The Role of Business Networks in Market Development in Sub-Saharan Africa

Marcel Fafchamps [†]

March 1999

Forthcoming in "Community and Market in Economic Development", edited by Masahiko Aoki and Yujiro Hayami.

Drawing from the literature and the author's own research, this paper discusses the role of business networks in market development. The focus is principally on Sub-Saharan Africa; other regions of the world are discussed in other contributions to this volume. Business networks in Africa are shown to play a variety of functions and to take many shapes. We argue that pre-existing network affiliation such as lineage or co-residence seldom form the basis for market exchange, but can serve for non-market exchange. Sharing a common religion or ethnicity often facilitates trust building and exchange but it cannot be considered as entirely exogenous to the market formation process. We discuss the conditions under which 'clubs' with restricted entry can facilitate or restrict market expansion. We conclude with a discussion of alternative institutions that perform functions similar to those of business networks and we identify conditions under which they can substitute to networks.

† Department of Economics, Stanford University, and DECRG, The World Bank. Email: fafchamps@leland.stanford.edu.

Introduction

In this paper, we investigate the connection between business networks and community. We do so for markets that are at the early stages of their development, such as is the case in much of Sub-Saharan Africa. We begin by showing that, for firms above a minimum size, relational contracting is the rule in markets for agricultural products as well as for manufacturing inputs and outputs. Many markets in Sub-Saharan Africa can best be thought of as composed of a core networks of trade relationships that are fairly stable over time. This core is surrounded by a fringe of atomistic competitive firms that operate with high transactions costs because they lack trust in each other.

We document the many important roles that relationships play in facilitating market exchange, such as information sharing and the informal enforcement of contracts. These sets of trade and information sharing relationships can be thought of business networks and we discuss the implications of this idea for our understanding of African markets. We then explore the role that community affiliation plays in the membership of business networks. We examine observed patterns of ethnic concentration and conclude that, at least in some African countries, these patterns are very unlikely to have been generated from a firm entry and growth process that grants equal access to business opportunities for all -- even if we account for colonial heritage.

From this observation, we conclude that entry into existing networks is biased. We discuss the possible sources and mechanism behind this bias. Based on the limited existing evidence, we argue that referral by family and friends is the most likely channel through which ethnic concentration arises. We also discuss the effect that business networks have on community formation.

Trust and Relationships

Markets are normally thought of as decentralized allocation mechanisms and much has been written on the benefits to be derived from decentralization. Markets, however, cannot exist without coordinated action if only to define and protect property rights. Whenever these services are not provided by the state, mafias and other private armies arise that thrive on protection money -- and occasionally ambition to replace the state itself (e.g., North (1990)).

Even if property rights are properly defined and protected, market transactions also leave much room for cheating (e.g., Fafchamps (1996)). Economists typically focus on two important aspects of exchange: price and quantity. In real life, there are many other contractual dimensions that are equally if not more important to the parties: the quality of the product, the form and method of payment, the provision of credit, etc. In the absence of suitable mechanisms to deter cheating, exchange can only take a rudimentary form which elsewhere (e.g., Fafchamps (1998b)) I have called a flea market economy: no placement of order, no invoicing or payment by check, no credit, and no warranty. Protection against opportunistic behavior enables agents to do business more easily, for instance by placing orders ahead of delivery, by securing product warranty, and by paying by check upon receipt of a monthly invoice.[1] In theory, the legal system can ensure the enforcement of contracts. But in practice the deterrent effect of the legal system alone is insufficient when the size of the transaction is small or when the parties to the transaction have little or no assets to foreclose on. This means that legal institutions alone are unlikely to provide sufficient protection against opportunistic breach of contract in the

[1] There even are commodities such as electricity for which exchange would be extremely cumbersome if not impossible if parties could not resort to periodic invoicing.

overwhelming majority of market transactions that take place in poor countries.

In everyday business, personal trust often is an effective substitute for the security provided by costless legal enforcement. In fact, when businessmen and women operating in poor countries are asked how they prevent opportunistic breaches of contract, they typically respond that they conduct business-like transactions only with individuals they can trust (e.g., Fafchamps (1996), Fafchamps et al. (1994), Fafchamps, Pender and Robinson (1995)). With strangers, they revert to a cash-and-carry form of exchange: goods are inspected on the spot, and delivery takes place against instant payment in cash.

