



**OF MARKETS AND MIDDLEMEN:
TRANSFORMING AGRICULTURAL MARKETS IN ETHIOPIA**

by

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April 2001**

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OF MARKETS AND MIDDLEMEN: BROKERS IN THE ETHIOPIAN GRAIN MARKET

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Abstract

This paper argues that, in the absence of formal mechanisms to deter commitment failure in the Ethiopian grain market, a market institution that promotes anonymous exchange among unknown parties is that of grain brokers who match buyers and sellers in return for a fee. The paper examines the characteristics, operations, and functions of brokers in the Ethiopian grain economy and analyzes how brokers enable grain traders to circumvent the commitment failure problem that is intrinsic to a weak marketing environment. The paper also demonstrates that agency relations are long-term, reputation-based, not based on ethnicity, and relatively conflict-free. Conflict is avoided and agency relations are sustained by underlying incentive-compatible norms, namely, the joint-client system, the absence of market-making, and flat commissions. Finally, the paper discusses the implications of the presence of brokers for transforming agricultural market performance.

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1. Introduction

In fact, the costs of transacting are the key to the performance of economies. There have always been gains from trade...but so too have there been obstacles to realizing these gains. If transport costs were the only obstacle, then we would observe through history an inverse relationship between transport costs, on the one hand, and trade and exchange and the well-being of societies on the other.¹

Over the past two decades, recognition of the critical role of markets in economic development has prompted sweeping market reforms across a number of developing countries.² The Ethiopian grain economy underwent a dramatic market reform in March 1990, when the government lifted, overnight, all restrictions on private trade, following a period of 15 years in which the state exercised tight control over prices and inter-regional movements of grain (Lirenso, 1993). The liberalization of the Ethiopian grain market spelled the rejection of state-controlled channels, the return of private traders dispossessed of their trade during the socialist regime, and the restoration of age-old trading relationships and market networks (Dadi et al, 1992; Amha, 1994; Gebremeskel et al., 1998).

In the post-reform period, recent studies point to continued market segmentation, price volatility, and the lack of trader investment in Ethiopia (Kuawab, 1994; Dercon, 1995; Negassa and Jayne, 1997). While market reform has succeeded in reducing marketing margins and improving market integration, the market remains “efficient-but-poor” in that market development is relatively limited. Reform has *not* lead to contractual arrangements to transfer risk, increased impersonal exchange, value-added beyond transport, and trader investment. Despite reform, only 28% of total cereals production reaches the market and only 18% passes through the marketing chain, suggesting considerable scope for expanding the grain market, in terms of volume as well as value-added. While several studies have addressed the speed and extent of price transmission in the post-reform period in Ethiopia, relatively little attention has been given to the role of market institutions in supporting exchange and the importance of transaction costs and social capital. This paper addresses a fundamental aspect of market behavior: *how* do buyers and sellers find each other and coordinate the transfer of goods?

In spite of the large literature on market performance following market reforms in sub-Saharan Africa, relatively little attention has been given to the role of market institutions in supporting exchange (Barrett, 1997; Bryceson, 1993; Fafchamps, 1996b; Gebremeskel et al., 1998).³ Yet, it is increasingly recognized that the formulation of market-enhancing policy requires a clearer understanding of institutional marketing arrangements and microeconomic trader behavior (Palaskas and Harriss-White, 1993; Dercon, 1995). To date, very little quantitative analysis has been undertaken on transaction costs and institutions, partly due to the difficulty of measuring these costs. Using the New Institutional Economics framework, this study aims to redress this gap through an empirical analysis of the nature and extent of the transaction costs faced by traders in Ethiopia, traders’ social capital and microeconomic behavior in the market, and the role of the institution of brokers as a means of minimizing transaction costs. Using primary data collected on wholesalers and brokers in 1996, the study analyzes the microeconomic behavior of traders in terms of their operations and arbitrage in the market.

¹ Douglass North, “Institutions and Economic Growth: An Historical Introduction,” *World Development*, No. 9, September 1989.

² Market reform includes, but is not limited to, policies aimed at allowing private sector participation in exchange, removing government trading monopolies, lowering or eliminating tax or licensing restrictions, and eliminating official price-setting.

³ see Kherallah et al. (2001) for a synthesis of findings on market reform in sub-Saharan Africa.

The Institution of Brokers in Ethiopia

Ethiopian grain traders face three major constraints, which increase their transaction costs of participating in the grain market. First, traders do not benefit from a system of grain standardization and inspection, which would enable them to place orders with long-distance partners for guaranteed qualities and quantities of grain. Instead, they must be physically present at the time of transaction in order to visually inspect the grain that is being exchanged. Second, grain traders have very limited recourse to legal means for enforcing contracts. Thus, they only trade with partners whom they know well and trust, in order to avoid the high costs of payment delinquency or renegeing on the terms of the contract. Third, traders do not have access to a public market information system that enables them to know prices and flows in markets outside of their own. This limits traders' ability to deliver grain to unknown markets or to set contracts at a future point in time, thus limiting their scope for spatial or temporal arbitrage.

These market constraints result in high transaction costs of partner search, information, and of enforcement for Ethiopian grain traders. In order to reduce these costs, traders engage the services of grain brokers, known as *delala*, who act as intermediaries on their behalf. The majority of Ethiopia's grain traders, 85%, regularly use this institution for their long-distance transactions. Brokers, operating as commission agents, provide the service of matching regional buyers and sellers, as well as handling and inspecting shipments of grain and providing market information to their clients. Brokers have a distinct identity in the market because they do not take market positions themselves, but only act on behalf of traders. There are approximately 40 established brokers in the central market of Addis Ababa, relative to a total of 2,500 wholesalers in the country, who handle roughly 16% of the total marketed surplus. Due to their central position, brokers are keenly aware of prices and flows in the market and their presence enables the Addis Ababa market to function as a clearinghouse for grain in Ethiopia.

Historical and Comparative Perspectives

In addition to the well-known function of brokers in organized commodity exchanges and in housing and labor markets in industrialized countries, there is evidence of brokerage in agricultural markets across Africa, as well as in Asia and Latin America. N.W. Thomas (1908) reports historical evidence of brokers throughout northeast, and to a lesser extent central and western, Africa. Historically, brokers appear to have played a major role in the food trade of the western Sudan and are linked to the presence of Hausa traders (Cohen 1969; Meillassoux 1971; Jones 1972). Gilbert (1969) finds evidence of brokers in nearly all studied food markets in northern Nigeria, where brokers, known as *dillali*, are generally of the dominant ethnic group. Hill (1966) documents the activities of "landlord-brokers" in food markets in the Kumasi market of Ghana, similar to the role of *logeurs* in Mali (Amselle 1969).

In Asia, Lele (1971) describes the role of Indian commission agents in the foodgrain market, known as *adatyā* in Maharashtra or *dalal* in Hindustani, who operate in a manner closely resembling that of Ethiopian brokers. Scott (1985) documents the existence of commission agents in the Cañete Valley of Peru, who facilitate exchange between potato producers in the Valley and wholesalers in Lima. Moreover, the same word, derived from the Arabic *dalaal*, is used to describe brokers in Ethiopia (*delala*), Somalia (*dilal*), Nigeria (*dillali*) and India (*dalal*), possibly revealing that the practice of brokerage may have originated in Muslim commercial practices. Pankhurst (1961) documents reports by Marco Polo of "merchants of all nations" trading in 12th century Ethiopia, while Alvarez (1881) describes the influence of foreign traders including "Moors, from Giada (Jeddah), Morocco, Fez, Tunis, Turks, Greeks, Moors from India, Ormuz, and Cairo" actively trading in Ethiopia in the 13th century.⁴ Jackson (1978) also notes

⁴ Pankhurst, 1961, p. 307.

the existence of Muslim-dominated trade routes traversing pre-modern Ethiopia. The overwhelming evidence of brokerage in agricultural markets historically and across countries suggests that this institution has long existed throughout the world as a viable mechanism of promoting trade in the presence of high commitment failure in constrained marketing environments.

New Institutional Economics Approach

Transaction Costs

Within the New Institutional Economics (NIE) approach, the unit of analysis is the transaction, rather than the price. Exchange itself is costly. Transaction costs, which are distinct from physical marketing costs such as transport and storage, arise from the coordination of exchange among market actors. They include the costs of obtaining and processing market information (Hayek, 1945; Alchian and Demsetz, 1972; Hoff and Stiglitz, 1990), negotiating contracts (Coase, 1937; Williamson, 1985), monitoring agents (Bardhan, 1989; Cheung, 1968; Eswaran and Kotwal, 1985), and enforcing contracts (North, 1989; Milgrom, North, and Weingast, 1990; Greif, 1993; Fafchamps, 1996b).

Transaction costs are unique to each market participant, implying that economic actors are not interchangeable. The presence of transaction costs, which are specific to each market actor, implies that there is no *single* effective market price at which exchange occurs (Sadoulet and de Janvry, 1995). Each agent in the market conducts transactions on the basis of his or her specific transaction costs. The implications of transaction costs are that markets are thin or fail if prohibitively high costs prevent exchange.

Institutions to Facilitate Exchange

Institutions are the “rules of the game,” both formal rules and informal constraints such as norms, conventions, and codes of conduct, that provide the structure for human interaction (North, 1991). Institutions emerge to minimize these transaction costs and to facilitate market exchange. The evolution from personalized exchange to impersonal or anonymous exchange, supported by legal systems that enforce contracts, is central to the process of growth and development (North and Thomas, 1973).

However, following Polanyi (1957), it is widely recognized that market transactions, particularly in developing countries, are often *embedded* in long-term, personalized, relationships (Geertz, 1968; Meillassoux, 1971; Granovetter, 1985; Plattner, 1989; Palaskas and Harriss-White, 1993). Personalized exchange emerges in response to high commitment failure, in which the risk of breach of contract or opportunism is high, resulting from the lack of market information, inadequate regulation, and the absence of legal enforcement mechanisms. Institutions to build trust and promote reputation and social capital, such as trade associations, solidarity networks, ethnic or religious ties, emerge to circumvent commitment failure (Greif, 1993; Fafchamps, 1996; Platteau, 1994).

Historically, institutions have emerged in various contexts to facilitate anonymous trade. Historical institutional analysis of pre-modern trade in medieval Europe by Milgrom et al. (1990) shows that an institution known as the Law Merchant in 12th and 13th century Champagne fairs enabled impersonal exchange to occur. The Law Merchant enabled trade through a reputation system that stored information about traders’ past behavior and sanctioned violators of the commercial code. Similarly, Greif (1993) views the Maghribi traders’ coalition in the 11th century as a means of overcoming the commitment problem intrinsic to long distance trade. Clay (1993) shows that coalitions of long-distance traders in 19th century Mexican California promoted honest exchange through information sharing and punishing of cheaters. In contrast, Platteau (1994a, 1994b) argues that decentralized arrangements based on reputation are not sufficient to ensure honest behavior and that private and public-order institutions are necessary to create the social conditions for markets to operate. Fafchamps and Minten (1999) demonstrate that the

dominant contract enforcement mechanism in liberalized grain markets in Madagascar is trust-based relationships, where trust is established primarily by repeated interaction. The incidence of theft and breach of contract is low and recourse to the legal system is rare.

Social Capital

While social scientists have long recognized the role of interpersonal relationships in human interaction (Coleman, 1988; Granovetter, 1985), the concept of social capital has been little used in economics (Fafchamps and Minten, 1999; Barr, 1997; Narayan and Pritchett, 1996). There are two possible meanings of social capital. The first definition sees social capital as a “stock” of trust and an emotional attachment to a group or society that facilitates the provision of public goods (Fukuyama, 1995; Grief, 1993; Coleman, 1988; Putnam, Leonardi, and Nanetti, 1993). The second views social capital as an individual asset that provides private benefits a single individual or firm (Granovetter, 1995; Montgomery, 1991; Aoki, 1984).

