quiet revolution in economics when he asked one of the most celebrated questions in modern economics: Why does the firm emerge in the market economy? To extend this question: Why do we observe vertically integrated firms for some goods and services and bazaar-type markets for others? Why do supply chains based on long-term relationships emerge in some arenas in contrast to anonymous, non-repeated transactions in others? Coase's answer was that there are *costs* of using the market mechanism, which may be reduced or eliminated by certain types of coordination in the market. Coase pointed to two kinds of costs: the costs of discovering what the relevant prices are and the cost that may be saved by making a single long-term contract for the supply of goods and services instead of short-term successive contracts.

At its core, then, the problem of economic order can be conceived as essentially a coordination problem, depending integrally on both information and on the nature of contracts. This fundamental concern for economic order has led to major historical debates, extending to the present in different guises, on the role of central planning versus the free market economy. How then to achieve this "self-coordinating" market order? On the one hand, **information** seems to be at the heart of the institutional problem of order. That is, the transmission of information on prices, quantities supplied, quantities demanded, actors and their actions, product quality and attributes, and processes is *the* key to market coordination. An important body of economic literature has focused on the problems of imperfect, asymmetric, or incomplete information, which in turn lead

to decision-making with “bounded rationality” (Herbert Simon, 1982), missing markets and risk (Stiglitz, 1982; Akerlof,1970), and high transaction costs (Williamson, 1981).

Market coordination for agricultural products also critically depends on the fundamental attributes of production, processing, and the market actors. Jaffee (1985) defines these attributes as the “techno-economic” attributes of agricultural goods. Building on this concept, it is possible to distinguish a typology of market coordination institutions based on the simple attributes of product homogeneity versus differentiation, value to volume, and number of buyers and sellers. Thus, for agricultural goods such as staple grains, which are relatively homogenous, have low value to volume (bulky), and have many sellers (small farmers) and many buyers (consumers), the appropriate coordination mechanism can be a form of commodity exchange in which prices for homogenous goods are discovered through a competitive process, and many buyers and sellers interact quasi-anonymously. In the case of traditional agricultural exports, such as tree and beverage crops (coffee, cotton, tea), the product may remain relatively bulky and homogenous, but the market structure is different in that many sellers interface with a relatively small number of buyers, such as exporters. In this case, the ultimate coordination may take the form of an auction, where prices are discovered efficiently through competitive bidding between the few buyers. Finally, in the case of highly differentiated, high value-to-volume, non-traditional products such as horticulture, dairy, or other high-value products, the ultimate coordination mechanism might emerge as a tightly coordinated or integrated supply chain linking a small number of sellers with a small number or single buyer. This typology is summarized in Table 1.

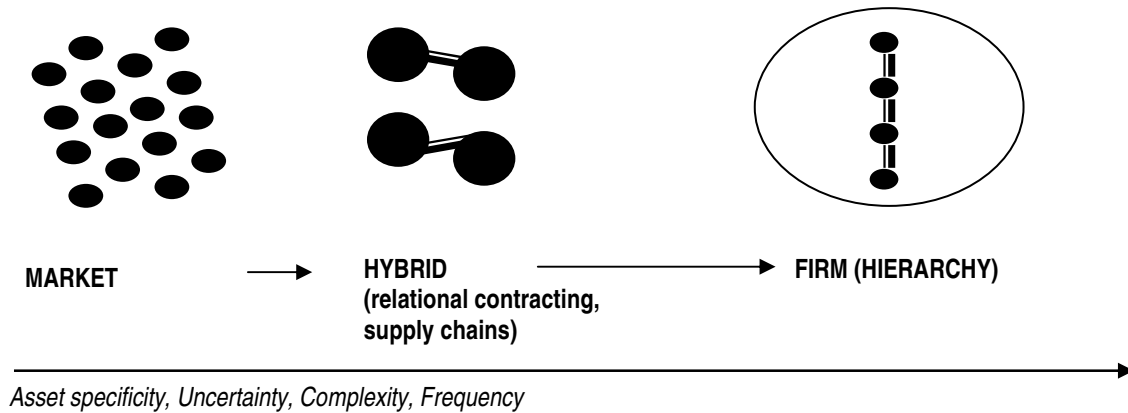
Table 1. Typology of agricultural market coordination institutions

Product	Homogeneity	Value Volume	to Market Structure	Coordination
Staples (domestic foodgrains)	High	Low	Many sellers Many buyers	Commodity exchange
Traditional exports (coffee, tea, cotton, etc)	High	Low	Many sellers Few buyers	Auction
Non-traditional exports (flowers, fruits and vegetables, livestock products)	Low	High	Few sellers Few buyers	Integrated supply chains

A coherent theory of economic organization that draws these strands together did not emerge until Williamson's (1975) seminal work on *Markets and Hierarchies*, which initiated the body of work known as transaction cost economics (TCE). Of the two types of costs raised by Coase, TCE was more focused on the coordination costs. Thus, in the TCE approach, market structure responds to the existence and extent of transaction costs (Figure 2).

A separate literature that also emerged in this period focused on the first type of costs, the cost of information. While related to the transaction cost approach, this literature views institutions as substitutes for missing markets and provides a rigorous framework that considers an environment of pervasive risks, incomplete markets, information asymmetry, and moral hazard (Bardhan, 1989). Pioneering contributions in this literature were based on observation of problems encountered in low-income countries: Akerlof's (1970) lemons principle, Stiglitz's (1974) work on screening, and the extensive literature on sharecropping (Cheung, 1968; Bell, 1977; Braverman and Stiglitz, 1982; Braverman and Srinivasan, 1981; *inter alia*), which evolved into contractual choice theory and merged with principal-agent theory (Clague, 1997).