The question then arises as to where trust comes from. In practice, it results primarily from a history of successful exchanges (e.g., Fafchamps (1996), Fafchamps et al. (1994), Fafchamps, Pender and Robinson (1995)). Table 1 illustrates that relational contracting is the norm between African manufacturers and their suppliers: the length of the relationship exceeds seven years on average, and most supplies of a particular input come from a single supplier. The great majority of manufacturing firms places regular, e.g., monthly orders from their main suppliers. This is particularly true in manufacturing where firms have been shown to be extremely loyal to their main suppliers even when they have a choice among various sources of supply (e.g., Bigsten et al. (1998)). One reason is of course that a manufacturer's equipment and production plans are typically optimized around very specific inputs and delivery systems. If input specificity were the only reason for long term relationships, one would not expect relational contracting to be prevalent in agricultural markets. Evidence to the contrary can be found in Gabre-Madhin (1997) and Fafchamps and Minten (1998).

Repeated exchange can be seen as a way of economizing on the costs of establish-

ing personal trust. In certain markets -- labor or credit, for example -- repeated interaction is so prevalent that it has become the norm. These are typically markets for which either the potential for abuse is greatest and the screening costs are largest. Relationship-based networks are therefore expected to arise in markets where screening costs are high and personal trust is a substitute for external enforcement through lawyers and courts (e.g., Hayami and Kikuchi (1981), Ghosh and Ray (1996), Fafchamps (1998b)).

Before proceding further, we must specify what we mean by network -- the term not yet having found its way into economic jargon. The theory of networks was first proposed by sociologists to transcend the concept of community which was thought too vague and no longer adequate (e.g., Mitchell (1969)). Borrowing notation and concepts from the mathematical theory of graphs, individuals came to be regarded as nodes and relationships between them as links. The combination of nodes (individuals) and links (relationships) constitutes a graph or network.[2] Links can be of various kind (e.g., trade, family, information sharing) and of various strength (e.g., trade amount, closeness of family relationship). Links can be unidirectional, as when one individual knows another but the reverse is not true (e.g., a movie star). They can be superposed, in which case sociologists speak of multiplex societies (e.g., Gluckman (1955); see also Basu (1986)). They can also vary over time.

---

[2] Mathematicians give the term 'network' a more specific sense than that used in sociology (e.g., Foulds (1992)). In this paper, we follow sociologists (and standard english) and use the term 'network' to refer to what mathematicians call 'graphs'. Sociologists also distinguish between subjective networks (the graph of all links emanating or leading to a specific individual) and objective networks (the graph of all the links between a set of nodes or individuals). While subjective networks are always well defined, objective networks often are 'open' in the sense that links exist between members of the set and outsiders, e.g., between businessmen in Africa and Europe. Here we use one meaning or the other, depending on the context.

Laid out in these general terms, the concept of network is nothing but a way of visualizing social relations of any kind. To give it life, one must specify a population of individuals or nodes, a particular kind of link, and a time frame. One could, for instance, construct the graph of all the trades that occured between a set of economic agents during a particular time period, and call it a market or trade network. Alternatively, one may consider only certain types of transactions, e.g., repeated transactions, to generate the relational contracting network. In both cases, the resulting networks would just be a graphical depiction of the market itself, perhaps useful to study inter-industry linkages, but not substantively different.

The concept of network comes to full fruition when the definition of a link is broadened to include other useful economic functions such as informal contract enforcement, information sharing, and the like. Abundant evidence indeed exists that such links are central to the functioning of labor, credit, and insurance markets (e.g., Udry (1990, 1994), Fafchamps (1992)). In the words of Granovetter (1995), economic transactions are embedded in a social context. Mutual insurance among villagers, for instance, is now believed to revert primarily around long term self-enforcing arrangements (e.g., Coate and Ravallion (1993), Fafchamps (1992, 1998c), Fafchamps and Lund (1998), Ligon, Thomas and Worrall (1997)).

In Sub-Saharan markets, personal relationships perform a variety of valuable functions. Fafchamps and Minten (forthcoming), for instance, report that agricultural traders surveyed in Madagascar perceive relationships as the most important factor for success in business. The authors document the extent to which relationships facilitate the circulation of information about prices and market conditions, the provision of trade credit, the prevention and handling of contractual difficulties, the regularity of trade flows, and the

mitigation of risk. Of these, the regularity of supply and demand and the sharing of risk appear particularly important. Fafchamps and Minten (1998b) further demonstrate that the productivity of traders depends on the number and type of relationships they have: controlling for all other inputs, a doubling of the number of known traders raises value added by 28%; a doubling of the number of people who could help in times of trouble similarly raises it a similar amount. Larger and more prosperous traders are thus those with quantitatively and qualitatively better relationships (see also Barr (1998a)).