Despite the important strides in the institutional literature, several gaps remain. First, relatively little institutional research has addressed the role of intermediaries in facilitating exchange between anonymous partners. Second, very little attention has been given to a critical transaction cost, the cost of search. That is, little institutional analysis has been undertaken on the process by which economic agents *find* each other in the market. Third, very few empirical studies have attempted to measure transaction costs quantitatively, partly due to the difficulty of obtaining data on these types of costs. Finally, this literature generally overlooks the implications of the existence of institutions for behavior in equilibrium. Most institutional analyses assume that an institution exists because it is cost minimizing, without examining the implications of the presence of the institution for the welfare of the economy.

Description of Data

The analysis is based on an extensive survey of 169 traders and brokers was carried out in 1996 by the author in 12 markets in collaboration with Addis Ababa University in Ethiopia. Of the 12 markets, six markets are located in surplus production areas (Nekempte, Jaji, Assela, Sagure, Bahir Dar, and Bure), five markets are located in deficit regions (Dessie, Kombolcha, Harar, Dire Dawa, and Mekele) in addition to the central market of Addis Ababa. The surplus markets are located in three distinct production zones, in each of which either maize, wheat, or the indigenous grain, *teff*, is mainly produced.⁵ Panel data were obtained in two rounds of trader and broker surveys carried out in May-July 1996 and October-December 1996.

Objectives and Organization of Paper

This paper has three objectives. First, the paper examines closely the structure of the brokerage institution, including the characteristics, operations, and functions of brokers in the Ethiopian grain economy. Second, the study analyzes how brokers enable the exchange of grain among wholesalers to circumvent the commitment failure problem that is intrinsic to the weak marketing environment. Third, the paper addresses the agency relations prevailing between wholesalers and brokers and demonstrates that the brokerage institution is sustained by

⁵ Nekempte and Jaji are located in the Wollega area in which maize is mainly produced, Bahir Dar and Bure are located in the Gojjam area in which teff is primarily produced, and Assela and Sagure are located in the Arsi area in which wheat and barley are mainly produced.

underlying incentive-compatible norms that limit conflict between traders and brokers and sustain agency relations.

The paper proceeds by providing a background to the Ethiopian grain economy in Section 2, the structure of grain brokerage in Section 3, followed by a discussion of the role of brokers in alleviating commitment failure in Section 4. Agency relations between traders and brokers are examined in Section 5 and incentive-compatible norms are discussed in Section 6, followed by conclusions in the final section.

2. Background to the Ethiopian Grain Economy

The Policy Environment

Between 1976 and 1990, a government-owned enterprise, the Agricultural Marketing Corporation, strictly controlled grain trade. The AMC administered a highly distorted trade regime in which official prices were set below producer costs. Under the official pricing system, the magnitude of producers' losses varied from 24% for wheat to 52% for *teff* (Amha, 1994).⁶ Marketing policy in this period included the administration of a compulsory delivery system with fixed quotas per producer. Farmers were forced to supply a fixed quota of grain, for the purposes of feeding the army and certain urban areas. In addition, inter-regional movement of grain by the private sector was severely restricted (Lirensen, 1993). Private sector trade was banned entirely in the major grain producing areas of Gojjam and Arsi, while other regions imposed that traders supply 50 to 100 percent of their grain turnover to the AMC at below market prices (Dercon, 1995). In urban areas, the AMC operated food ration shops for consumers, which further distorted the grain market.

In response to external pressures, a radical and abrupt market reform was enacted literally overnight in 1990, taking the government parastatal as well as private traders by surprise (Fisseha, 1994). The following excerpt from the proclamation of March 1990 reveals the extent of the reform.

In the trade sector of the economy, private entrepreneurs will be able to compete with state-run trade enterprises in agriculture or industrial commodities as well as in import-export trade. In the area of trade in grain products in particular, trade exchange will henceforth be conducted on the basis of free market pricing while the grain control situation and the quota system will cease. The Agricultural Marketing Corporation (AMC) will enter the free market and operate as a state trade organization.

The reform of 1990 resulted in the restoration of private trade and the transformation of the parastatal, re-named the Ethiopian Grain Trade Enterprise, into a buffer stock scheme. The modern warehouses built by the AMC in the monopoly period, numbering 2200 with a total storage capacity in excess of 1 million tons, were made available for rental to private entities and relief agencies, although their utilization was only 50% in 1992 (Lirensen, 1993).

The Impact of Market Reform

The experience of market reform in Ethiopia in the period since 1990 is considered to be a relatively consistent and internally driven process, generally approved by the international donor community (Jayne et al., 1998). As such, the Ethiopian case presents an interesting opportunity to test the hypothesis that market reform would lead to reduced costs and risks of marketing and would stimulate production. Recent studies have evaluated the impact of reform on the price levels, marketing spreads, as well as the speed of price transmission between

⁶ *Teff*, or *Eragrostis teff*, is an indigenous grain to Ethiopia and the primary staple used in the production of *injera*, widely consumed flat bread.

markets. A recent study by Jayne et al. (1998) evaluates the impact of reform on inflation-adjusted grain prices and price spreads between major markets. Using monthly price data on 8 markets over a 9-year period (1987 to 1996), the results reveal that average real prices of maize and *teff* increased after reform for the surplus markets and declined for the deficit markets. Thus, prices in the surplus areas increased in all cases, by 16% to 46%, while prices in deficit areas decreased in four out of six cases, by 15% to 120%. Price variability declined in the post-reform period, with the coefficient of variation of monthly prices declining in 8 out of 12 cases (Table 1).

While favorable weather can partially explain shifts in price levels, it cannot explain the simultaneous increase in prices in surplus areas and the decrease in prices in deficit areas. These suggest that market reform has led to a reduction in price spreads (the difference in prices between surplus and deficit areas). Indeed, in 17 of 19 cases viewed by Jayne et al., price spreads declined in the post-reform period. The decline in spreads is particularly large for *teff*, the market on which the former AMC exercised the greatest restrictions. Reasons suggested for the decline in marketing spreads include (1) lower transaction costs resulting from the elimination of smuggling and bribery (Franzel, Colburn, and Degu, 1989); (2) the peace dividend from the end of civil war and disrupted trade in the northern regions (Dercon, 1995); (3) benefits of not forcing traders to sell at below-market prices, which bid down producer prices and bid up consumer prices; and (4) lower uncertainty related to the commercial activities of the former monopoly. Econometric analysis, holding rainfall, seasonality, and other exogenous factors constant, reveals that the decline in price spreads is associated with liberalization in 16 out 19 cases, and statistically significant in 10 cases (Negassa and Jayne, 1997).

Table 1. Monthly Real Prices Before and After Market Reform (Birr/bag)

	Before reform			After reform			Change		
	Mean	S.d.	CV(%)	Mean	S.d.	CV(%)	Mean	S.d.	CV(%)
Maize									
Surplus									
Bako	56.81	22.78	40	82.95	31.71	38	26.14	8.93	-2
Shashamane	64.45	27.89	28	91.65	23.31	25	27.20	-3.49	-3
Jimma	76.27	34.10	45	88.68	28.99	33	12.41	-5.11	-12
Deficit									
Addis Ababa	96.15	12.41	13	108.50	25.21	23	12.35	12.80	10
Dire Dawa	117.76	25.58	22	150	23.31	20	32.24	-2.27	-2
Mekele	196.28	54.11	28	146.72	31.71	12	-49.56	-35.94	-16
White teff									
Surplus									
Bako	134.82	20.22	15	168.50	26.91	16	33.68	6.69	1
Hosaenna	149.61	202.4	14	184.27	25.47	14	34.66	5.23	0
Bahir Dar	158.65	15.56	10	199.68	29.12	15	41.03	13.56	5
Deficit									
Addis Ababa	256.90	23.21	9	236.26	19.95	8	-20.64	-3.26	-1
Dire Dawa	301.41	33.26	11	285.95	23.77	8	-15.46	-9.49	-2
Mekele	389.99	48.64	12	269.95	14.49	5	-120.04	-34.15	-7

Source: Jayne, Asfaw, and Myers, 1998.

However, although mean levels of price spreads declined in the post-reform period, the coefficient of variation of price spreads increased in 15 out of 19 cases, suggesting that the mean levels declined more than the decline in the volatility of price spreads (Table 2).

Market Integration

The extent to which price changes in one market are associated with price changes in other markets is known as market integration. Using simple correlation coefficients between wholesale prices across markets, Negassa and Jayne (1997) find that changes in wholesale prices are transmitted more rapidly and more fully since liberalization for 17 out of 24 market pairs observed. A follow up study of vertical integration of prices from producer to retail levels and spatial integration across markets reveals that grain markets in the post-reform period show a high degree of integration (Negassa, 1998).

Table 2. Monthly Marketing Spreads Before and After Market Reform (Birr/bag)

Market pairs	Before reform			After reform			Change		
	Mean	S.d.	CV	Mean	S.d.	CV	Mean	S.d.	CV
Maize									
Addis Ababa- Bako	39.34	19.79	50	25.55	15.25	60	-13.79	-4.54	10
Addis Ababa-Dire Dawa	21.61	15.97	74	41.50	21.10	51	19.89	5.13	-23
Addis Ababa-Jimma	19.87	28.64	146	19.82	14.10	71	-0.05	-14.54	-75
Addis Ababa-Mekele	98.57	51.98	53	41.67	22.69	54	-56.90	-29.29	1
Addis Ababa-Shashamene	31.69	15.71	60	16.85	11.85	70	-14.84	-3.86	20
Mekele-Bako	149.50	52.00	35	63.22	30.12	48	-86.28	-21.88	13
Mekele-Jimma	132.08	51.87	39	56.26	26.65	47	-75.82	-25.22	8
Mekele-Shashamene	130.74	46.50	36	55.42	20.20	36	-75.32	-26.30	0
White teff									
Addis Ababa-Bako	122.08	29.32	24	67.76	21.36	32	-54.32	-7.96	8
Addis Ababa-Bahir Dar	98.25	21.76	22	34.64	21.54	62	-63.61	-0.22	40
Addis Ababa-Dire Dawa	44.51	22.21	50	49.69	18.12	36	5.18	-4.09	-14
Addis Ababa-Hosaenna	111.04	29.53	27	51.98	18.59	36	-59.06	-10.94	9
Addis Ababa-Mekele	115.81	45.28	39	36.49	21.22	58	-79.32	-24.06	19
Dire Dawa-Bako	142.75	32.69	23	83.61	28.15	34	-59.14	-4.54	11
Dire Dawa-Bahir Dar	157.37	35.13	22	101.67	26.39	26	-55.70	-8.74	4
Mekele-Bako	259.38	44.53	17	103.22	33.62	33	-156.16	-10.91	16
Mekele-Bahir Dar	224.23	45.29	20	66.46	31.15	47	-157.77	-14.14	27
Mekele-Hosaenna	239.00	44.04	18	86.81	28.12	32	-152.19	-15.92	14

Source: Jayne, Asfaw, and Myers, 1998.

Co-integration analysis was undertaken by Dercon (1995) using 6 years of deflated monthly *teff* prices for 11 markets to test for the effect of liberalization on short-term and long-term integration. Using Addis Ababa as the reference price, the test results show that an increased number of markets became linked in the short run to the Addis Ababa market after liberalization (Table 3). The cointegrating regression also suggested that reforms resulted in reduced margins between producing areas and consuming areas.