Figure 2. Market organization and transaction costs



Transaction costs arise because individuals are limited in their ability to plan for the future and in their capacity to process the complexity and unpredictability of the world. Second, even if perfect planning were possible, it is hard to negotiate about these plans due to the difficulty of developing a common language to describe actions and states of the world (Hart, 1995). Third, assuming that parties could plan and negotiate, it is frequently difficult for them to communicate their plans in such a way that a third party could enforce them. As developed by Williamson (1975, 1985, 1995), Klein, Crawford, and Alchian (1978), Grossman and Hart (1986) and Hart and Moore (1990), transaction cost economics maintains that the implication of positive transaction costs is that contracts are typically incomplete. Because contracts are incomplete, parties who invest in a relationship-specific asset expose themselves to the hazard that, if circumstances change, their trading partners may try to expropriate the rents accruing to specific assets, otherwise known as the “hold-up problem” (Shelanski and Klein, 1995). To get around this, firms may choose to integrate vertically. More generally, a variety of alternative “governance structures” or institutional arrangements of economic organization exist and are employed, depending on the characteristics of the relationship. The working hypothesis of transaction cost

economics is, thus, that economic organization is an effort to align transactions, which have different attributes, with governance structures, with different costs and competencies in a cost-economizing way (Williamson, 1991).

The well-known work of Jaffee (1995) attempts to apply concepts from transaction costs economics to the analysis of organizational forms of the private agri-business industry in Kenya. The study considers that different degrees of *asset* specificity and uncertainty will determine the choice among posits that three possible organizational arrangements: spot market exchange, long-term contracts, and vertical integration.

To operationalize these concepts in the empirical analysis, proxy indicators are developed. Thus, for asset specificity, the indicators are: the length of the crop production cycle, the scope for scale economies in processing and post-harvest handling, and the degree of specialization of material production inputs and technical knowledge. The indicators for uncertainty are: the degree or rate of perishability, the degree of specificity in quality that is required, and the degree of specificity in timing of harvests and deliveries.

Using these indicators, the study analyzes the conditions of asset specificity and uncertainty for each of Kenya's most important horticultural products in order to determine the expected institutional arrangement for linking producers and exporters/processors (Table 2). The study finds that the dominant institutional arrangement for coordination is that of long-term contracts and vertical integration, rather than spot market exchange.

Table 2. Asset-specificity, Uncertainty, and Modes of Coordination for Kenya's Major Horticultural Crops

		Pineapple - processing	Mango	French beans fresh mkt	French beans -processing	Carnation
Asset specificity	Production cycle	Long	Long	Short	Short	Short
	Inputs/technical specificity	Med	Low	Low	Low	Med
	Scale economies	High	Med	Low	Med	Med
Uncertainty	Perishability	Low	Med	Med	Med	Med
	Quality specificity	High	Med	Med	High	High
	Timing specificity	Med	Low	Med	Med	Med
	Mode of coordination	Vertical Integration	Long-term contract	Spot/Long-Term Cont.	Long-term contract	Long-term contract

Source: Jaffee, 1985

Global commodity chain approach

Another approach is known as *global commodity chain* (GCC) analysis. This approach focuses on the linkages and co-ordination between economic agents in a value chain and how lead firms are able to shape the value chain to their advantage. Global commodity chain (GCC) analysis derives from the work of Gereffi and Korzeniewicz (1994), which has its origins in dependency theory (Wallerstein, 1974; Hopkins and Wallerstein, 1994). Hopkins and Wallerstein (1994) define a global commodity chain as “a network of labor and production processes whose end result is a finished commodity.” Work by Gereffi and his collaborators has mainly focused on industrial commodity chains and the emergence of a global manufacturing system in which economic integration goes beyond trade in raw material to encompass the many activities along the chain. Since the early 1990s, GCC analysis has been applied in a number case studies: apparel exports from East Asia (Gereffi, 1994); tourism (Clancy, 1998), services (Rabach and Kim, 1994); automobiles and components (Kaplinsky, 1999); and fruits and vegetables (Dolan et al., 1999).

While extending the concept of value chains, the GCC approach differs from related concepts such as business systems or value chains in three ways: 1) the GCC approach is explicitly international in its focus, 2) it focuses on power and power shifts over time, and 3) it views the coordination of the entire chain as a key source of competitive advantage (Gereffi, 2001). Like the NIE approach, GCC analysis focuses on the importance of coordination and the relationships and organization of relations. However, its approach differs from NIE theory, which is more narrowly focused on efficiency-improving institutions and is thus devoid of considerations of power (Bardhan, 1989).

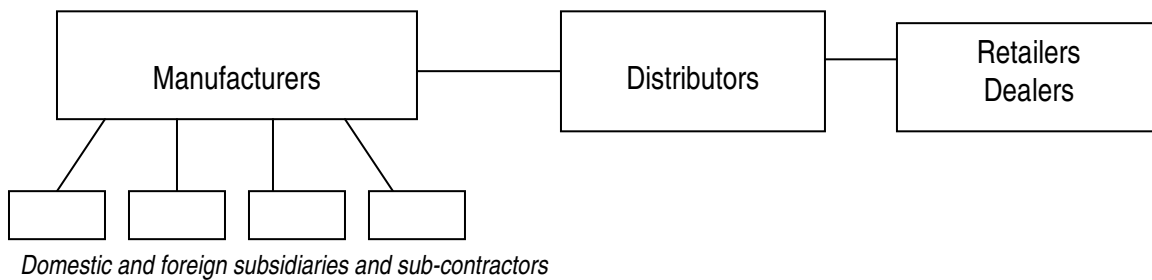
Producer- and buyer-driven value chains

A key distinction made by this literature is the difference between producer-driven and buyer-driven global commodity chains (Gereffi, 1994; 1999). Producer-driven commodity chains are those with large-scale economies and heavy investment, and thus high barriers to entry, in which large, transnational manufacturers play the central role in coordinating production networks (including backward and forward linkages). Producer-driven chains are characterized by capital and technology-intensive industries (automobiles, aircraft, semiconductors). Profitability is greatest in the relatively concentrated segments characterized by high barriers to entry. Thus, manufacturers in producer-driven chains are the key economic agents not only in terms of their profitability but also in their ability to control backward linkages to raw material suppliers and forward linkages to distribution and retailing. Lead firms usually belong to global oligopolies.