Relationships can also help economize on search costs. Using a stylized model of exchange, Kranton (1996) illustrates how trade within networks reduces search costs and can drive goods away from market exchange. Montgomery (1991) similarly shows that firms can use employee referral to identify and hire high quality workers. There are plenty of evidence that networks and relationships perform a matching and screening function in many developed as well as developing countries. Referral is a common hiring procedure, in the U.S. (e.g., Granovetter (1995)) as well as in Africa (e.g., Velenchik (1995)). Reportedly, employee referral is extensively used in Dacca garment sector (personal communication from Junaid Ahmed). Similar practices are found in commodity markets as well. In their description of livestock markets in West Africa, for instance, Eddy (1979) and Staatz (1979) document the role that personal networks play in matching buyers and sellers. A similar function is attributed to networks in the case of long-distance African trade by Meillassoux (1971) and Amselle (1977). In a recent study of Ethiopian grain traders, Gabre-Madhin (1997) describes in detail the role of brokers in bridging surplus and deficit areas and in assisting traders screen grain quality and identify reliable buyers and sellers.

Networks of personal relationships also serve to circulate information. Barr (1998a), for instance, demonstrates that Ghanaian manufacturers with better business contacts perform better than less well connected firms. She interprets the evidence as consistent with the idea that large firms use networks to access information about new technologies and market opportunities while small firms rely on closely knit networks of mutual insurance. In a related paper, Barr (1998b) discusses other possible roles of information sharing. One such role that has received much emphasis in the theoretical literature is reputation. Kandori (1992) formalizes the idea that if information about breaches of contract circulates freely among economic agents, breach can be deterred by excluding cheaters from future trade. Milgrom, North and Weingast (1991) apply this idea to medieval trade in Europe. They argue that the Law Merchant of Champagne Fairs served the role of information repository, thereby making coordinated exclusion possible even among agents who did not know each other. Using ancient correspondence between traders, Greif (1993), Greif (1994) extends a similar concept to medieval trade in the Mediterranean sea and argues that ethnic and religious networks served an important information sharing role that helped discipline trading agents residing in distant cities.

Fafchamps (1996), Fafchamps et al. (1994), and Fafchamps, Pender and Robinson (1995) provide contemporary evidence regarding the role of reputation in enforcing contracts among African manufacturers. They show that referral by other firms is an important screening mechanism and that clients who can provide reliable references get supplier credit faster and more easily. This is not without consequences: Fisman (1998) indeed shows that African manufacturers who get trade credit have a significantly higher level of capacity utilization. Not all firms are able to use referral to facilitate screening, however, for lack of personal contacts with other firms. This is particularly true among

small firms and firms headed by individuals with loose ties to existing businesses (e.g., Fafchamps (1998a)). Fafchamps and Minten (forthcoming) find similar results among Malagasy grain traders: if anything, information sharing is even less developed there than in African manufacturing. In addition, none of these studies uncovers evidence of systematic exclusion of cheaters from future trade. One possible explanation is that loosely organized market networks lack the coordination mechanism required to trigger expulsion. Furthermore, these studies find no evidence that firms that deal with cheaters get ostracized. Without meta-punishment, it is unclear how a reputational equilibrium à la Kandori (1992) can be sustained.

To explain the role of information sharing as a contract enforcement device together with the absence of coordinated punishment mechanism, Fafchamps (1998b) proposes an imperfect information model of an exchange economy with good and bad agents. Bad agents reveal their type by cheating. Identifying good agents is therefore costly. Contracts are enforced not by the fear of exclusion but by the desire to economize on the cost of screening out bad agents, as in the models of Shapiro and Stiglitz (1984) and Ghosh and Ray (1996).[3] Agents form long-term relationships to minimize screening costs (e.g., Hayami and Kikuchi (1981)). Sharing information about past contractual history enables good agents to identify each other faster. Better connected agents are thus at an advantage. Fafchamps (1998b) demonstrates that, in such an environment, the exclusion of cheaters is not necessarily sustainable. For exclusion to be part of an equilibrium, agents must believe that good firms that cheat have turned bad, e.g., are going bankrupt. A

[3] Dutta, Ray and Sengupta (1989) use a similar disciplining device whereby workers with a long term contract who shirk become casual workers with lower pay and/or security of employment. See also Kranton (1996).

sufficiently high level of 'churning' of firms is thus essential to the emergence of a decentralizable reputational equilibrium à la Kandori (1992). Fafchamps (1998b) further shows that reputational equilibrium are unlikely at early stages of market development.