Table 3. Short-Run Integration of Markets

	7/87-2/90	3/90-5/91	5/91-7/93
Addis Ababa to:			
Wolliso	3.07*	1.04	0.34
Debre Zeit	1.84	1.61	0.90
Nazareth	1.85	1.35	3.14*
Ambo	2.76*	1.33	1.06
Dire Dawa	2.78*	0.94	2.75*
Kombolcha	2.98*	1.89-	2.22-
Hosaenna	2.72*	3.32**	1.43
Shashemene	1.64	1.21	0.41
Ziway	2.92*	1.88-	1.70

Source: Dercon, 1995 - short-term integration rejected at 10%, *rejected at 5%; ** rejected at 1%

Grain Production and Marketed Surpluses

Grain production in Ethiopia is almost entirely based on rain-fed agriculture and is characterized by a dominant harvest in November-December (*meher*) and a secondary harvest (*belg*) in April-May. Production is carried out by small-scale farmers with limited agricultural technology and low yields and by a small percentage of state farms.

According to the Central Statistical Authority's meher and belg production estimates in 1995/96, which was a relatively good crop year, annual production of grain, including cereals, pulses, and oilseeds, was 9.4 million tons, 98.4 % of which was produced by smallholders and 1.6% by state farms. Of the total produced quantity, the proportion of output marketed by farmers and state farms is 27% and 80%, respectively (Gebremeskel et al., 1998). As shown in Table 4, the proportion of total production that is marketed, that is the extent the crop resembles a "cash crop," varies between crops. Thus, a considerably lower proportion of total production of cereals that is marketed (26%), compared to pulses (37%) and oilseeds (71%). At the same time, because cereals production is the bulk of total grain production, the total marketed quantity of cereals represents 81% of the total marketed quantity of grains. Among the cereals, maize has the highest share of total marketed surplus (25%), followed by *teff* (21%), and wheat (14%).

Table 4. Production and Marketable Surplus of Grains in 1995/96

Type of Grain	Annual Production (mill.tons)	% Production Marketed	Total Marketed Quantity (mill.tons)	% Total Marketed Quantity
<i>Cereals</i>	8.3	26	2.16	81
<i>Teff</i>	1.9	24	0.45	21
<i>Wheat</i>	1.2	25	0.30	14
<i>Barley</i>	0.7	31	0.22	10
<i>Maize</i>	2.2	25	0.54	25
<i>Sorghum</i>	2.0	12	0.24	11
<i>Pulses</i>	0.8	37	0.31	12
<i>Oilseeds</i>	0.2	71	0.13	5
<i>Other</i>	0.1	52	0.05	2
Total	9.4	28	2.64	100

Calculated from CSA, 1995 and Gebremeskel et al., 1998.

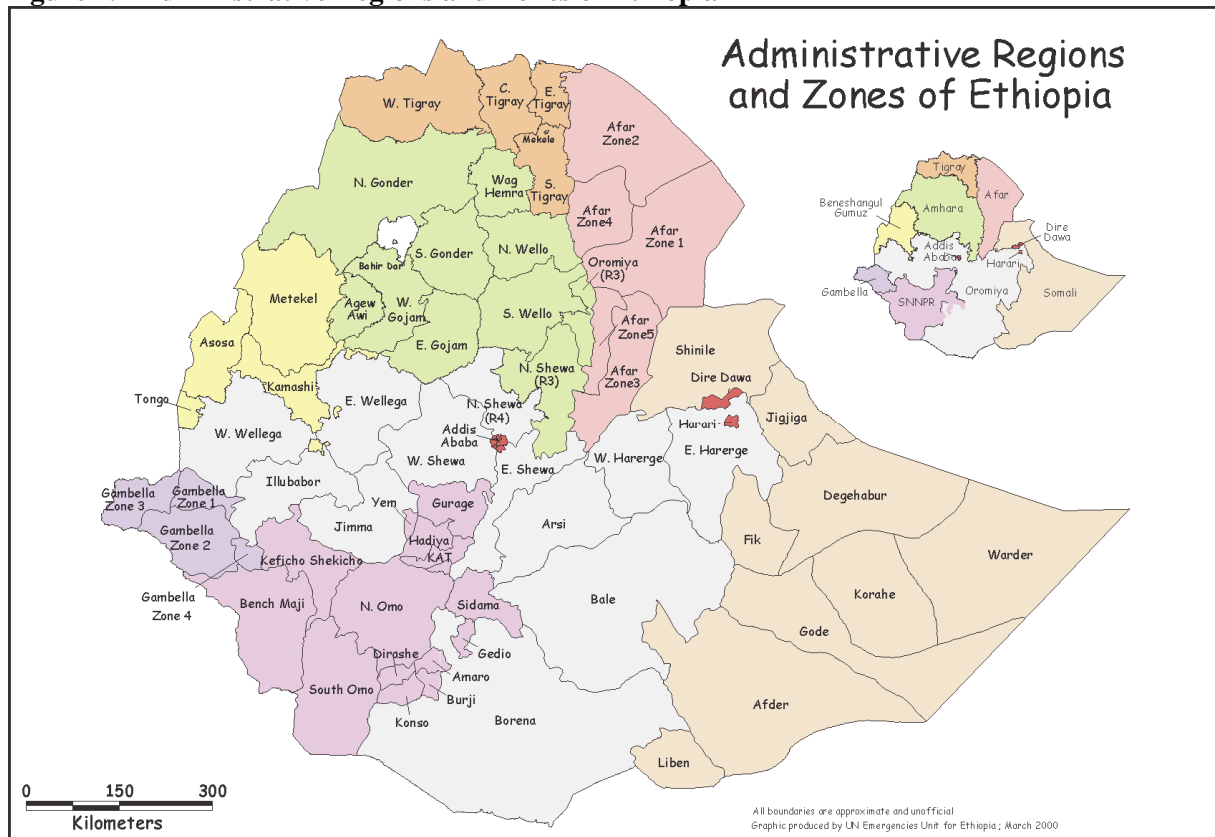
Surplus Production and Deficit Areas

Both grain-surplus areas and the grain-deficit centers in Ethiopia are geographically dispersed (Figure 1). The production of *teff* is concentrated in Gojjam (55%), Shewa (28%), and Wollega (4 %). Wheat is produced in Arsi (63%) and Shewa (25%). Maize is produced in Shewa (45%), Wollega (34%), and Gojjam (15%).^{7 8} In terms of demand, Kuwab (1994) estimates that the major deficit areas are concentrated in Addis Ababa, where demand is 32% of total marketable surplus, Hararghe (18%), Sidamo (7%), Wollo (6%), and Tigray (4%).

⁷ Kuwab, 1994; Lirenso, 1993.

⁸ These statistics are based on 1979 - 1988 time series by the Central Statistical Authority. Provincial boundaries were re-drawn by the Transitional Government in 1992. Gojjam is now separated into eastern and western Gojjam in Amhara region, Shewa is separated into two northern Shewa zones (in both Oromiya and Amhara regions), eastern and western Shewa in Oromiya, and Arsi zone is located in Oromiya. Wollo is separated into north and south Wollo zones, both in Amhara region. Hararghe is separated into east and west Hararghe zones, both in Oromiya, while the main urban centers, Harar and Dire Dawa are considered a separate region. Sidamo is located in Oromiya region.

Figure 1. Administrative Regions and Zones of Ethiopia



Market Structure

A study of several African markets after reform notes that marketing chains remain relatively short, which is also true of the Ethiopian grain market (Food Studies Group, 1992). This is primarily due to the low level of commercial grain processing and the lack of specialization of grain wholesalers, who are often also engaged in retail and other types of trade. In the case of Ethiopia, Lirensen (1993) notes that the marketing chain became more complex after market deregulation, with the selling outlets for farmers increasing threefold to six outlets and the supply sources for urban consumers increasing twofold to four sources.

Small-scale farmers produce 95% of Ethiopian grain (Kuwab, 1994). There are four principal ways that grain reaches the market from the farm: direct sales to rural and urban consumers, direct sales to rural assemblers, direct sales to retailers, and direct sales to either regional wholesalers or mills (Gebremeskel et al., 1998). Farmers transport grain to the market themselves, either carrying sack themselves or using a donkey over relatively short distances of up to 20 kilometers, and sell directly to wholesalers in larger regional markets (Lirensen, 1993). Second, farmers sell small quantities of grain to rural assemblers known as “farmer-traders,” larger farmers who assemble grain from a large number of farmers and transport it to the regional market using horse-driven carts. This is a widely prevalent function that resembles the role of village collectors in peasant markets in rural Indonesia (Hayami and Kawagoe, 1993). Third, farmers sell grain directly to retailers in regional market towns. Finally, farmers sell directly to wholesalers in the regional market or sell to regional traders who move from village to village, purchasing grain until the truck is filled.

Assemblers, mainly farmer-traders, buy grain from farmers in rural markets with the purpose of reselling it to consumers or regional wholesalers. While they typically operated

independently, they may also act as agents for wholesalers on a fixed fee or commission basis (Gebremeskel et al., 1998). At the level of the regional market, wholesalers purchase grain either from farmers or from rural assemblers. They re-sack the grain and store it for up to 46 days on average. They have four major market outlets: they may sell it in the Addis Ababa central market or another terminal market through the services of a broker, they may sell it to nearby mills (for wheat), to retailers, or directly to local consumers and restaurants.

Grain brokers are typically located in Addis Ababa, although new market hubs are emerging in Nazareth. Brokers acknowledge receipt of the grain from the regional wholesalers, inspect its quality, determine its market-clearing price, and proceed to sell it on behalf of their client. The broker may identify other traders as buyers, or flour mills, hotels and restaurants, government agencies, or non-governmental organizations. In the regional markets located in deficit areas or urban centers, retailers purchase grain in semi-wholesale quantities (less than 1 ton) from the regional wholesalers. They can also purchase directly from farmers, from mills, or from the central market, using the services of brokers. As noted earlier, in the post-reform era, consumers have a number of supply sources. They can purchase grain directly from farmers, from assemblers, from regional traders, from processors (mills), or from retailers.