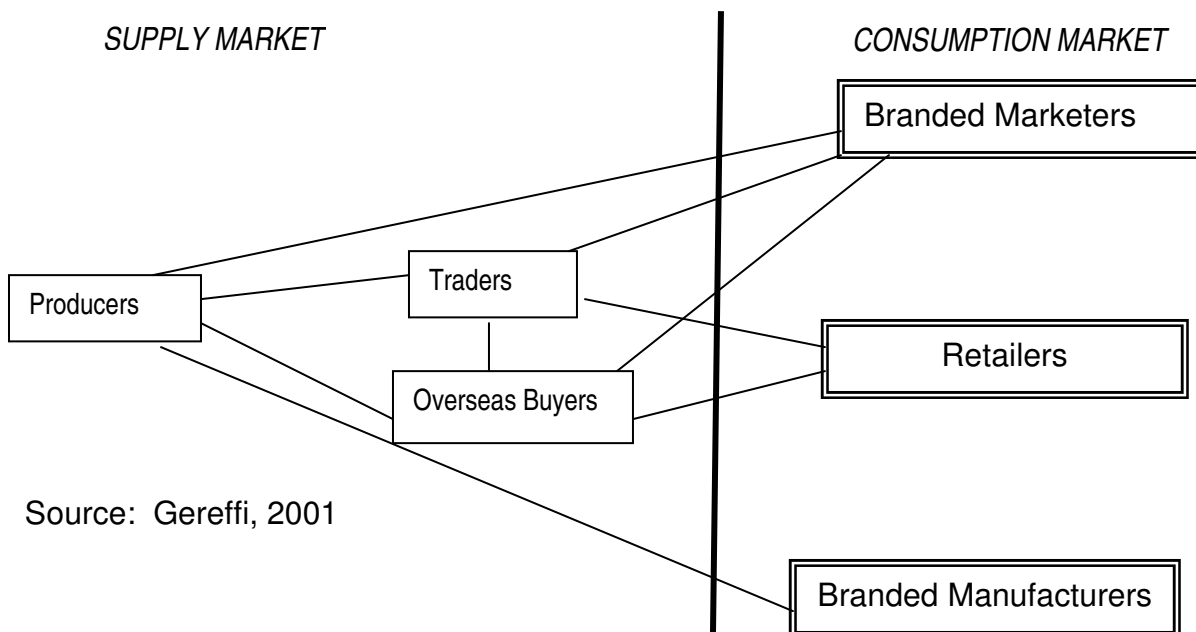
In contrast, buyer-driven commodity chains refer to industries with low barriers to entry in production, in which large retailers, marketers, and branded manufacturers play the key roles in setting up decentralized production networks in a variety of exporting countries. This pattern is more prevalent in labor-intensive industries. In buyer-driven chains, profits derive not from scale,

volume, or technological differences, but from the unique combinations of design, marketing, and financial services. Retailers, designers, and marketers act as strategic brokers linking overseas producers and traders with evolving product niches in the main consumer markets (Gereffi, 1994). While production has low barriers to entry and is relatively competitive, the companies that develop and sell brand-name products exert control over how, when, and where manufacturing will take place and how much profit accrues at each stage of the chain (Gereffi, 2001). The difference between these two types of chains is illustrated in Figure 2.

Figure 2. Structure of Producer-driven and Buyer-driven Global Commodity Chains
Producer-driven Commodity Chains



Buyer-driven Commodity Chains



Source: Gereffi, 2001

Another important aspect of the GCC approach is its inclusion of power, which is seen not only as the effect of barriers to entry, but also as the effect of organizational changes and supply chain management by leading firms (Raikes et al., 2000). However, power is not defined formally in GCC analysis and is used in conjunction with high profit. Following the dependency approach of Hopkins and Wallerstein, high-profit sections of the chain are “core-like” while low-profit sections are “periphery-like.” This gives rise to circularity in reasoning in that profits are explained by power, which itself is defined by high profits.

What is critical to the understanding of power in the GCC approach is the role of leading firms in strategic decisionmaking within the geographically-dispersed supply networks or commodity chains (Dolan et al., 1999). Moreover, the concept of power is dynamic in the GCC approach in that barriers to entry and rents are themselves constantly evolving, as they are eroded by the process of competition (Kaplinsky, 2001).

Contract Enforcement

Market exchange is fundamentally the voluntary exchange of private ownership rights over goods and services by individuals. Thus, it is important to recognize all market transactions as a form of contract --be it for the transfer of goods, credit, labor-- with mutual obligations for both transacting parties. Contracts need not be formal or even explicit. However, because of the opportunistic nature of human beings, any form of contract is only as good as the belief that it can be enforced (Fafchamps, 2004). This point is central to the analysis of market institutions and at the heart of the notions put forward by North (1990) and Williamson (1985) regarding transaction costs and their role in shaping institutions. We start with the premise that markets cannot exist without defined and protected property rights over goods and services. Even where property

rights are defined and protected, there is room for cheating in the exchange process itself.

The seminal work of Hayek (1945) suggests that all economies are subject to information asymmetries, which generate moral hazard and adverse selection problems. Information asymmetry further generates contract enforcement problems because compliance of contracts becomes hard to verify by external agents, such as the courts (Fafchamps, 2005). Thus, the presence of information asymmetry along with opportunistic behavior implies that institutions must and do emerge to enable contract enforcement in the market, without which market exchange cannot take place.

It is important to develop a thorough understanding of the various institutions that have emerged to enable contract enforcement and to understanding the conditions under which particular institutions emerge. To do so, we will not be limited to the study of formal contracts, but will consider all agreements binding the transfer of goods and services, be they legally bound or informal, implicit or explicit. Nor will we be solely concerned with formal enforcement institutions such as rules and laws, but will consider all forms of enforcement means such as trust, guilt, reputation, repeated interaction, joint sanctioning in communities, *inter alia*.