Long-term relationships also facilitate interlinking. Lorenz (1988), for instance, explains how relationship-based sub-contracting among French manufacturers enables both buyer and seller to make long-term investments in each other's production process. Hart (1995) generalizes this concept to all incomplete contracts and argues that relationships provide a possible solution to the well-known 'hold-up' problem (e.g., Williamson (1975, 1985)). Fafchamps et al. (1994) and Fafchamps, Pender and Robinson (1995) illustrate how these principles apply to African manufacturing and enable parties to place orders, pay by check, provide supplier credit, and obtain warranty. The typical supplier-client relationship is one in which clients pay suppliers for fear that supplies will not be delivered, and suppliers deliver for fear that clients will not pay.

Not only do relationships enable agents to enter in multi-faceted transactions involving various forms of forward contracting (e.g., order, credit, warranty), they also facilitate insurance and finance. For instance, Barr (1998b) argues that small Ghanaian firms rely on their network of contacts to secure insurance against liquidity crises. Similar findings are reported in Fafchamps, Pender and Robinson (1995) and Fafchamps and Minten (forthcoming) who argue that access to quick credit is essential for firms to survive liquidity crises. Fafchamps and Minten (1998b) further demonstrate that the performance of Malagasy grain traders depends critically on the number of people on which grain can rely for assistance in financial emergencies. Relationships can also facilitate credit and equity financing. Finally, Fafchamps, Pender and Robinson (1995) document the practice of shared inputs and machinery among competitors who belong to the same

network.

One form of interlinking that is particularly important in difficult economic environments is contractual flexibility. If penalties for breach of contract are too lenient, opportunistic breach cannot be deterred and contracting cannot take place. At the same time, rational economic agents should refuse to incur contractual obligations if the penalty for breach of contract is too strict. (e.g., Fafchamps (1996)). The reason is that unforeseen yet unverifiable events can occur that make compliance either very costly or outright impossible. Consequently, if the cost of contractual compliance is hard to predict, it may be impossible to find penalties that deter cheating without discouraging agents from engaging their contractual responsibility. In this case trade does not occur, unless agents can use relationships to provide sufficient contractual flexibility, that is, to insure parties against extreme compliance costs. Bigsten et al. (1998) provides evidence that contract flexibility is an essential feature of industrial input and output markets in Sub-Saharan Africa: most disputes with suppliers and clients are resolved amicably through direct negotiations and trade is resumed between the parties. This finding is in agreement with the inherent riskiness of manufacturing production in poor countries (e.g., Collier and Gunning (1997)). Fafchamps and Minten (1999) report similar findings for grain markets in Madagascar. Of course, contract flexibility requires economic agents to anticipate delayed payments and deliveries by building up inventories and liquidity reserves. Fafchamps, Gunning and Oostendorp (1997) show, for instance, that Zimbabwean industries accumulate inventories of inputs in response to late delivery risk.

There are yet other ways by which the coordinated and uncoordinated actions of groups of individuals can affect the development and functioning of markets. They can also help individuals coordinate their actions to generate a variety of public goods such

as the provision of common infrastructure and institutions, and the lobbying of government and local authorities for preferential treatment and for supportive laws and institutions.[4]

Business Networks and Contract Enforcement

We have seen that relationships play a key role in facilitating exchange in Sub-Saharan Africa. These relationship differ from pure market exchange in that they perform economic functions other than trade itself, such as information sharing, informal enforcement of contracts, and interlinking. To discuss the role that these relationships play in market development, let us define a business network as the set of such relationships with the agents they involve. Armed with this definition, we now examine more in detail the market configurations that naturally arise from the interaction between markets and business networks. To focus the discussion, we organize the presentation around one particular function that has recently received a lot of attention in the literature, namely, contract enforcement.