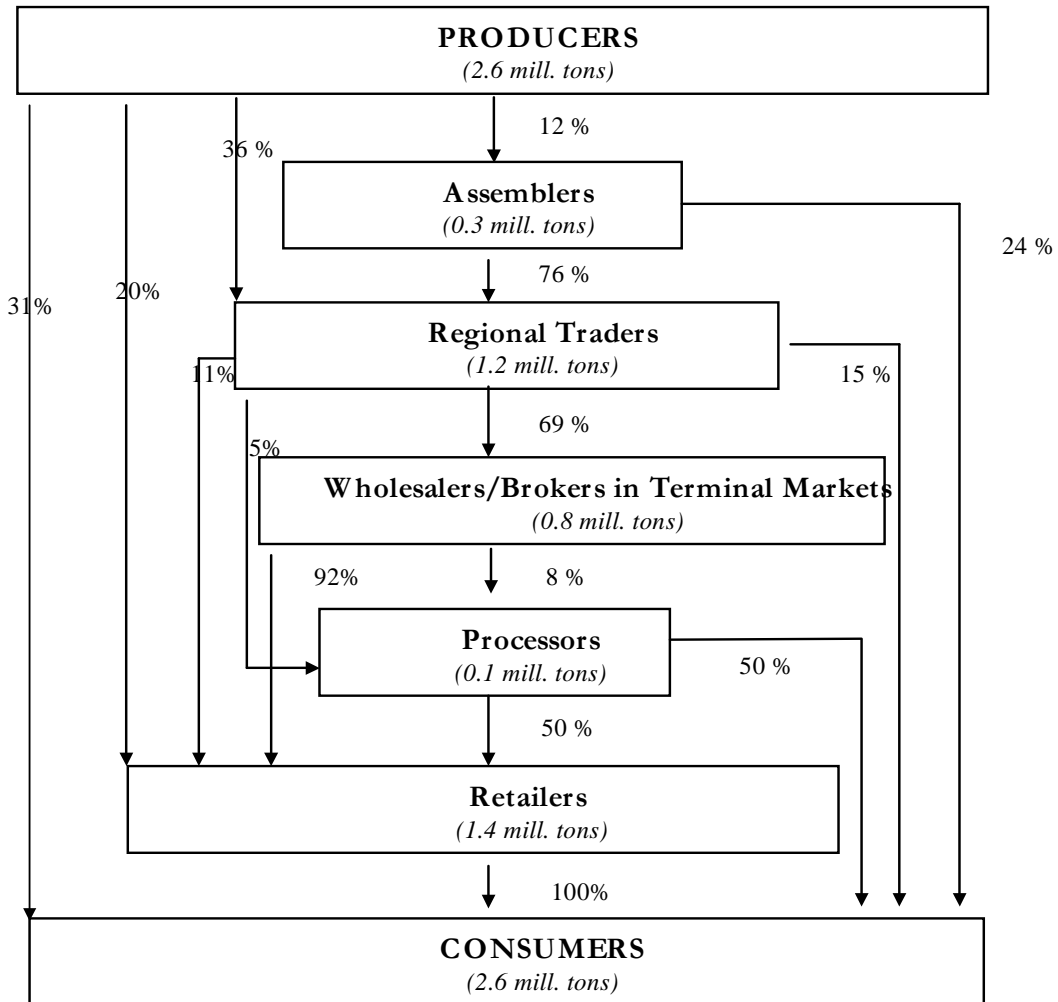
The marketing chain described above and the relative importance of the different market outlets is presented in Figure 3. At the farmgate level, direct sales to consumers are surprisingly high, 31% of total sales, while sales to rural assemblers play a minor role, with only 12% of sales. The most important pattern is sales by farmers directly to regional traders, making up 36% of producers' sales. The bulk of sales by rural assemblers (76%) are to the regional traders. Overall, regional traders handle 45% of the total domestic marketed surplus, or 1.2 million tons. In turn, most of the sales by the regional traders (nearly 70%) occur in the terminal markets, either through the services of brokers or directly to regional wholesalers, constituting roughly 800,000 tons. Either regional traders or brokers in the terminal markets sell grain (mainly wheat) to processors, constituting 40% of the total marketed quantity of wheat, or some 120,000 tons. Of the 54% of the total marketable surplus passed through retailers, the largest share of this was procured from wholesalers (740,000 tons), followed by direct purchases from farmers (520,000 tons). Finally, as expected, consumers purchased a large share of their total purchases from retailers, 55% or 1.43 million tons. However, a surprisingly large share of purchases, 31% were made directly from producers. This confirms the relatively unsophisticated nature of the market and the fact that most of the transformation of unprocessed grains is undertaken by consumers themselves. In particular, it is surprising that processors have not acquired a more significant role in the market in the wake of market reforms. Recent studies reveal that one of the dramatic effects of market reforms in eastern and southern Africa is the emergence of small-scale maize mills that have significantly reduced consumer prices (Jayne et al., 1999).

In viewing the marketing chain from producer to consumer, several important points emerge. First, relatively little, if any, transformation of grain takes place along the marketing chain. Thus, with the exception of wheat, which can be sold in the form of flour, the bulk of Ethiopian grain is sold in an unprocessed form. For this reason, consumers may not be indifferent between buying grain from producers and from retailers, but may even prefer to buy from producers, to reduce their costs. This suggests that, beyond transport and limited storage, there are relatively little market services provided by intermediaries, indicating a very unsophisticated market structure.

Second, it is common practice that, at every transfer of ownership within the marketing chain, the sack in which the grain is transported is changed. From the farmgate to the consumer, this can imply up to 5 re-sackings in the marketing chain. Each change of sacks entails handling and sewing costs, in addition to the cost of the sack itself, ultimately raising total marketing costs and the price faced by the consumer. Traders consider re-sacking a necessity because it enables them to physically assess both the weight and the quality of the grain, as well as ascertain the quality of the sack (to reduce transport and storage losses).

Third, another implication of the absence of a system of grades and standards for grain is that traders tend to trade either with regular partners that they know well or through brokers with whom they work exclusively. This has the result of narrowing the size of the market and the frequency of transactions

Figure 3. Marketing Chain and Flows in 1995/96



Source: calculated from Gebre-Meskel et al., 1998

3. The Structure of Grain Brokerage

Characteristics of Brokers

Brokers are similar to the larger group of traders in terms of age, educational level, religion, and gender (Table 5). However, brokers appear to be considerably more endowed in their level of working capital, vehicle and telephone ownership. Thus, they have 44% more working capital than traders and 29% of brokers own vehicles in contrast to only 6% of traders. Similarly, 71% of brokers have telephones, compared to 39% of traders (Table 5). This comparison suggests that established brokers are relatively well off, with greater access to financial resources. It also suggests that brokers may be involved in a number of activities outside of direct brokerage, such as providing transport services, extending loans to clients, and engaging in grain trading on their own account. Brokers are highly heterogeneous with respect to working capital, implying that brokers may perform different market roles, according to their capacities.

Brokers are also more endowed with social capital than traders. It is interesting to note that while brokers and traders have similarly endowments of “in-born” social capital, such as family and friends in grain trade,⁹ brokers have considerably more “acquired” social capital, with three times more local contacts and nearly five times more distant trading contacts (Table 5).

In terms of their search capacity, brokers are clearly more search-efficient in that, although they spend roughly the same amount of time in information-gathering as traders, they consult with nearly twice as many people, have three times more employees engaged in search activities, and conduct more than 10 times as many transactions (Table 5).

⁹ Two types of social capital can be distinguished: “in-born” social capital that is obtained involuntarily by an individual, such as family connections, ethnic or religion-based networks and “acquired” social capital that is based on the individual’s choice to join an association, invest in contacts, etc. (Fafchamps and Minten, 1999).

Table 5 — Characteristics of Brokers and Traders

	Brokers (N=17)		Traders (N=152)	
	Mean	Std.Dev.	Mean	Std.Dev.
Demographic				
Age (years)	36.21	11.49	32.83	12.32
Education (years)	8.29	4.41	9.61	3.64
Religion: Orthodox Christian (%) ^a	78.6	--	66.4	--
Gender : Male (%)	100.0	--	94.1	--
Years in Grain Trade	8.77	7.63	10.41	8.76
Assets				
Working Capital (Ethiopian Birr) ^b	79,750	100,805	55,184	62,647
Warehouse capacity (tons) ^c	92.89	75.80	115.55	171.08
Vehicle Owner (%)	28.6	--	5.9	--
Telephone Service (%) ^c	71.4	--	38.8	--
Social Capital				
Number of friends in trade ^d	4.60	5.89	6.17	8.74
Number of family in trade	1.20	1.69	0.83	1.38
Number of local contacts	15.50	13.46	4.59	4.32
Number of distant contacts	38.50	19.50	7.89	7.46
Number of markets in which operate	5.80	2.70	3.46	2.86
Father in grain trade (%)	60.0	--	48.4	--
Search Behavior				
Minutes spent daily for information gathering	37.80	41.93	39.06	39.79
Number of people consulted daily	7.80	8.43	4.24	3.28
Number of employees engaged in search	5.00	3.89	1.74	1.29
Number of weekly transactions	20.00	17.04	1.56	0.74

Source: Author's survey, 1996.

^a If not Orthodox, religion is generally Muslim. ^b US\$ 1 = Eth. Birr 6.35 in 1996.

^c The sum of rented and owned storage capacity

^d Friends are defined as personal contacts who are not merely acquaintances.

Brokers' Operations

Grain brokers operate from permanent market stalls in the central grain market, known as the *Ehil Berenda*, in Addis Ababa. Each broker handles transactions for clients in nearly 6 markets, on average, with a total of 60 clients (Table 6). Of these clients, the largest share is of distant sellers, of whom on average a broker may have 38 clients. There is relatively little variation among brokers in terms of the total number of clients and the number of clients in distant markets. There is, however, more variation in the number of local clients, indicating that some brokers may be more specialized in handling only distant orders.

Brokers who work with clients outside of the central market may handle orders exclusively by telephone, indicating the sophistication of the brokerage service as well as the degree of trust between brokers and traders. The data reveals that brokers work solely by telephone more often with seller clients, 77 percent, than with buyer clients, 20 percent (Table 6). Underlying reasons for the difference in behavior may be due to the greater risks involved for buyers, who are more likely to be cheated on the quality or price of the grain that they order.

Over the six-month period from January to June 1996, the average amount of grain handled weekly by each broker ranged from 141 tons to 279 tons. Extrapolating these figures for

the estimated number of 40 established brokers operating in the market results in approximately 423,000 tons of grain handled by the established Addis Ababa brokers in the 1995-96 marketing year.¹⁰ This amounts to 16% of the total marketable surplus of grain in 1995/96, estimated at 2.6 million tons, and 52% of the share of the marketed grain handled by the regional wholesalers.

Functions of Brokers

Due to the constraints noted above, the Ethiopian grain market is primarily, if not entirely, a physical cash market. Thus, not only are there no forward transactions, but all transactions involve visually inspecting the entire shipment of grain, rather than a sample. In this context, brokers' functions involve five distinct activities, some of which could otherwise be considered "public goods": the provision of market information to clients, handling and logistics of grain delivery, grading and classification of grain, determination of market price, and the matching of buyers and sellers. Of these, the latter two functions are typically the ones most associated with brokers in most markets, in which the function of brokers is generally considerably narrower than that of Ethiopian brokers.

Ethiopian grain brokers also consider their role as "witnesses" of a transaction to be the most important service they provide. That is, by facilitating a transaction between a buyer and a seller, brokers, by their presence and the weight of their reputation, sanction the legitimacy of their clients. In the event of a dispute, the broker can then be called upon to enforce the contract or mediate in a negotiated settlement.

Brokers provide market information and business advice to clients on a continuous basis. After consulting with their broker about prevailing market conditions and prices, sellers in distant markets will send a shipment of grain directly to their broker, in effect placing a sale order, or buyers will place a purchase order, which involves sending funds to the broker. In both cases, the buyer or seller assume the total burden of price risk in the transaction and face the transaction costs of holding either grain inventory or physical cash fixed during the search period.

In the case of a sale order, the broker physically receives the shipment of grain in his premises. Generally, the grain is not off-loaded from the transport vehicle, which remains parked in front of the broker's stall, where it is visible to incoming buyers. After receiving a grain shipment, brokers inspect and grade the incoming grain. In order to ascertain the quality of the grain, brokers use a pointed tubular device, known as a *memermeria*, to take samples randomly from different sacks within a shipment.

On the basis of their inspection of the grain, brokers set the market price for each of the types of grain they receive. Each broker sets an average of 7 different prices daily. The time required for brokers to set prices ranges between 15 and 30 minutes, or about 6 minutes per commodity (Table 6).

The search for buyers or sellers involves discussing with other brokers, touring the marketplace by foot talking to traders, placing phone calls to interested parties, and having assistants standing on top of trucks shouting out the available types and qualities of grain. At the point of sale or purchase, brokers arrange the handling of the grain and the transport logistics.

When a sale is completed on behalf of a client, brokers deduct their commission and remit the funds to the regional seller. If the grain has not been sold and the seller is short of funds, brokers may extend sales advance to valued clients. Brokers indicated that they provide this service to roughly 40 percent of their clientele (Table 6). Unsold grain is off-loaded to the broker's warehouse where it is stored for a monthly rental fee. Depending on their relationship with their client, brokers may also provide buyer credit up to 30 days. Brokers offer this service to approximately one-third of all their clients (Table 6).