In many developing economies in transition in sub-Saharan Africa and elsewhere, traders in liberalized agricultural markets, particularly for foodgrains, operate in a context in which prices are not publicly announced, goods are highly differentiated with no formal standardization and classification system, contracts are oral and non-standardized, there is little inspection or certification, and virtually no recourse to legal means of contract enforcement (Gabre-Madhin, 2001; Fafchamps and Gabre-Madhin, 2002). These constraints cause both producers and traders to be highly vulnerable to being cheated with respect to market prices, qualities and quantities of the delivered good, as well as other

contractual terms such as the timing of delivery, and product spoilage or loss during transport, *inter alia*.

Much like grain merchants in the mid-to-late 19th century American Midwest, grain traders in Africa can, and do, often cheat their partners by delivering a lower quality of product than was discussed at the time of sale. Since there are no official inspections of grain, a trader who contacts a partner by telephone is forced to take the partner's word at face value. Furthermore, grain quality can deteriorate in the course of storage or transport to the buyer. Traders can deceive partners by misquoting or omitting information on any of the above parameters at the time of the oral agreement of the grain price. Other opportunities for fraud are presented by the lack of standardized bags and the practice of cheating on the weights of traded goods. The commitment problem is also a function of the point at which ownership of grain is transferred between partners. When a seller retains ownership, and concomitant risk, for a shipment of grain until it reaches the final destination, the trader is highly vulnerable to renegeing on the buyer's part. Similarly, if the buyer takes ownership of a load of grain at the seller's venue, the buyer is highly vulnerable to fraudulent representation of the grain or damage during transport.

In an extensive survey of traders in Malawi and Benin, two countries with a contrasting history of private commercial exchange, agricultural commodity traders in both countries reported a high incidence of contractual non-performance, by up to 41 percent of traders in Malawi and up to 12 percent in Benin (Table 3). In Benin, where trading networks are more extensive and traders have a longer tradition of commerce, traders only report a handful of cases of bad quality, disagreement over measures, or ex post price renegotiation with suppliers. In contrast, Malawian traders report close to 200 such occurrences per year—roughly 6 % of purchases. For sales contracts, the frequency of payment problems is again much higher in Malawi than in Benin. Malawian traders are also much more likely to mention efforts by clients to

renegotiate prices ex post. One means of containing the failure of contracts is through reputation effects. The fear of losing one's reputation vis-à-vis others in the market appears to be a deterrent to non-payment. Thus, the majority of traders in both countries state that other suppliers would get to know if a client fails to pay.

Table 3 Contract Enforcement and Commercial Disputes in Benin and Malawi

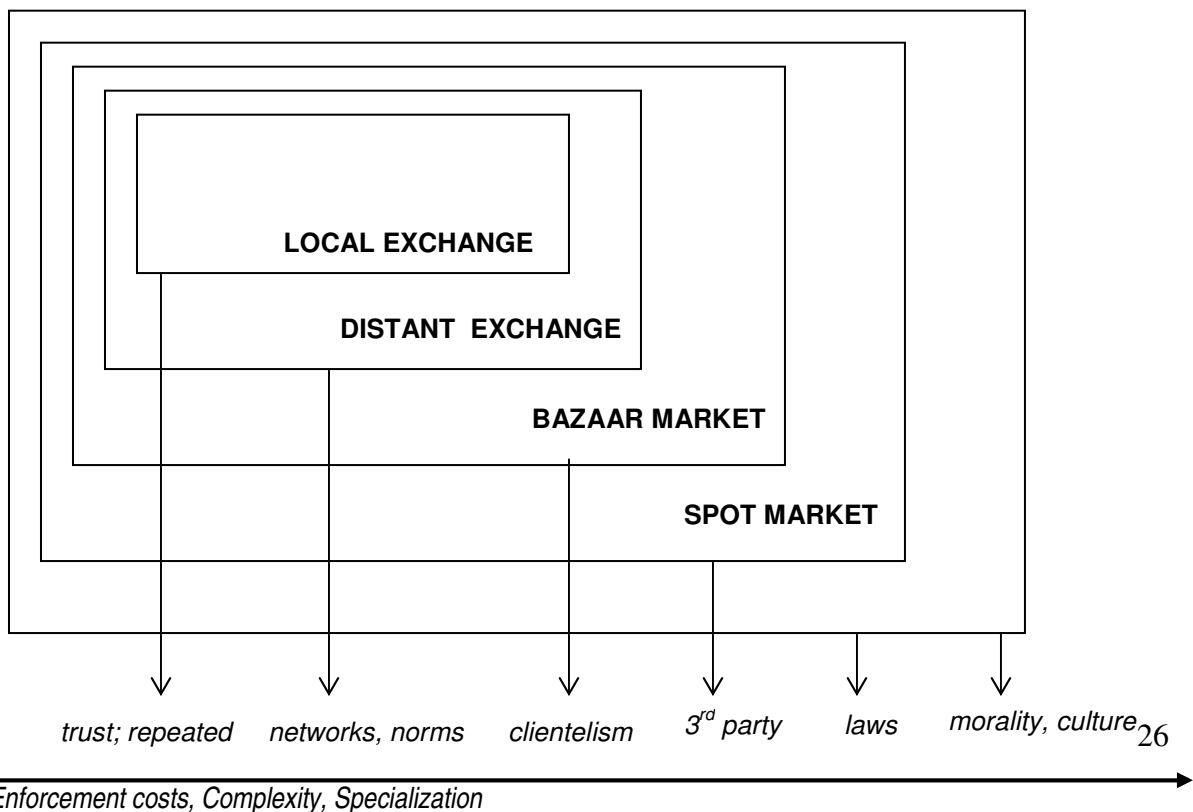
	Benin		Malawi	
	Mean	Std. dev	Mean	Std. dev
With suppliers:				
Bad quality	3%		41%	
Disagreement over measuring	7%		35%	
Renegotiate price	12%		25%	
Cases of bad quality per year	0.3	2.8	63.9	340.9
Cases of measuring dispute per year	2.3	12.4	99.5	410.9
Cases of price renegotiation per year	1.6	6.0	45.7	217.5
Place orders	6%		32%	
Proportion of purchases on order	1.2	6.4	6.3	12.7
Number suppliers from whom order	0.0	0.4	0.7	3.9
Late delivery	18%		41%	
Partial delivery	20%		31%	
No delivery	16%		27%	
Cases of late delivery per year	5.0	20.8	37.5	197.5
Cases of partial delivery per year	3.1	9.3	19.0	57.7
Cases of no delivery per year	0.3	0.8	31.3	148.0
Number of purchases per year (*)	10	14	3345	12315
With clients:				
Late payment	24%		42%	
Partial payment	21%		34%	
No payment	20%		25%	
Renegotiate price	5%		20%	
Cases of late payment per year	10.8	34.1	15.2	36.5
Cases of partial payment per year	9.8	62.2	14.9	71.8
Cases of no payment per year	0.9	3.4	7.1	62.4
Cases of price renegotiation per year	0.4	2.1	116.0	506.7
Number clients who order	0.1	0.6	0.5	1.6
Number of sales	3102	4433	7898	9140
Others know non payment	53%		70%	
People dealing with debt collection	1.1	1.0	0.7	0.6