In the preceding section we have argued that networks can facilitate the establishment of trust by circulating essentially two distinct pieces of information: whether an agent has ever successfully completed a contract, and whether an agent has ever breached a contract. Both types of information refer to the transaction history of an agent and they have generally been treated interchangeably in the literature. But the latter is in general more demanding than the former: it is fairly easy to ascertain whether a carpenter has ever manufactured a chair, but it is harder to ascertain whether he or she has

[4] As has been amply demonstrated by sociologists, for agents to voluntarily contribute to the action of a group, they need to identify with it. The process of group identification is not, however, central to this paper, so we shall abstract from it and use the terms group and community interchangeably.

ever failed to complete an order for a chair. Similarly, it is easy to ascertain whether someone has ever paid a supplier; it is harder to assess whether the same person has ever paid a supplier late or not at all. Fafchamps (1998b) has shown that the characteristics of decentralized market exchange vary dramatically depending on whether the first or the latter type of information are circulated. Information sharing can play a positive role in facilitating exchange because the circulation of information about past contractual performances helps agents screen each other more cheaply.[5]

These theoretical results demonstrate that networks can facilitate market exchange in a purely decentralized manner, that is, without any collective action. It is clear, however, that networks sufficiently compact to form identifiable communities of common interest or 'clubs' may mobilize to achieve better outcomes for themselves (see Aoki, this volume). Clubs can, for instance, organize the joint punishment of cheaters through ridicule, ostracism, or worse. To the extent that economic agents socialize and intermarry with members of their business community, rejection by business partners may impose an additional personal burden as well (e.g., Aoki, Murdoch and Okuno-Fujiwara (1995), Spagnolo (1995)): exclusion from social interaction such as marriage within a prosperous group is likely to be detrimental to the long term prosperity of cheaters.

Although these ideas have received much attention in the theoretical literature, evidence of collective punishments for opportunistic breach of contract is weak at best. In their studies of African manufacturing and grain trade, Fafchamps et al. (1994),

---

[5] Provided the information circulated within the community is reliable. In contrast to what is assumed by some theorists (e.g., Kandori (1992)), gossip is a notoriously unreliable source of information. Not only is information distorted and imprecise, gossip can also be manipulated to hurt competitors. Gossip can be a channel of information or disinformation alike. This is why business men and women insist that they must know and trust the source of the information before giving it any credence.

Fafchamps, Pender and Robinson (1995) and Fafchamps and Minten (forthcoming, 1999) show that non-payment of a supplier does not automatically lead to a loss of credit from other suppliers. This does not mean that ostracism is never used: in the course of a manufacturing sector survey in Kenya, the author met an Asian businessman who was shunned by his peers following a fraudulent bankruptcy. But such cases are very rare.[6] Furthermore, in countless interviews with African manufacturers and traders of all ethnic origin, never did respondents articulate the implicit obligation to participate to a collective punishment. One Ghanaian trader in the Accra lumber market -- a market known for its tight ethnic-based trading community -- was asked whether he would oppose neighboring traders dealing with cheaters. His answer was: 'If they want to deal with cheaters, it is their problem, not mine' -- hardly the kind of answer one would expect if an explicit collective punishment strategy were in effect. Further discussions with respondents suggest that non-payment of a supplier triggers loss of credit only when it is interpreted as a signal of financial difficulty and possible bankruptcy. This idea is formalized by Fafchamps (1998b) who shows that collective punishment can arise in a fully decentralized manner without any explicit collective strategy, provided there is sufficient 'churning' of firms.

Communities may also develop norms of behavior -- a 'business culture' -- that are deemed suitable for the conduct of business (e.g., Hayami and Kikuchi (1981)). Adherence to these norms of behavior may be further publicized through participation to religious rituals and membership in religious groups that reinforce respect of these norms. The role of these cultural norms is, for instance, documented for medieval trade in Greif

[6] Shunning may be more frequent for other social transgressions such as female adultery, for instance.

(1993) and Greif (1994). In their detailed analysis of the Sefrou market in Morocco, Geertz, Geertz and Rosen (1979) illustrate the role that Muslim brotherhoods play in helping market communities join forces for a common purpose. In her study of market emergence in pre-colonial Kenya, Ensminger (1992) documents the fact, historically, that traders who wanted to do business with coastal Arab traders and their descendants found it easier if they converted to Islam. Similar processes have been documented elsewhere in Africa (e.g., Shillington (1989), Cohen (1969)). Poewe (1989) reports comparable motivations behind the spread of evangelical churches in present day Zambia.