¹⁰ Lirens (1993) estimates for 1992 that 342 regional wholesalers from 64 market towns shipped 1,354 tons weekly to 50 brokers.

Table 6-- Brokers' Operations

	Mean	Coefficient of Variation
Total Number of Clients	60.50	0.53
Number of Local Buyer Clients	11.20	1.41
Number of Distant Buyer Clients	7.44	0.96
Number of Local Seller Clients	2.10	2.56
Number of Distant Seller Clients	38.44	0.45
Share of Distant Buyer Clients With Whom Can Work Solely by Telephone	19.63	1.89
Share of Distant Seller Clients With Whom Can Work Solely by Telephone	76.77	0.47
Share of Buyer Clients To Whom Broker Would Offer Buyer Credit	32.22	1.07
Share of Seller Clients To Whom Broker Would Offer Sales Advance	41.15	1.06
Weekly Transactions (100 kg. bags)		
January 1996	2777.27	0.76
February 1996	2788.64	0.82
March 1996	2543.18	0.82
April 1996	1411.36	0.98
May 1996	1752.27	1.06
June 1996	1956.82	0.85
Price Discovery		
Minutes to Set Market Prices	18.77	0.59
Number of Prices Set Daily	7.30	0.47
Number of Observations	17	

Source: Author's survey, 1996

Price Discovery by Brokers

Price discovery generally refers to the process by which a market-clearing price is obtained in a centralized market.¹¹ In Ethiopia, grain brokers carry out an implicit bidding process that results in a single daily Addis Ababa spot price for each type and origin of grain prevailing in Addis Ababa market. Prior to the start of the market day at 6 am, brokers individually evaluate the supply and demand conditions in the market. Using the previous day's closing price as a starting basis, brokers individually "fix" a market price for each type and quality of grain they have received from regional clients. They then adjust this price according to what other brokers may have fixed in nearby stalls. Within a 10-15 minute period, this *tâtonnement* process results in a single daily spot price for each grain, by type, regional origin, and quality.

For this reason, unlike in many agricultural markets throughout Africa, a single cash price prevails in the Addis Ababa market for a given quality and origin of a particular grain. This

¹¹ See Commodity Trading Manual, Chicago Board of Trade, 1989.

spot price generally holds for the entire trading period (between 6 and 9 am) or change one or two times as the closing of the market approaches at 9 am.¹² On a given day, brokers determine up to 40 such spot prices for the five principal grains traded on the Addis Ababa market: *teff*, wheat, maize, barley, and sorghum.

This price discovery process has significant implications for the national grain economy in that studies of market integration have shown that prices in major regional deficit and surplus markets are closely linked to the Addis Ababa price (Negassa, 1998; Dercon, 1995). The price discovery role played by brokers represents a highly specialized market function, resulting in finite variations in price according to a very precisely defined quality of grain. The relevant parameters of quality used by brokers are color, taste, appearance of kernels, moisture content, impurity, breakage of kernels, and baking qualities.¹³ Thus, on a given market day, 11 different prices of wheat, varying from Eth. Birr 105 to 175 per bag were noted in the Addis Ababa market, each of which was identified precisely according to its region of origin, variety, and grade (Table 7). Similarly, *teff* prices ranged from Eth. Birr 130 to 245, and barley prices from Eth. Birr 105 to 300 per bag.

Surprisingly, official trading agencies do not recognize the price discovery function of brokers and trade licensing and regulatory bodies neither distinguish brokers from wholesale traders nor acknowledge their price discovery role. Moreover, this function is equally hidden to other market participants, such as consumers and farmers, because the various grades determined by brokers are not openly labeled or known. Due to this lack of transparency, a recent attempt to establish a public market information system, set up to report a single price for each of the five grains, failed to distinguish the origins and qualities of grains, as is done by brokers. (Grain Market Research Project, 1996).¹⁴ This failure was due to the lack of awareness of this relatively sophisticated market function of brokers.

Table 7. Wholesale Grain Prices in Addis Ababa Market, December 1996

Grain	Origin	Variety	Quality (Grade)	Price (Birr ^a /100 kg bag ^b)
Teff	Ada	Magna	1 st	245
	Ada	Red	1 st	165
	Butajira	White	1 st	215
	Welenkomi	Mixed	1 st	180
	Gojjam	Mixed	1 st	155
	Gojjam	Abolsey	3 rd	140
	Gojjam	Red	1 st	130
Wheat	Ada	Israel	1 st	175
	Ada	Israel	2 nd	150
	Ada	White	1 st	na.
	Ada	White	2 nd	160
	Ada	Aybo	1 st	175
	Ada	Abesha	1 st	175
	Ada	Abesha	2 nd	170
	Arsi	Favel	1 st	145
	Arsi	Favel	2 nd	135
	Arsi	Favel	3 rd	105

¹² The Addis Ababa grain trading association established that trading would occur only between 6-9 am Monday to Saturday. Other rules set by the association concern the logistics of delivery trucks and market taxes for infrastructural improvement.

¹³ Brokers revealed in interviews that they use these parameters to determine the appropriate price.

¹⁴ Grain prices reported were for mixed teff, white barley, white wheat, white sorghum, and maize.

	Arsi	Dashin	2 nd	135
	Bale	Favel	1 st	140
Maize	Bale	Red	1 st	87
	Gojjam	White	1 st	85
	Gojjam	Red	2 nd	70
	Illubabor	White	2 nd	65
Sorghum	Wollega	White	1 st	140
	Jirru	White	1 st	140
	Jirru	Yellow	1 st	130
	Arsi	Red	1 st	110
Barley	Sodo	Senef	1 st	300
	Sodo	Senef	2 nd	260
	Sodo	Wegertena	1 st	225
	Arsi	Birra	2 nd	160
	Arsi	Black	2 nd	130
	Arsi	Asharo	2 nd	105
	Guder	Black	2 nd	135
	Guder	Asharro	1 st	125

Source: Author's survey, 1996.

^a 1 US \$ 1 = Eth. Birr 6.35 in 1996.

^b Bags are unstandardized and vary between 90 to 120 kgs.

In essence, the Ethiopian price discovery process most closely resembles what is known as Ring trading in the London metals market, in which metals brokers determine the daily price of each metal within a pre-set time period through bidding on the price (Gibson-Jarvie, 1993). Other examples are found in the London bullion market, which informally determines the London Gold Fix, a daily gold price.¹⁵

Entry into Brokerage

There do not appear to be significant formal barriers to becoming a broker. Indeed, as noted above, there are no official requirements or restrictions to becoming a broker that are distinct from obtaining a trading license. Yet, the number of brokers is relatively small in the Addis Ababa market. Given the relatively lucrative opportunities and the lower risk involved in brokerage, what, if any, informal barriers to entry exist?

Brokers themselves perceive the trust (*immnet*) they have acquired from their network of traders as a critical asset in their business and as the principal barrier to entry. How do brokers acquire trust? One means is through inherited social capital. Thus, 60 percent of brokers had a parent in grain trade, and 40 percent had a parent in grain brokerage. Grain brokerage businesses pass from generation to generation, transferring the trust gradually from father to son, who acquires the father's clients. The high value placed on the broker's work is similar to the importance of *xinyong*, or trust, in traditional Chinese trading practices in southeast Asia, which is also transferred across generations (Menkoff 1994).¹⁶

¹⁵ These insights were provided by Jeffrey Williams.

¹⁶ The existence of trust is the most frequent explanation given by Chinese traders for their success in business. The necessity "to trust trust" is among the safeguards against the possible breach of business commitments (see Menkoff in Dieter-Evers and Schrader, 1994; Fukuyama, 1995).

Another means by which brokers secure the loyalty of their clients is through extending sales advances and buyer credits, which potentially require that brokers dispose of a certain amount of working capital for these purposes and also that brokers are willing to be exposed to some risk. Unlike the price risk that traders are exposed to when they send grain shipments to their broker without locking in a price, brokers must be willing to assume the counterparty risk associated with lending funds to their clients. As noted earlier, brokers are significantly more endowed in working capital relative to traders, indicating that liquidity may represent a critical barrier to entry.

Finally, location also plays a role in limiting entry into brokerage. That is, an important aspect of brokerage is being physically present in the market with a fixed place of business and storage facilities. The number of stalls in the Addis Ababa grain market is limited. This may result in a restricted number of brokers who can operate in this market. This is analogous to the fixed number of brokers' seats in formal exchanges, resulting in a secondary market for the seats themselves.

4. Do Brokers Resolve Commitment Failure?

The likelihood of commitment failure causes traders to be extremely reluctant to trade with partners whom they don't know. Exchange between unknown, long-distance, partners would rarely occur because traders would anticipate cheating by their partners. Yet there is ample evidence that grain is traded considerable distances around Ethiopia and that cheating is the exception, rather than the rule.

How does brokerage resolve the commitment problem? First, as neutral intermediaries, brokers are uniquely able to gather information from a large number of traders. Traders asserted that their primary reasons for using a broker were the broker's access to trader and the broker's superior market information. Close to 40 percent of traders cite brokers' access to more contacts as most important in their choice while 25 percent list the broker's access to information as most important in their choice (Table 8). Conversely, when traders feel they know the market or have sufficiently trustworthy partners, they don't use brokers. More than half of interviewed traders (53 percent) noted that, if they knew the market well enough, they would not use a broker while 26 percent indicated that a broker was unnecessary when they had well-known trading partners.

Second, brokers are perceived as the guarantors or underwriters of a given transaction. Brokers indicate their role as guarantors or witnesses as their most important function in the market. Through their intermediation, they ensure that *imnet*, or trust, is present in the long-distance transaction.

Third, because brokers are permanently located in the central market, they are easily identifiable to all traders who come in and out of the market. Thus, they are natural repositories of information, regarding market flows, the behavior of market participants, and the outcomes of past transactions. Their permanent presence in the central market ensures the continuity of a reputation transmission mechanism. In addition, their continuous presence implies that, in the event that a falling out between partners occurs during a long-distance trade, the broker can be contacted to mediate and resolve the dispute.

Table 8-- Rationale for Choice of Broker's Services

Reasons to Work with Broker:	Percent	Reasons Not to Work with Broker:	Percent
Broker has better access to market information	24.8%	I trade with partners whom I know closely	25.9%
Broker acts as guarantor	9.7%	I know the market well enough	52.8%
Broker has more contacts	38.9%	Brokers cheat on prices	6.5%
Broker identifies good quality	8.0%	I want to save commission fees	9.3%
I have no choice	10.6%	I don't need a quick transaction	4.6%
Broker gives business advice	1.8%	Disagreement with broker	0.9%
Less costly to work with broker	6.2%		
N	113		108

Source: Author's trader surveys, 1996

5. Agency Relations between Traders and Brokers

The Basis of Agency Relations

Relations between traders and brokers appear to be based on repeated interaction and exclusive relations. Thus, 87% of brokers' clients are long-term and traders work with a single broker for an average period of 6 years (Table 9).¹⁷ Moreover, 59% of traders appear to work exclusively with a single broker. There is significant variation in traders' exclusive relations with traders, with 74% to 100% of traders in surplus regions engaged in exclusive relations, compared with 22% of traders in the central market.

¹⁷ Similarly, Fafchamps (1996b) finds an average of 4.1 years of business relations among firms in Ghana.