(*) number of purchases with order for Benin.

Source: Fafchamps and Gabre-Madhin, 2001

Economic history over time can be seen as a series of staged stories (North, 1991). The earliest economies constitute local exchange within a village. Gradually trade expands, beyond the village, beyond the region, and eventually to much of the world. Each stage involves increasing specialization and division of labor and more productive technology. When trade is local to the village, informal constraints govern exchange and the costs of transacting are low. As trade expands across distance and across time, transaction costs related to monitoring and enforcement increase sharply and the dense social network of the village needs to be replaced by enforcement by the state. In societies in which the expansion of the market has brought about more specialized producers, economies of scale, and specialized merchants, North (1991) argues that effective, impersonal contract enforcement is required because personal ties and informal constraints are no longer effective. Thus market institutions aimed at contract enforcement evolve along the spectrum from highly personalized to highly impersonalized exchange (Figure 3).

Figure 3. Enforcement and Market Exchange Spectrum



In the African context, several key features of the marketing system are important for understanding the evolution of different enforcement institutions. First, agricultural producers are generally small and geographically dispersed. This gives rise to thin markets with dispersed buyers (traders), operating at low levels of working capital, buying in small lots (Staatz et al, 1989; Gabre-Madhin, 2001; Morris and Newman, 1989). With generally small market transactions undertaken by small-scale trading firms, neither small firms nor small-scale farmers have seizable assets in the event of contract failure, making the threat of court action non-viable. On the purchase side, most domestic agricultural markets in Africa are characterized by the marked absence of large processors and therefore a much greater proportion of small buyers, made up of traders, retailers, and consumers themselves. So domestic foodgrain markets in Africa can be characterized as markets with dispersed small producers, many small trading firms, and many buyers. The overwhelming prevalence and persistence of small firms in domestic markets is somewhat a puzzle, perhaps explained by diseconomies of scale in marketing (Fafchamps, Gabre-Madhin, and Minten, 2005). The picture changes somewhat in the case of agricultural exports, both traditional mainly tree crops, and the case of non-traditional, high-value, products. In the case of traditional export crops, such as coffee, cotton, tobacco, among others, smallscale producers still persist but the buyers are often a small number of large exporting firms, or a government monopsony. Export certification and financing requirements often create a single channel at the border. In the case of non-traditional high-value exports, where logistical and process requirements are considerably greater, small-scale producers and large exporters are much more tightly linked into contractual arrangements within supply chains. In each of these three types of commodities, different enforcement mechanisms may emerge in response to the differences in the market arrangement.

Thus, because most market transactions are outside of the reach of the formal legal system, trading practices evolve to minimize the potential for contract failure, such as immediate cash sales rather than long-distance orders, supplier credit, forward contracting, etc (Fafchamps and Minten, 2001; Gabre-Madhin and Negassa, 2004).

There are also features of the agricultural product and production process that matter. In the case of foodgrains, varieties produced are largely indigenous, implying a large number of local varieties and the absence of grades and standards. Moreover, agricultural commodities are largely unprocessed and come to market with highly uneven qualities. Not only are products not standard, but it is also difficult to screen honest and dishonest market actors because there are no viable business registry or certification systems. In the case of both traditional and non-traditional exports, product standard requirements are much more stringent and enforcement mechanisms are more developed. However, for all of the types of products and markets, these constraints lead to significant opportunities for cheating and for contract failure. Without viable enforcement, the prospects for expanded market exchange remain dim, and markets remain within what Fafchamps and Minten (2001) consider a “flea market economy,” that is, markets with no placement of orders across time or distance, no credit, no warranty, no check-based payments, essentially cash-and-carry markets with inspection, delivery, and cash payment on the spot.

A typology of contract enforcement which accounts for market and product attributes might look like the following. In the absence of costless legal enforcement, personal trust often prevails where screening costs are high and markets such as those with large numbers of buyers and sellers create significant opportunities for cheating. However, where does trust come from? Trust is based on successful repeated exchange, leading to what is considered relationship-based or relational contracting (Hayami and Kikuchi, 1981). Thus,

trust-based exchange based on repeated interaction prevails where collective action opportunities are weak. By definition, this type of enforcement limits the scope for market expansion given it is limited by individual repeated exchange among parties who know each other. This type of enforcement may dominate in markets in which product quality is unknown, with many dispersed buyers and sellers, such as the case of localized foodgrain markets in Africa.