Although there is some evidence that business communities often pride themselves of having superior ethics, there is also an inordinate amount of circumstantial and anecdotic evidence that demonstrate that morality is an elastic concept. The truth is that few if any human societies are free from the temptations of greed and instant gratification. Although a moral code can probably discourage outright fraud and treachery, social and economic pressures are a more effective deterrent against opportunistic breach of contract than ethics alone.[7]

Another possibility is that business communities or 'clubs' strive to build a reputation as a group with respect to other business communites with whom it is trading. This idea has been formalized by Kandori (1992) and Ellison (1994). In this case, trade takes place across communities and the benefits from repeated interaction are captured not through individual relationships but through community relationships. The reputation of the group becomes an asset that serves as collateral to guarantee good behavior. Each community may then choose to punish its own members for opportunistic breach of

[7] See, however, Platteau (1994a, 1994b) who argues that during childhood individuals acquire, through what psychologists call 'secondary socialization', what will constitute the moral fabric of their lives.

contract. Such situations have been described for ancient trade across ethnic boundaries -- e.g., between Europeans and Africans along the Zambezi river (e.g, Shillington (1989); see also Greif (1994), Geertz, Geertz and Rosen (1979)).

Although such processes may have been at work in ancient times (see Greif, this volume), recent work on manufacturers and traders in Africa has found no recent evidence that communities punish their members for cheating individuals in other communities (e.g., Fafchamps (1996), Fafchamps et al. (1994), Fafchamps, Pender and Robinson (1995), Fafchamps and Minten (1999)). If anything, cheating is perceived to be more prevalent across ethnic or religious boundaries and trust between communities is often low. Irrespective of whether culture and ethics should be considered an important contribution to business acumen, it remains that much social capital that is immediately relevant for market development and industrialization/modernization in poor countries is embedded within business networks and communities.

Business Networks, Competition, and Firm Entry

The existence of business networks also has some less desirable consequences. First of all, thanks to information sharing and joint punishment of deviant behavior, members of important and prosperous communities have a comparative advantage relative to others in the conduct of business. Evidence to this effect is provided by Barr (1998a), Fafchamps (1998a) and Fafchamps and Minten (1998b). Moreover, the more help and information agents receive from their community in their effort to screen each other, the less willing they become to screen individuals from outside their community. Economic agents in general prefer to deal with members of their own community (e.g., Macharia (1988)). This process may explain why established Zimbabwean manufacturers, who for

historical reasons are mostly of European and Asian origin, appear reluctant to deal with African firms in spite of good courts and widespread information sharing (e.g., Hoogeveen and Tekere (1994), Mumbengegwi (1994), Risseeuw (1994), Fafchamps, Pender and Robinson (1995), Fafchamps (1998a)). As a result, prosperous communities have a tendency to reproduce themselves over time and to reinforce their grip on business -- at least as long as they maintain their cohesion (e.g., Himbara (1994)).

To the extent that membership to these communities is restricted and that members intermarry, social mobility is likely to be impaired as well. This reduces efficiency because entrepreneurs end up being selected from a small percentage of the population. Kenyan Asians, for instance, constitute one to two percent of the Kenyan population, yet they own the majority of light industries (e.g., Fafchamps et al. (1994)). Table 2 shows that similar patterns are observed in other African countries (e.g., Bigsten et al. (1998)). The reader may wonder whether these patterns simply result from colonial heritage. While there is little doubt that colonial policies[8] favored non-African firms, it is fairly clear that the ethnic concentrations shown in Table 2 could not have arisen from unbiased sampling since these policies were removed.

To see why this is the case, let the share of firms owned at time *t* by members of previously favored ethnic group be denoted η_t. Assuming for simplicity that the number of firms is constant[9] and that firms get replaced at a constant rate θ, the law of motion of η_t can be written:

$$\eta_{t+1} = (1-\theta)\eta_t + \theta\,\rho \qquad (1)$$

[8] Including policies conducted during the Unilateral Declaration of Independence era in Zimbabwe.

[9] This assumption is not too much of an oversimplification given that very little growth has taken place in African manufacturing since independence. Moreover, if the number of firms is increasing, one should observe even less ethnic concentration, hence reinforcing our conclusion.

where ρ is the proportion of the favored ethnic group in new firms. If members of all ethnic groups are equally likely to start a new firm, then ρ should be equal to the proportion of the previously favored ethnic in the total population. Given our assumption that the number of firms is constant, an approximation for θ is obtained as one over the average age of firms. Table 3 reports the value of ρ implied by the current ethnic composition of manufacturing in Africa, assuming that at independence all firms were owned by non-Africans. The results are unescapable: in all six surveyed countries, the implied sampling rate for non-Africans exceeds by a wide margin their proportion in the total population -- which in all cases is not larger than 1 or 2 percents. According to these simple calculations, the inbreeding bias is largest in Kenya and Ivory Coast.