Table 9 -- Agency Relations between Brokers and Trader Clients

	Mean	Coefficient of Variation	N
Trader clients obtained through referral (% sample)	50.00	--	17
Share of long-term clients (%)	87.43	0.16	17
Share of distant buyer clients from same region (%)	16.00	2.19	17
Share of distant seller clients from same region (%)	17.89	1.95	17
Broker represents both buyer and seller (%)	7.36	3.62	17
Broker engaged in :			
Immediate matching of partners (%)	77.53	0.14	17
Storage of client's grain (%)	17.00	0.63	17
Buying or selling to client (%)	6.68	1.65	17
Traders using brokers regularly (% sample)	85.5	--	152
Traders not able to operate without broker (% sample)	33.8	--	152
Traders working exclusively with a single broker (% sample)	59.2	--	152
Traders with kinship ties with broker (% sample)	3.9	--	152
Years of exclusive relations with a broker	5.6	1.17	152
Share of traders' transactions where broker gives sales advance or buyer credit	68.21	0.55	152
Share of traders' local transactions where trader is present with broker	82.42	0.42	152
Share of traders' distant transactions where trader is present with broker	43.88	0.95	152

Source: Author's survey, 1996

A particular feature of trader-broker relations is that, not only do traders work exclusively with a broker, but traders in a given location tend to all work with the same broker.¹⁸ Thus, brokers obtain 50% of their clients through traders' referrals and 43% from having other clients in the same region (Table 9).

It is generally uncommon for a broker to represent both a buyer and a seller in a given transaction, with only 7% of brokers' transactions falling into this category. Similarly, it is relatively rare for brokers to trade on their own account with their own clients. That is, if a partner is not found for a client, only 7% of brokers' transactions involved buying or selling grain directly to clients (Table 9).

Ethnicity does not appear to a significant basis for agency relations in that, while the proportion of traders with the same ethnic origin as their broker ranged between regions from 8 percent to 54 percent, only 26 percent of all traders were from the same region as their brokers.¹⁹

¹⁸ Thus, brokers in Addis Ababa are each specialized in handling transactions from a particular set of markets in a region. Brokers who handle grain from the same area have their stalls adjacent to each other, enabling the rapid transmission of price and market information.

¹⁹ Due to the sensitivity of respondents to ethnicity-oriented questions, the issue of ethnic origin was addressed by asking about the region of origin, or birthplace, which culturally is interpreted as one's ethnic roots. Responses can however be biased in that several ethnic groups may co-exist in certain, though not all, regions.

As further confirmation, only 4 percent of traders revealed that they had “kinship” ties with their brokers (Table 9). Similarly, brokers reported that, on average, only 16 percent of distant buyer clients and 18 percent of distant seller clients were from the same region. The relative weakness of ethnicity as a basis of agency relations is a striking departure from other studies of trust-based trading networks, in which ethnicity plays a major role (Fafchamps 1992,1996b; Greif 1993; Evers, 1994).

Traders’ Dependence on Brokers

The majority of Ethiopian grain traders (85 percent of sample) use brokers regularly. The level of dependence on brokerage, as measured by whether traders perceived it was possible to carry out long-distance trade without brokers, varied across regions. A greater share of traders in surplus markets, ranging from 26 percent to 70 percent of traders, felt they could not operate in distant markets without a broker while *all* traders in the deficit regions (with the exception of Dessie and Kombolcha markets) and the central market considered it possible to trade without brokers. In general, regional buyers are more likely to travel the distance to the central market and purchase the grain themselves, while regional sellers are more likely to closely work with a broker, using telephone transactions. This may have to do with the opportunity cost of time faced by regional sellers of grain, who are busy purchasing grain from smaller rural markets, and whose business would suffer if they were obliged to physically travel to the central market for each long-distance sale.

Openness of Trader-Broker Relations

The absence of a public market information system and the physical distance between regional traders and central market brokers in Ethiopia result in high monitoring costs for traders to monitor brokers’ actions. Traders suspect that brokers occasionally “skim” additional profits off the actual price that they obtain in the market as opposed to the price that they convey to the trader, a practice referred to as *ferque*. Thus, 79% of all traders generally attempt to crosscheck information provided by their broker (Table 10).

The extent to which brokers inform their clients about the identity of the buyer or seller whom they have identified is a potential indication of the openness of the agency relations. Overall 64% of traders are informed of their trading partner’s identity, although there is very wide variation between regions. With the exception of the Dessie and Kombolcha markets, more traders in deficit regions were provided with this information. This is due to the considerably higher frequency of transactions where the buyer is physically present in the central market, 92% of brokers’ transactions, compared to 58% in the case of sellers.

Table 10 -- Openness and Conflict between Brokers and Traders

	Surplus Area Traders (N=64)	Deficit Area Traders (N=51)	Central Market Traders (N=37)	Total Sample (N=152)
% Traders who cross-check information from broker	80.6	80.9	64.7	78.6
% Traders to whom broker reveals identity of trading partner	53.5	74.4	66.7	63.7
Share of transactions that traders know their trading partner	64.71 (38.01)	75.70 (38.78)	58.21 (30.10)	68.21 (37.65)
% Traders who consider directly trading without broker	82.7	72.1	66.7	76.4
% Traders who feel direct trading would cause conflict with broker	27.9	51.6	50.0	39.3
% Traders who have experienced conflict with broker	33.9	31.1	42.1	34.1
Number of conflicts in past year with broker	1.78 (3.38)	0.88 (1.31)	2.07 (2.99)	1.47 (2.73)
% Traders for whom conflict was resolved through legal recourse	0.0	12.5	0.0	4.3
% Traders for whom conflict was resolved through mediation	63.6	50.0	100.0	65.2

Source: Author's survey, 1996.

A possible implication of providing partner information to clients is that, with this information, traders would attempt to bypass their brokers and trade directly amongst themselves. Overall, 76% of traders indicated that they would consider direct exchange without their broker. However, 39% of traders felt that the implication would be to enter into conflict with their broker, if they were to do so. In contrast, relatively few brokers (21%) felt that direct exchange was likely to occur without their involvement as witnesses and facilitators of the transaction.

Conflict between Traders and Brokers

Conflict between traders and brokers may arise when traders suspect price misinformation by brokers or when traders attempt to bypass their broker and exchange directly with partners whom their broker found in a previous transaction. Yet, relatively few traders (34 percent) had ever experienced conflict with their broker over the entire period of their working relations and the average number of conflicts over a year (1.5) has a very high coefficient of variation (Table 10).

The majority of traders (65 percent of sample) used informal mediation as a means of resolving conflicts, with the share of traders using this option ranging from 40 percent to 100 percent. In sum, relations between traders and brokers appear to be characterized by relatively little conflict and the absence of legal recourse. The widespread use of informal mediation, rather than legal recourse, is consistent with the existence of generalized social norms that govern economic relations (Platteau, 1994b).

6. Incentive-Compatible Norms Sustaining Agency Relations

The sustainability of the brokerage institution over time depends on the extent to which brokers are prevented from abusing their trust with their clients. Without institutional constraints limiting the possibility of opportunistic behavior by brokers, trader-broker relations would be characterized by a higher incidence of conflict and would not be self-enforcing. In the absence of any market regulation of their function and given the high costs of monitoring the activities of brokers, what norms prevail to limit cheating by brokers and serve to maintain long-term agency relations between brokers and traders?

Effective Reputation Mechanism

Agency relations are structured in a manner that provides a means for sanctioning brokers' actions. Thus, while the practice of many traders in the same market working exclusively with the same broker appears to give brokers significant market power vis-à-vis the individual traders in a market, this structure actually offers a safety net for individual traders in that information provided by the broker flows freely among all traders in a given market. This enables a reputation system to work by the implicit threat that a broker who cheats one client is likely to compromise relations with all clients in that market and nearby markets in the region. Evidence suggests that traders actually do carry out sanctions and effectively boycott brokers. For example, over the course of survey visits, traders in the Nekempte market collectively boycotted their broker and together switched to a new broker.

The Absence of "Market-making"

A second means of limiting opportunistic behavior by brokers lies in the incentive compatibility of brokers relative to their clients. A potential source of conflict in agency relations would exist if brokers, trading on their own account, bought and sold grain from their own clients.²⁰ As noted earlier, it is not common practice for grain brokers to buy or sell clients' grain on their own account, at least overtly, in the interests of maintaining neutrality vis-à-vis their client traders.²¹ Thus, the grain market structure does not have a role for "market-makers," who openly purchase unmatched orders at a discount (the bid price) and sell unmatched orders at a premium (the ask price), in order to create a market for those willing to pay the price of immediacy (Demsetz 1968).

Brokers reiterated that trading on their own accounts was considered a serious breach of the implicit rules governing agency relations. Because information on purchase and sale orders is incomplete at any given point in time, traders cannot confirm a broker's information that a partner was unavailable. Brokers would only be willing to transact at a rate more favorable than the market, thus causing a strain in their relations with clients.²²

²⁰ A number of commodity exchanges, such as the Chicago Board of Trade, prohibit house trading by brokers, in order to limit "frontrunning," when brokers trade on their own accounts before placing clients' orders of which they have a priori information.

²¹ While brokers stated that they do not trade directly with their own clients, many are engaged in grain trade. Thus, brokers may conduct undetected "frontrunning", in which case they would be reluctant to reveal the identity of the matched partner.

²² Matching remaining orders at the market price would not be economically rational behavior for a broker, who would incur market risk in the process.

Flat Commission Rates

Third, Ethiopian grain brokers are compensated for their services with a fixed commission that is a flat rate per quantity transacted, rather than a percentage of the final transaction price. This practice is common to all regions studied in Ethiopia and confirmed by 93 percent of brokers. Lirens (1993) also noted this payment system in the Ethiopian grain market in 1992. The flat fee is fixed across brokers and across time, but varies according by region.²³

The practice of fixed brokerage fees has also been noted in other studies, in rural Indian foodgrain markets by Lele (1971) and in northern Nigerian grain markets by Gilbert (1969). Historical records from the late 19th century indicate that brokerage fees for grain traded on the Chicago Board of Trade were flat fees per quantity and fixed across time.²⁴ This is also true of other international commodity markets, such as coffee and cocoa. In these markets, both sellers and buyers pay commission fees, as is the case in the Ethiopian grain market.

In the Ethiopian grain market, a flat brokerage fee is compatible with broker incentives for several reasons. First, brokers do not usually act as dual agents, and represent only one of the trading partners. Thus, they receive a commission from only one party in the transaction. In a given transaction, both the seller's agent and the buyer's agent each receive a commission from their clients.

Second, the service for which brokers are compensated is not price search, given that there is a spot price that prevails in the market, but rather the search for buyers or sellers. For this reason, brokers maximize profit across a large volume of transactions in a short period of time, charging a small transaction fee.

Third, and most important in the Ethiopian market, a flat commission limits cheating by brokers. Since brokers themselves determine the market price in the price discovery role described above, a percentage fee would bias the price discovery process and provide brokers with incentives to fix the prices to their advantage.

²³ Brokers charge different fees for grain coming from different regions. The fee is the same for all brokers handling grain from the same region, and changes in the fee are jointly determined by the brokers.

²⁴ See the Thirtieth Annual Report of the Trade and Commerce of Chicago, 1887.

7. Conclusions and Policy Implications for Transforming Agricultural Markets in Ethiopia

Economic growth is dependent on stable political and economic institutions that provide low costs of transacting in impersonal political and economic markets.²⁵

With nearly half of the Ethiopian population dependent on the foodgrain market, the performance of the domestic market is vital for food security and economic growth. The liberalization of the Ethiopian grain market in 1990 has effectively reduced marketing margins and enhanced long-term market integration. Yet, market performance remains “efficient-but-poor,” in that reform has *not* led to market development in areas such as contractual arrangements to transfer risk, increased impersonal exchange, the provision of value-added beyond transport, and increased trader investments. A relatively low share of domestic production is marketed, 28% in a good harvest year such as 1995/96, and an even lower share goes through private marketing channels, only 18% of total production. Thus, the scope for increasing the scope of market participation both in volume and value-added remains high. The effective expansion of the grain market depends in part on the ability of traders to exchange grain anonymously with buyers and sellers in distant markets, without risk of commitment failure.