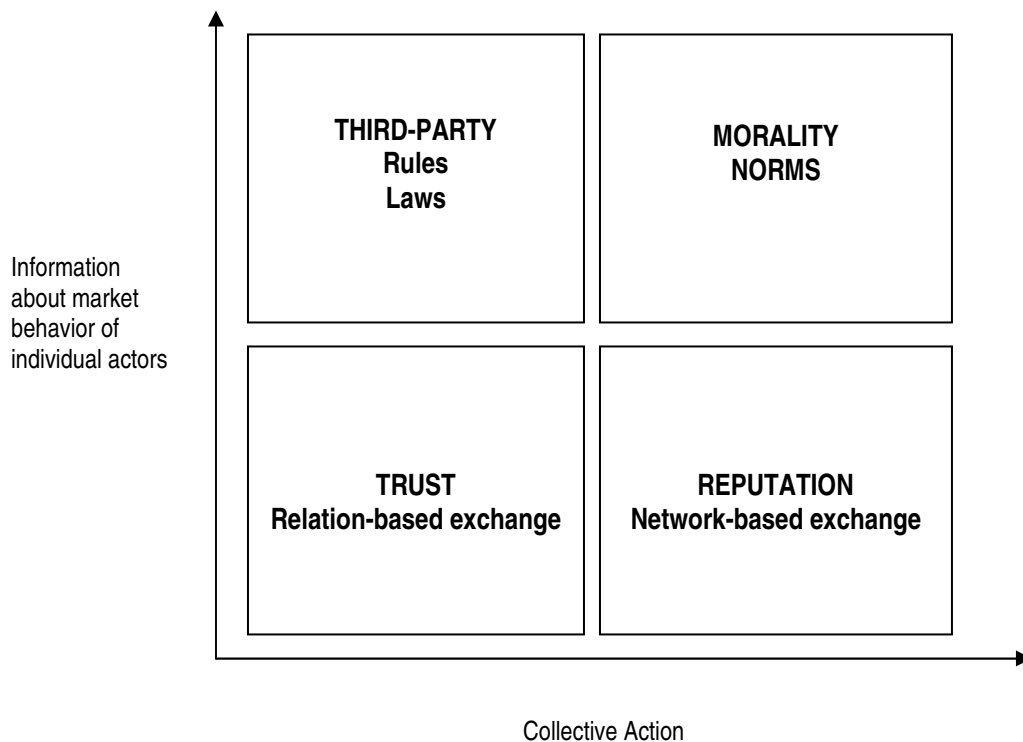
But in markets where information about cheaters can be more easily transmitted and where market actors are willing to collectively sanction or punish the cheater, then another mechanism prevails: the multilateral punishment strategy based on reputation (Greif, 1993). But this type of enforcement is also limited by the fact that it is difficult for the group to know exactly what went on between two parties and gives rise to disinformation. This type of network-based system may dominate where markets such as for long-distance transfers of goods, either to export markets or across long distances within countries. In this case, tightly knit, ethnic-based export networks may emerge, as in the case of high-value agricultural exports from Africa to European markets, much like the ethnic Chinese networks in east Asia.

A third alternative to trust-based or reputation-based contract enforcement is third party enforcement, which arises in the absence of repeated interactions or of dense social networks in which collective action is likely. The third-party institution requires that considerable information exist about market actors but does not require collective action among market actors. This third party mechanism, such as a credit reporting agency or trade can resemble the reputation mechanism in that information about individual cheating behavior but differs in that collective punishment is not required. This system prevails where information about past behavior can be recorded, usually in a centralized market such as an export registration board or export auction.

Finally, where collective action opportunities are high and where information about actors' behavior is also available, contract enforcement can depend largely on a higher-order set of norms and moral authority. This is also the arena in which laws and formal rules governing economic exchange behavior are likely to be meaningful. This type of enforcement may prevail in formal commodity exchanges where many buyers and many sellers collectively agree to abide by rules and laws established by the market and where information on behavior is readily available in a transparent way.

The typology developed is based on two key parameters: the availability and ease of obtaining information about market behavior and the extent to which market actors are willing to engage in collective action. These dimensions determine the extent to which private and public enforcement may occur and also attempt to capture the specificities of the products and markets themselves (Figure 4).

Figure 4 Enforcement Dimensions



4. Approaches to Market Development on the Ground

Market development efforts in the post-liberalization era can be seen as focused on two types of interventions: fostering reliable market linkages for smallholders particularly to export high-value markets and support measures aimed at strengthening the institutional arrangements that govern markets. A brief review highlights the best practices and impacts as well as the gaps.

Building Market Linkages for Smallholders: Value Chain Approach

The premise for interventions has been that market forces alone will not ensure the integration of smallholders into the global market because of the high transaction costs associated with involving numerous, small-scale, and geographically dispersed producers. A review of interventions by Joffe and Jones (2005) considers that efforts have focused on two areas: establishing rural retail networks for inputs and in creating farmer-based enterprises linked to global markets. In these efforts, either non-governmental organizations or donors have played a very active sponsoring role. Activities included in this effort include the following:

- Identifying and training rural retailers
- Facilitating supply contracts between input suppliers and retailers
- Providing partial credit guarantees to suppliers
- Proving demonstrations to farmers on technologies
- Facilitating the formation or strengthening of farmer marketing groups (associations, clubs, cooperatives)
- Undertaking commodity market studies and providing information services
- Facilitating contractual agreements with buyers.

As noted, non-governmental groups, particularly linked to USAID, have been pioneers in these efforts. What has come to be known as the “Rockefeller model” has focused on establishing rural input retailer networks in eastern and southern Africa. Similarly, what might be considered the “USAID model” through partners such as CLUSA, ACDI/VOCA, and Technoserve have been heavily engaged on the creation of producer market-oriented organizations, operating as business enterprises in both west and eastern and southern Africa.

These approaches have demonstrated early successes in linking smallholders to the global value chains and in developing a business orientation in collective action groups. However, in considering scaling-up of these efforts, it remains unclear to what extent program costs outweigh the benefits or whether the initiatives will survive beyond the lifetime of the projects (Joffe and Jones, 2005).