In spite of their crude character, these findings makes us suspect that the average entrepreneurial talent is below what it could be if all agents had an equal chance. This outcome is also inequitable in the Jeffersonian sense of equal opportunity for all. Finally, lack of social mobility is likely to be reinforced by social stratification through ethnicity, language, caste, education, and the like. For all these reasons, the existence of strong business communities often creates social tensions, the outcome of which can be the elimination of these communities and the dilapidation of the social capital they represent. History indeed abounds with examples of business groups earmarked for public retribution with or without the participation of the state.

Given the importance of these issues, it is worth investigating in more detail the process by which business networks reinforce themselves over time and end up excluding non-members from business exchanges. One point that has not been adequately recognized until now is that the circulation of information among agents is detrimental to entry. The reason is that, when information on established agents is widely available,

economic agents may rationally choose to wait until they meet an established agent on which they can obtain information rather than spending resources screening a new, unknown agent (e.g., Fafchamps (1998b)). In fact, the better information circulates, the harder it is for newcomers to be screened. Economies with well established information sharing networks are thus particularly inimical to new entrants as opposed to economies where information does not circulate and agents are forced to screen whoever shows up at their doorstep.

The contrast between Ghana, Kenya, and Zimbabwe manufacturing is, in this respect, quite telling. Ghana manufacturers form a diverse group without strong sense of community (e.g., Cuevas et al. (1993), Fafchamps (1996)). This is, in part, the result of government efforts to curtail the economic and political influence of certain groups, e.g., Syro-Lebanese and Asante business communities. As a result, information sharing is rudimentary and no single group is advantaged. This is not to say that networks of personal relationships are unimportant -- Barr (1998a) shows that they are -- but the intersection of these personal networks does not constitute an ethnically homogeneous community.

In contrast, Kenyan manufacturing is dominated by entrepreneurs of South Asian origin -- often second or third generation immigrants (e.g., Himbara (1994), Marris (1971), Fafchamps et al. (1994)). Although in the 1960's the Kenyatta government tried to prop up Kikuyu businesses, this policy failed to durably influence the ethnic composition of business (e.g., Himbara (1994)). Kenyan Asians do not constitute a monolithic community, however. Survey respondents identified at least four distinct communities -- 'the Shahs, the Patels, the Sikhs, and the Ismaelians' as one respondent put it.[10] Within

[10] The last two of these groupings are based on religious affiliation while the first two loosely

these communities, information circulates rather freely and client referral is a common practice. The survey uncovered little or no evidence of similar networks of information sharing among native entrepreneurs -- at least in manufacturing.[11] As a result, Asian businesses are at an advantage. Because information circulates only in an informal manner and networks are somewhat segmented, firms cannot rely purely on referral to identify reliable clients and suppliers; they must also screen agents from outside their network. Consequently, it is possible for outsiders to gain acceptance in the business community. Entry then takes place through a lengthy probation process by which small amounts of credit are given to test the resolve and honesty of the prospective credit recipient (e.g., Fafchamps (1997)).

Zimbabwe presents yet another configuration. Except for very small businesses which are overwhelmingly in the hands of native entrepreneurs, most manufacturing firms are in the hands of people of European and Asian ascent (e.g., Daniels (1994), Bigsten et al. (1998); Table 2). Although this pattern of ethnic concentration was initiated by deliberate pro-white policies pursued during the colonial period and during the 1964-1979 Unilateral Declaration of Independence era, it is unclear why it have survived to this day. One contributing factor may, paradoxically, have been the presence of an active and widely used credit reference bureau which quickly developed in the 1980's. The existence of this bureau means that information on bad payers circulates widely in the economy -- well beyond the confines of personal networks (e.g., Fafchamps, Pender

correspond to Indian castes, in spite of the fact that Kenyan Asians do not, in general, follow caste distinctions. Respondents nevertheless pointed out that it is fairly easy for someone to change his or her name to Shah or Patel. The caste nature of the first two categories is thus quite blurred.