Weak public market information, the lack of grain standardization, the oral nature of contracts, and limited legal enforcement of contracts are all factors that contribute to the difficulty that traders encounter in attempting to trade directly with an unknown partner. Using primary data, this paper argued that brokers enable traders to circumvent commitment failure and facilitate anonymous trade. The analysis revealed that brokers have multiple functions in the grain market, among which a key role is to act as inspectors and witnesses to each transaction and guarantee that the contract will be enforced, supporting impersonalized exchange in the Ethiopian grain market. In addition, brokers deliver “public goods,” such as market information and product classification, as well as playing a key role in conducting price discovery. Brokers thus determine market-clearing prices of a large number of grains according to very specific attributes of type and quality, enabling highly differentiated products to be traded in a systematic fashion.

In response to the risk of commitment failure, traders either choose to trade with partners with whom they have a prior, personalized, relationship or they engage the services of a broker, whose role is to conduct search on their behalf, inspect the delivered grain, handle the delivery and payment logistics, and guarantee the transaction. Brokers retain a repository of information on traders’ market behavior and are thus able to deliver a very important good, trust or *imnet*. The presence of brokers facilitates impersonal, or anonymous, market exchange between traders despite the constraints imposed by the market environment. While 85% of the sample of traders indicated using brokers, the use of brokers remains somewhat limited. Overall, traders use brokers for roughly one-quarter of their transactions. For long-distance trade, traders use brokers for between one-third to one-half of their transactions, suggesting that personalized exchange continues to be important.

A closer investigation of the norms and rules underlying agency relations between brokers and traders revealed that client relationships are generally long-term with repeated interaction over an average of 6 years. A somewhat surprising result is that these relations are unrelated to ethnic ties, with only 26% of traders having the same ethnicity as their brokers. Although traders

²⁵ Douglass North, “Institutions and Economic Growth: An Historical Introduction,” *World Development*, No. 9, September 1989.

have difficulty monitoring the actions of their brokers, conflict is avoided through established norms that provide incentive-compatible constraints on cheating by brokers. These norms include the specialization of brokers by region and the fact that a large number of traders in a given market all use the services of the same broker. These practices ensure that traders can inform each other of their broker's actions and collectively punish the broker in the event of cheating. Second, brokers are compensated with a flat fee, rather than a percentage fee, which limits their incentive to incorrectly report the prices at which grain is transacted.

The findings highlight how, in the context of the weak marketing environment in Ethiopia, the brokerage institution spontaneously minimizes transaction costs and facilitates exchange. However, the study also reveals that this institution at present plays a limited role in that traders continue to rely on personalized trade for a significant share of their transactions, even in distant markets.

In light of the above, three areas of policy intervention emerge from the study findings. The first is the broad issue of addressing the constraints in the marketing environment that lead to high search costs. The second is how to reduce the dominance of personalized exchange, which in turn, limits the scope of the market and contributes to a reduced capacity to effectively respond to market signals. Related to this, the third area is how to capitalize on the welfare gains of brokerage through increasing the share of marketed grain handled by brokers.

Reducing Transaction Costs of Search through a Grain Exchange

The key to reducing search costs is to reduce the average time required to find a trading partner for a wholesale transaction. At present, with or without brokers, it takes 1 to 3 days on average to find a trading partner, bearing in mind that the real issue is finding a partner *that one can trust*. The implications of this are that opportunity costs of both labor and capital in the form of grain inventory are incurred and working capital does not rotate as frequently as it could. Reductions in search time would thus require a means of readily informing traders and brokers of corresponding supply and demand, while at the same time screening potential partners and maintaining a record of past behavior in the market. A well-known mechanism that reduces search time, coordinates market offers, and effectively screens market actors is a grain exchange. In a sense, the operations of the central market brokers described in this study resemble that of an informal grain exchange. Thus, a formalized institution such as a grain exchange, located in the central market of Addis Ababa, would leverage off the existing role played by brokers, who would continue to carry out the matching function. Brokers' search efficiency, operating in a formal exchange, would be enhanced through the use of information technology and improved logistical coordination of supply and demand offers.

At present, the central market of Addis Ababa plays a key role as a clearinghouse for grain supply and demand, serving all regions of the country. In addition to the presence of brokers in Addis Ababa, who are specialized in market search and price discovery, Addis Ababa has a natural advantage in this role is that it is located in the center of the surplus zones (in the western, southern, and northwestern regions) and the deficit zones (in the eastern, northeastern, and northern regions). The radial structure of major road links and of telecommunications gives the Addis Ababa market an infrastructural advantage.

A viable exchange depends on a number of supporting institutions. Among these are a regulatory apparatus, which establishes rules and guidelines governing the behavior of buyers, sellers, and intermediaries on the exchange. Complementary to this is the need for legal underpinnings of an exchange, that is, commercial laws that address the conduct of the market. At present, the commercial code in Ethiopia is an antiquated French code dating to the 1930s, with little relevance for actual trade practices. Third, a transparent system of grades and standards of different qualities of grains is required to ensure that transactions relate to clearly

established products. A corollary to this is the need for a neutral inspection service that establishes the appropriate grade for traded grains. Finally, a liquid grain exchange depends critically on a functioning system of trade finance. That is, an underlying warehouse receipt system that is closely supported by the banking institutions is needed to ensure the smooth transfer of payments across market actors. Other important elements for the functioning of an exchange include standardized contracts that incorporate standard contractual parameters such as dispute settlement, weight and quality tolerance, and *force majeure* provisions as well as a market information system.

Depersonalizing Personalized Exchange

This study indicates that traders avoid transaction risk on long-distance trade by trading with partners they know. Social capital, defined both in quantitative and qualitative terms as the number of trustworthy trading contacts, enables traders to carry out long-distance transactions, given existing transaction costs. Thus, in addition to reducing search costs, a complementary policy is to target ways to increase traders' social capital. That is, if it's whom you know, how do you get to know more? One means of expanding social capital is to change the way in which it is acquired. Social scientists distinguish "in-born" social capital from acquired social capital. In-born social capital is obtained as a right of birth into a particular ethnicity, religion, or kin. While this kind of social capital can be lost, it is difficult to acquire since the acquisition does not depend on one's own actions. Acquired social capital is obtained through one's own merit, over time, through repeated interaction, through common interests, location, or other behavior. The policy challenge is to increase the relative importance or worth of the latter type of social capital, versus in-born social capital. This can be done through the promotion of institutions such as trader associations, where membership is merit-based and can be revoked depending on behavior. Similarly, existing licensing bureaus can be given the role of maintaining historical records of previous trade disputes and provide this information on request, similar to a credit reporting agency.

Increasing the Use of Brokers

The study has shown that, despite their specialized functions in the market and clear efficiency gains to using brokers, traders only use brokers for 25% of their total transactions. Even for their long-distance transactions, where search costs are higher, traders use brokers for roughly 33% to 55% of transactions and brokers only handle 16% of the total marketed surplus. While this may justify promoting direct exchange through expanding social capital, ultimately this strategy alone is not likely to expand the reach of markets sufficiently. Moreover, the specialized function of brokers in both matchmaking as well as price discovery is an important source of efficiency gains, that would not be captured by expanded social capital. Thus, an important policy question, then, is what constraints exist on traders' use of brokers.

A close examination of the relationship between traders and brokers reveals that traders have difficulty monitoring their brokers' actions and that mistrust and ensuing conflict are issues. Information asymmetry leads to the greater market power of brokers. To get around this, traders work exclusively with the same broker for long periods, relying on trust-based relations, and jointly work with the same broker, using reputation as a disincentive for cheating by the broker. Thus, policy aimed at capturing greater market efficiency from increasing the use of brokerage services should address means of making the brokers' role more transparent and regulating their function in the market. To begin, existing trade regulations do not distinguish brokers from other traders in the market, in terms of issuing a broker license versus a trading license. Second, policy to enhance the use of brokers could address the enforcement of the norms already embedded in

this institution, such as the prohibition that brokers buy and sell on their own account.²⁶ Third, policies to regulate brokers' market behavior can include maintaining a record of past violations as well as a certification process for brokers.

In sum, the policy implications are threefold. Within the existing market environment, policy can expand access to social capital and promote the use of brokers. At a more fundamental level, policy needs to address how to transform the marketing environment and effectively reduce search costs, through a viable grain exchange. This latter will involve a broad effort to first establish the various supporting institutions that are needed to truly change the context of markets in Ethiopia. These three policy recommendations should be viewed as complementary and mutually reinforcing within the broad objective of expanding marketed surplus and making markets more functional relative to the needs of the population.

²⁶ In many organized exchanges, brokerage houses are prohibited from taking advantage of their knowledge of their clients' orders to take a market position, a practice which is called "frontrunning."

References

- Alchian, A. and H. Demsetz (1972). "Production, Information Costs, and Economic Organization," *American Economic Review*, December.
- Alvarez, F. (1881). *Narrative of the Portuguese Embassy to Abyssinia during the years 1520-1527*, edited by Lord Stanley of Alderley.
- Amha, Wolday (1994). *Food grain marketing development in Ethiopia after the market reform 1990: A Case Study of Alabo Siraro District*, Ph.D. dissertation, Berlin.
- Amselle, Jean-Loup (1969). "Rapport de mission sur l'économie marchande au Mali," *Cahiers d'Etudes Africaines*, Vol. IX: 313-317.
- Aoki, Masahiko (1984). *The Cooperative Game Theory of the Firm*, Clarendon Press, Oxford.
- Aoki, Masahiko (1998), "Norms and Other Governance Institutions," Stanford University (mimeo).
- Bardhan, Pranab (1989). "Alternative Approaches to the Theory of Institutions in Economic Development." in *The Economic Theory of Agrarian Institutions*, edited by P. Bardhan. Oxford: Clarendon Press.
- Barr, A.M. (1997). *Social Capital and Technical Information in the Ghanaian Manufacturing Sector*, Center for the Study of African Economies, Oxford University, Oxford, May (mimeo).
- Barrett, Christopher (1997), "Food Marketing Liberalization and Trader Entry: Evidence from Madagascar," *World Development*, 25(5): 763-777.
- Bereket, Kebede, Jayne, T., Tadesse, M. (1996), "Urban Grain Consumption Patterns in Ethiopia: Implications for Food Pricing Policy and Food Aid Programs," Department of Economics, Addis Ababa University (mimeo).
- Berry, Sara (1993). *No Condition is Permanent: The Social Dynamics of Agrarian Change in Sub-Saharan Africa*, Madison: University of Wisconsin Press.
- Beynon, Jonathan, S. Jones, and S. Yao (1992). "Market Reform and Private Trade in Eastern and Southern Africa," *Food Policy*, Vol. 17, No. 6, December: 399-408.
- Bryceson, Deborah (1993). *Liberalizing Tanzania's Food Trade: Public and Private Faces of Urban Marketing Policy 1939-88*, London.
- Cheung, Steven (1968). "Private Property Rights and Sharecropping", *Journal of Political Economy* 76.
- Chicago Board of Trade (1887). *Thirtieth Annual Report of the Trade and Commerce of Chicago*, Chicago: Knight and Leonard Co.
- Chicago Board of Trade (1989). *Commodity Trading Manual*, Chicago.