Building Institutions for Markets: Market Development Approach

The key issues that have emerged from the experience of traditional or bulk-commodity markets in the post-reform era are:

- The need for mechanisms to transparently grade and standardize products for market, from the production level on throughout the market chain;
- The need for market information that is accessible to all market actors;
- The need to foster competitive practices among all market actors, across all levels of the chain;
- The need for financial markets to respond to market needs for trade finance, for inventory finance, and for alternative financial products;
- The need for dispute settlement and regulatory systems to evolve according to market needs, and in a way that relies also on the private incentives for self-regulation, notably through the potential role of trade associations;
- The need for risk-transfer through mechanisms such as forward contracts and transferable warehouse receipts, and,

- The need for concerted efforts to build capacity throughout the marketing system, including cooperatives, small and medium private traders, and public actors.

Interventions concerning the above have tended to involve the creation of long-term institutions and have thus involved national governments to a greater extent. However, the experience of sustained efforts is limited and the impact has generally been mixed. Efforts have been focused on three of the above areas: market information systems, grades and standards, and warehouse receipt systems.

Grades and standards

With regard to a viable system of grades and standards, which is vital to market development, a key issue is how to translate standards to the very basic level of production in the commodity chain. The biggest challenge in standards implementation is translating standards to farm level. Currently, there is a wide gap in the implementation and enforcement of standards on various products, and many of the prepared standards have been shelved across countries.

Finance

Broadly speaking, the potential sources of formal external finance are banks and microfinance institutions (MFIs). At present, MFIs play a limited role in trade finance. With MFI loans subject to regulatory and group imposed limits and the reluctance of formal banks to provide small loans, there is a significant financing gap for those in the middle category. Banks on their side have been reluctant to engage in inventory finance linked to a warehouse receipts system, because of the high risks in agriculture and an insufficiently secure receipts system.

Market information

In many countries, market information is collected, analyzed and disseminated by a number of organizations-federal and regional government organizations,

cooperatives, donors, international organizations and NGOs. The data collection methodologies and procedures considerably vary from organization to organization and must be standardized in order to make such data comparable and commercially valuable. A clear conceptual framework regarding the levels of the market and the quality standards for which price data is quoted by the different organizations needs to be devised and implemented in collaboration with the different organizations engaged in data collection.

Public and private sector capacity

A critical issue across the board is the very low human and organizational capacity of both the public and private sector with respect to agricultural marketing. Concerted efforts to build capacity are required at three levels: public institutions, public actors, and private actors.

5. An Integrated Approach: Commodity Exchanges

In much of the sub-Saharan Africa, the recent market development agenda remains fraught with internal tensions and critical concerns. At the heart of these concerns is the need to consider market development as an integrated whole rather than the sum of piecemeal interventions targeting different sets of actors. This is as much a matter of perspective as much as of design.

This can be viewed as the “fallacy of composition” argument that considers that the sum of the parts equals the whole. An illustration of this fallacy is the promotion of contractual arrangements between farmer groups and industrial buyers without consideration of the broader whole that is the market mechanism in which buyers and sellers must arrive at an appropriate market-clearing price,

determined through an accepted and transparent system of measuring quantity and quality, and within a system that ensures that contracts are enforced and property rights are secure.

A second example might be the tensions inherent in the promotion of a system of inventory credit, a financial instrument, designed to meet price stabilization objectives, in the absence of accompanying measures to provide transparent information on product prices, qualities, stocks, and warehouse performance and a viable dispute settlement mechanism, all of which are essential to providing incentives for the financial system to participate. How then to achieve the necessary holistic perspective to market development? One promising avenue currently gaining interest, which historically has had tremendous power to transform markets when appropriately designed and implemented, is that of **commodity exchange development.**

A commodity exchange, whether concerned mainly with spot (for immediate physical delivery) or futures (for delivery at a future date) transactions, can be defined as an organized marketplace where sellers and buyers' interactions are governed by a set of specific and transparent rules, related to price bidding, grading, delivery, and dispute adjudication.

A commodity exchange has the potential to reduce transaction costs by: facilitating contact between buyers and sellers; enabling centralized grading of products; ensuring that contracts are enforceable; providing a mechanism for price discovery; simplifying transactions with standard contracts; and, transmitting information about prices and volumes. Further an Exchange increases market liquidity, enables the transfer of price risk, and enhances trust, order, and integrity in the market (Gabre-Madhin and Goggin, 2005).

Commodity exchanges have served to govern contractual relations and enable low-cost transacting between large numbers of dispersed buyers and sellers.

Their functions have included commodity measurement and the assignment of given standards, contract enforcement, the policing of theft and fraud, and the public provision of information. While the premise of the commodity exchange as a private-order institution is that the market, made up of private actors, will act on its own internal incentive for order, it does not hold that there is no room or role for public-order intervention. The success of the commodity exchange in privately fulfilling its functions depends to a large extent on the distributive consequences of bringing about order. That is, if the costs or welfare losses to those that benefit from the *lack of order* are significantly greater than the gains, then it will be very difficult for a private institution alone to achieve its objectives. This is notably the case of the world's most successful commodity exchange throughout history, the Chicago Board of Trade.

While extremely successful in enforcing contracts, the Chicago market in its early years failed to regularize the grading and inspection and weighing of grain and to reduce the severe information asymmetries in the grain market. While able to do so for other products, it failed with regard to grains specifically because of the immense and powerful interests of one set of actors, the warehouse operators, who stored and graded grain and issued receipts in return. Warehousemen in the 1850s and 1860s eroded the trade by grading erratically and mixing across qualities of graded grain, as well as by acting on private information regarding stocks and qualities of grain under their hand. In order to create a consistent system, the Board of Trade had to appeal to the authorities to ensure a system of inspection that was legally binding over the warehouses. Later, even this system gave way to a full-fledged role for the state in the inspection of all goods traded through the exchange, still the case today. In contrast, other exchanges, such as the Liverpool and London Corn Exchanges, the London Metal Exchange, and others, successfully provided key market services, in a variety of contexts, with little or no state intervention.

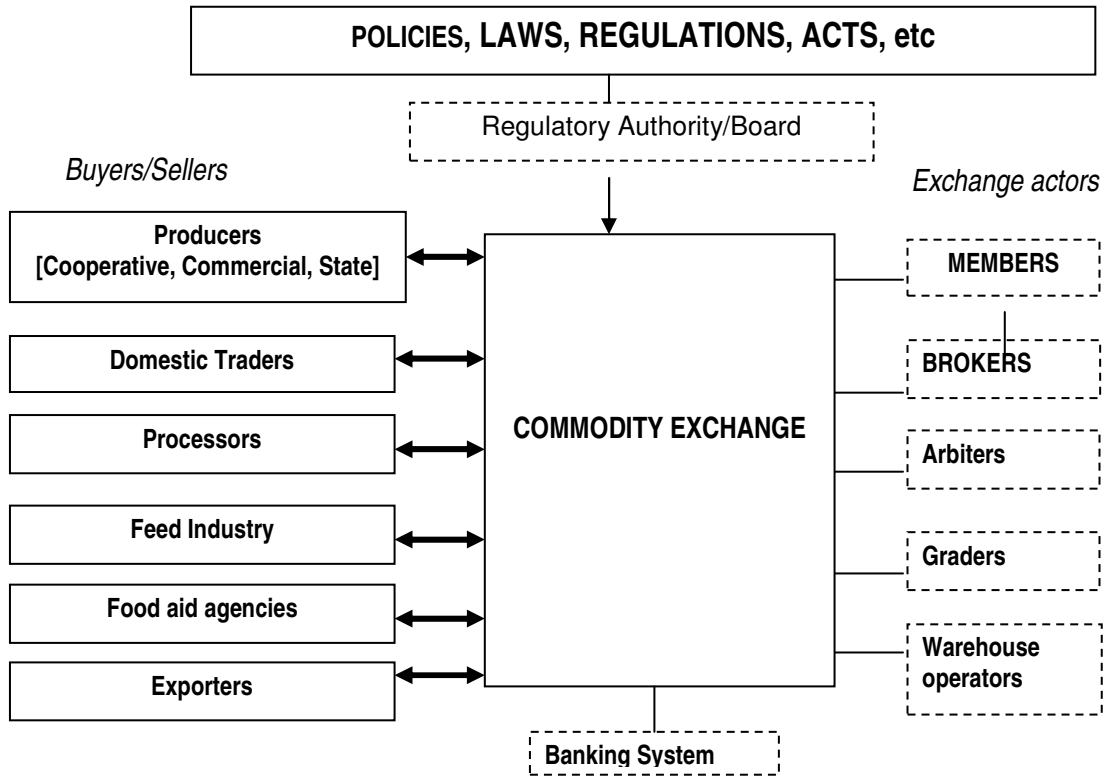
These insights suggest that there is no blueprint or silver bullet in commodity exchange development. A successful commodity exchange facilitates transactions between market participants --farmers, processors, traders, consumers, food aid agencies, parastatal agencies, and others-- in a low-cost environment. The lowering of costs is passed on to market actors who can then directly benefit from a higher share of the final price. This in turn generates incentives for increased market volume, and provides an incentive for increased participation in the market.

As an institution, a commodity exchange itself depends on a number of linked institutions, which are critical to its functioning. These core institutions are: a market information system; a system of product grading and certification; a regulatory framework and appropriate legislation; an arbitration mechanism; and, producer and trade associations. In addition, a warehouse receipts system is a very important related institution. A commodity exchange also depends on the functioning of “allied” sectors: banking, insurance, transport, IT services, and even inspection services. Thus, while these sectors are not strictly part of an integrated institutional development plan, they must be nonetheless engaged and involved and brought along as the exchange development proceeds.

When linked to a negotiable warehouse receipts system, the increased liquidity as market transactions increase, over time evolving to futures trading, implies that the thinness of markets lessens, and the market can be expected to enable the transfer of risk from market actors such as farmers to those who are keen to absorb risk, such as speculators.

Figure 5
Institutions

The Structure of a Commodity Exchange and Allied



Source: Gabre-Madhin et al, 2003

6. Conclusions

This paper has highlighted that the starting point for appropriate market development intervention for the purpose of enhancing smallholder market participation is first understanding how markets actually work and in particular how institutions facilitate market exchange. In terms of institutions, the core agenda is to understand the complexity and diversity of institutional arrangements for facilitating market exchange. In particular, the paper has emphasized that market institutions play out in two vital arenas: bringing order and reducing coordination costs and in the enforcement of contracts and property rights.

With regard to coordination and coordination failure, the paper presented both the transaction cost and the commodity chain approaches, with their relative merits and gaps. A key point is the need to tailor the appropriate institutional coordination mechanism to the underlying transaction costs. With regard to enforcement, the paper similarly presented the spectrum of thinking on how bilateral, community, repeated interaction, and third parties play a role in enforcement. This overview served to present a broader view of enforcement, involving communities, social networks, etc, rather than the often singled out mechanism of legal framework development.

Moreover, in reviewing the market development experiences to date, the paper has shown the dichotomy in approaches between highly donor-driven, short-term, value chain development efforts linking smallholders to markets in contrast to longer-term market institution building. To date, the latter has shown less impact, though more sustainable in the long term, than the former. With regard to market institutions, it was emphasized that piecemeal interventions do not have the intended results. Thus, the paper then tried to highlight that market development is a long-term agenda, requiring a progressive and integrative perspective. In considering how to achieve an integrated perspective, some

thought was given to the concept of a commodity exchange where in all the various elements come together.

Broadly, we conclude by suggesting an encompassing market development research idea that may serve to provide better understanding of how market institutions can better serve smallholder participation, both for global high-value chains, as well as for domestic or traditional bulk commodity markets:

- The engagement of the private sector and the respective roles of the public and private sectors in market development;
- Specific efforts to address smallholder engagement in both the global and domestic market;
- The appropriate strategy in terms of building the basic market institutional components individually or starting institutional development in a holistic manner;
- The development of horizontal coordination between producers and traders alongside vertical coordination between actors in the chain
- The mechanisms to capitalize on internal incentives for self-regulation and the creation of a viable regulatory and legal framework;
- The correct balance between an enabling policy environment and private incentives; and,
- Basic infrastructural and capacity-building requirements, to accompany institutional development.

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