- Clay, Daniel, Molla, Daniel, Habtewold, Debebe (1998), "Food Aid Targeting in Ethiopia: A Study of Household Food Insecurity and Food Aid Distributions," Grain Market Research Project, Working Paper 12, Addis Ababa, Ethiopia.
- Clay, Karen (1993). "Trade, Institutions, and the Law: The Experience of Mexican California," mimeo, Stanford University.
- Coase, Ronald (1937). "The Nature of the Firm," *Economica*, Vol. 4, No. 16, November: 386-405.
- Cohen, Abner (1969). *Custom and Politics in Urban Africa: A Study of Hausa Migrants in Yoruba Towns*, Berkeley: University of California Press.
- Coleman, J.S., "Social Capital in the Creation of Human Capital," *American Journal of Sociology*, 94(Supplement):S95-S120, 1988.
- Coulter, Jonathan and P. Golob (1992). "Cereal Market Liberalization in Tanzania," *Food Policy*, Vol. 17, No. 6, December: 420-430.
- Cronon, William (1991). *Nature's Metropolis*, New York: W.W. Norton and Company.
- Dadi, Legesse, A. Negassa, and S. Franzel (1992). "Marketing Maize and Tef in Western Ethiopia: Implications for Policies Following Market Liberalization," *Food Policy*, Vol. 17, No. 3, June: 201-213.
- Dercon, Stefan (1995). "On Market Integration and Liberalisation: Method and Application to Ethiopia," *Journal of Development Studies*, Vol. 32, No.1, October: 112-143.
- Eswaran, M. and Kotwal, A., (1985), "A Theory of Contractual Structure in Agriculture", *American Economic Review* 75.
- Ethiopian Grain Trade Enterprise (1995), *Statistical Bulletin*, No. 4, Addis Ababa.
- Evers, Hans-Dieter and Heiko Schrader (eds) (1994). *The Moral Economy of Trade*, London: Routledge.
- Fafchamps, Marcel (1992a). "Solidarity Networks in Pre-Industrial Societies: Rational Peasants with a Moral Economy," *Economic Development and Cultural Change*, Vol. 41, No. 1, October: 147-174.
- Fafchamps, Marcel (1992b). "Non-convex Transaction Costs, Networks, and Market Power," Stanford University, mimeo.
- Fafchamps, Marcel (1996a). "Market Emergence, Trust, and Reputation," mimeo, Stanford University.
- Fafchamps, Marcel (1996b). "The Enforcement of Commercial Contracts in Ghana," *World Development*, Vol. 24, No. 3, March.
- Fafchamps, M. and B. Minten (1999), "Returns to Social Capital Among Traders," *International Food Policy Research Institute MSSD Discussion Paper No. 23*, Washington, DC.

Fisseha, Tewodros (1994), "Grain Markets: Government Intervention and Liberalisation," Presentation to the Fourth Annual Conference on the Ethiopian Economy, 28-29 November, Debre Zeit, mimeograph.

Food Studies Group (1992). *Study of the Impact of the Liberalization of Smallholder Produce Marketing in Malawi*, Oxford: Food Studies Group.

Franzel, Steven, Colbur, Forrest, Degu, Getahun (1989), "Grain Marketing Regulations: Impact on Peasant Production in Ethiopia," *Food Policy*, Vol. 14, No. 5: 347-358.

Fukuyama, Francis (1995). "Social Capital and the Global Economy," *Foreign Affairs*, Vol. 74, No. 5, September/October: 89-103.

Gabre-Madhin, Eleni, Fafchamps, Marcel, Kachule, Richard, Soule, Bio, Khan, Zahia (2001), "Impact of Agricultural Market Reforms on Smallholder Farmers in Benin and Malawi," IFPRI Final Report, Volume 2.

Gebremeskel, Dessalegn, Jayne, T.S., Shaffer, J.D. (1998), "Market Structure, Conduct, and Performance: Constraints on Performance of Ethiopian Grain Markets," Grain Marketing Research Project, Working Paper No. 8, Addis Ababa.

Geertz, Clifford (1978). "The Bazaar Economy: Information and Search in Peasant Marketing," *American Economic Review*, Vol. 68 (2) (May): 28-32.

Gibson-Jarvie, Robert (1983). *The London Metal Exchange*, New York: Nichols Publishing Company.

Gilbert, Elon (1969). *Marketing of Staple Crops in Northern Nigeria*, Ph.D. Dissertation, Stanford University.

Grain Market Research Project (1996), *Market Information Bulletin*, Ministry of Economic Development and Cooperation, Addis Ababa, Ethiopia.

Granovetter, Mark (1985). "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, Vol. 91, No. 3, pp 481-510.

Greif, Avner (1989), "Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders," *Journal of Economic History*, Vol. 49: 857-82.

Greif, Avner (1993), "Contract Enforceability and economic Institutions in Early Trade: The Maghribi Traders' Coalition," *American Economic Review*, Vol. 83, No. 3, June: 525-548.

Hayami, Yujiro and Toshihiko Kawagoe (1993). *The Agrarian Origins of Commerce and Industry*, New York: St. Martin's Press.

Hoff, Karla and Joseph Stiglitz (1990). "Introduction: Imperfect Information and Rural Credit Markets- Puzzles and Policy Perspectives." *World Bank Economic Review* 4: 235-50.

Hill, Polly (1966). "Landlords and Brokers: A West African Trading System," *Cahiers d'Etudes Africaines*, VI: 349-366.

International Fertilizer Development Centre (IFDC) (1993). "Ethiopian Fertilizer and Transport Sector Assessment," Addis Ababa: United States Agency for International Development.

Jackson, Richard (1978). "Nineteenth Century Market Systems in Ethiopia and Madagascar" in Robert Smith (ed.), *Market-place Trade: Periodic Markets, Hawkers, and Traders in Africa, Asia, and Latin America*, Vancouver: Centre for Transportation Studies.

Jayne, T.S., Negassa, Asfaw, Myers, Robert (1998), "The Effect of Liberalization on Grain Prices and Marketing Margins in Ethiopia," MSU International Development Working Paper No. 68, East Lansing, Michigan.

Jayne, T.S., Mukumbu, M., Chisvo, M., Tschirley, D., Weber, M., Zulu, B, Johansson, L, Santos, P., Soroko, P. (1999), "Successes and Challenges of Food Market Reform: Experiences from Kenya, Mozambique, Zambia, and Zimbabwe," MSU International Development Working Paper No. 72, East Lansing, Michigan.

Jones, Stephen (1996). "Food Markets in Developing Countries: What Do We Know?," Working Paper No. 8, Oxford Food Studies Group.

Jones, William O. (1972). *Marketing Staple Food Crops in Tropical Africa*, Ithaca: Cornell University Press.

Kandori, M. (1992), "Social Norms and Community Enforcement," *Review of Economic Studies*, Vol. 59: 63-80.

Kherallah, M., Delgado, C., Gabre-Madhin, E., Minot, N., Johnson, M. (2000). *Agricultural Market Reforms in sub-Saharan Africa: A Synthesis of Research Findings*, draft IFPRI manuscript, 2000.

Kranton, Rachel (1996). "Reciprocal Exchange: A Self-Sustaining System," *American Economic Review*, Vol. 86, No. 4, September: 830-851.

Kuawab Business Consultants (1994). "Structure of the Ethiopian Grain Market: A Rapid Appraisal," Addis Ababa: United States Agency for International Development.

Landa, Janet (1994). *Trust, Ethnicity, and Identity: Beyond the New Institutional Economics of Ethnic Trading Networks, Contract Law, and Gift Exchange*, Ann Arbor: University of Michigan Press.

Lele, Uma (1971). *Food Grain Marketing in India*, Ithaca: Cornell University Press.

Lirenso, Alemayehu (1993). "Grain Marketing Reform in Ethiopia," Ph.D. Dissertation, University of East Anglia.

Meillassoux, C. (1971). *The Development of Indigenous Trade and Markets in West Africa*, Oxford: Oxford University Press.

Menkoff, Thomas (1994). "Trade Routes, Trust, and Tactics: Chinese Traders in Singapore," in Evers and Schraders (eds) (1994).

Milgrom, Paul, Douglass North and Barry Weingast (1990). "The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs," *Economics and Politics*, Vol. 2, No. 1, March: 1-23.

Mintz, Sidney, 1961, "Pratik: Haitian Personal Economic Relationships" in *Proceedings of the 1961 Annual Spring meeting of the American Ethnological Society*.

Montgomery, J.D. (1991), "Social Networks and Labor-Market Outcomes: Toward an Economic Analysis," *American Economic Review*, Vol. 81(5): 1408-1418.

Nabli, Mustapha K and Jeffrey Nugent (1989). "The New Institutional Economics and Its Applicability to Development," *World Development*, Vol 17, No. 9.

Narayan, D. and Pritchett, L. (1996), *Cents and Sociability: Household Income and Social Capital in Rural Tanzania*, Policy Research Department, World Bank, Washington, D.C.(mimeo).

Natural Resources Institute (NRI), 1994, "Food Security in Ethiopia and the Role of the Emergency Food Security Reserve Administration", Overseas Development Administration, mimeo.

Negassa, Asfaw (1998), "Vertical and Spatial Integration of Grain Markets in Ethiopia: Implications for Grain Market and Food Security Policies," Grain Marketing Research Project, Working Paper No.9, Addis Ababa.

Negassa, Asfaw and Jayne,T.S. (1997), "The Response of Ethiopian Grain Markets to Liberalization," Grain Marketing Research Project, Working Paper No. 6, Addis Ababa.

North, Douglass C. (1989), "Institutions and Economic Growth: An Historical Introduction," *World Development*, No. 9, September 1989.

North, Douglass C. (1990). *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.

North, Douglass and Robert Thomas (1973). *The Rise of the Western World: A New Economic History*, Cambridge: Cambridge University Press.

North, Douglass C. and John Wallis (1987), "Measuring the transaction sector in the American Economy" in *Long Term Factors in American Economic Growth*, University of Chicago Press, Chicago.

Palaskas, T.B. and Barbara Harriss-White (1993). "Testing Market Integration: New Approaches with Case Material from the West Bengal Food Economy," *Journal of Development Studies*, Vol. 30, No. 1, October: 1-57.

Pankhurst, Richard (1961), *An Introduction to the Economic History of Ethiopia*, London: Lalibela House.

Platteau, Jean-Philippe (1994a). "Behind the Market Stage Where Real Societies Exist: Part I - The Role of Public and Private Order Institutions," *Journal of Development Studies*, Vol. 30, No. 3, April: 533-577.

Platteau, Jean-Philippe (1994b). "Behind the Market Stage Where Real Societies Exist: Part II - The Role of Moral Norms," *Journal of Development Studies*, Vol. 30, No. 4, July: 753-815.

Plattner, Stuart (1989), "Economic Behavior in Markets" in *Economic Anthropology* (ed. S.Plattner), Stanford University Press, Stanford.

Polanyi, Karl (1957). *Trade and Market in the Early Empires*. New York: Free Press.

Putnam,R.D., Leonardi, R., and Nanetti, R.Y. (1993), *Making Democracy Work: Civic Institution in Modern Italy*, Princeton University Press, Princeton.

Sadoulet, Elisabeth and Alain de Janvry (1995). *Quantitative Development Policy Analysis*, Baltimore: Johns Hopkins University Press.

Scott, Gregory J. (1985). *Markets, Myths, and Middlemen*, Lima: International Potato Center.

Tadelis, Steven (1998), "What's in a Name? Reputation as a Tradable Asset," Stanford University, mimeograph.

Thomas, N.W. (1908). "The Market in African Law and Custom," *Journal of the Society of Society of Comparative Legislation*", XIX: 90-106.

Trager, Lillian, 1981, "Customers and Creditors: Variations in Economic Personalism in a Nigerian Marketing System", *Ethnology* 20.

Williamson, Oliver (1981). "The Economics of Organization: The Transaction Cost Approach", *American Journal of Sociology*, 87.

_____ (1985), *The Economic Institutions of Capitalism*, The Free Press, New York.