[11] Why this is the case is unclear. Observations from the field suggest that African entrepreneurs commonly seek to establish personal relationships with existing businesses, which are predominantly Asian, instead of attempting to create a concurrent network. Granovetter (1995), in contrast, provides examples of the development of separate business networks among immigrant minorities in the U.S.

and Robinson (1995)). While this undoubtedly helps established businesses screen buyers and sellers, it also penalizes new businesses -- especially those entrepreneurs unfortunate enough not to have been born within the existing business community. As a result, information sharing may in fact have 'frozen' the ethnic composition of Zimbabwean manufacturing. Fafchamps (1998b) investigates the theoretical conditions under which such outcome may arise and shows that it is most likely to arise when there is little firm renewal. This condition is by and large satisfied in Zimbabwe where manufacturing firms are, on average, much older than in other African countries (Table 3). Setting up a credit reference bureau may thus have been detrimental to business entry.

If newcomers find it difficult to enter, one must then ask the question of how networks renew themselves over time. One possibility is no renewal: membership to the network is constant; the business community is a closed group. Such an outcome is more likely when opportunities for gains from trade are stable over time and the population of potential buyers and sellers does not change -- as was more or less the case in Zimbabwe over the 15 years following independence. By the same token, markets dominated by closed groups are more likely to arise for trade flows driven by static comparative advantage -- e.g., primary commodities, agricultural staples, protected manufacturing goods. This may explain why long distance trade in pre-industrial societies is often found in the hands of a tightly knit community (e.g., Greif (1993), Braudel (1986)). In contrast, closed markets are unlikely for commodities that are subject to constant innovation and entry by Schumpeterian competitors, such as the Silicon valley. In these markets, constant reshuffling of firms and agents ensures that refusing to deal with unknown firms is uneconomical; free entry is more likely to arise in equilibrium. An immediate corollary of the above is that closed-shop markets are more likely in poor, stagnant economies

where patterns of trade remain dominated by primary commodities. This is precisely what we observe in Africa.

There is also room for an intermediate solution which is for network members to coopt new members. The advantage of this solution for the group is that new entry is reduced and competition minimized, thereby increasing the returns to the group's social capital while ensuring that sufficient entry takes place for the group to reproduce itself. Cooptation takes many different forms and raises a host of interesting issues. One possible form is for an established agent to screen a newcomer and then share the result of this test with others. A newcomer who successfully passes the test is then allowed to join the group -- although he or she may not necessarily gain full access to information sharing. The client referral system described above for Kenya and, to a lesser extent, for Ghana essentially falls into this category (e.g., Fafchamps (1996), Fafchamps, Pender and Robinson (1995)).

One difficulty of this kind of arrangement, which has been discussed in the finance literature (e.g., Lang and Nakamura (1990)), is that sharing the result of the screening test may generate free riding: efforts by the testing agent to recoup screening costs from subsequent transactions may fail if the tested agent can immediately switch to another partner. In response, agents who perform the screening may seek to attach the tested agent for a minimum number of transactions. Examples of this strategy can be found in banks securing all the collateral of new borrowers to ensure they do not switch to another lender. Recourse to collateral is essentially unheard of in supplier credit, however (e.g., Fafchamps et al. (1994), Fafchamps, Pender and Robinson (1995), Bade and Chifamba (1994)).

Cooptation may also take place before testing has occurred. Nepotism is one such form of cooptation whereby a member of the community with no prior experience is recommended for preferential treatment, such as credit without screening or a new job without trial period. Although nepotism is incompatible with the principle of equal opportunity for all -- and is often stigmatized for this reason -- it may represent an efficient way for a network to renew itself. The precise conditions under which nepotism is individually rational need to be ascertained but intuitively nepotism is efficient for the group whenever, thanks to network externalities, an average person from within the community generates more returns for the group than an high performance outsider. As to why this is the case may result from a variety of mechanisms, such as better exchange of information with other members of the group, easier monitoring of compliance with contractual obligations, extra sanctions for deviant behavior, and the like. Anticipation that poor performance will be harshly punished ought to discourage below average community members to seek promotion through nepotism, thereby reducing adverse selection and false pretenses. Field observations suggest that nepotism is a reality, although it is unclear how important it is as a source of new entrepreneurs (e.g., Macharia (1988), Himbara (1994), Fafchamps et al. (1994), Fafchamps, Pender and Robinson (1995)). These issues deserve a more investigation.

It occasionally occurs that several distinct communities compete in the same markets. Bigsten et al. (1998), for instance, reports that while ethnic concentration in manufacturing is strong in some African countries, in others several communities appear to be competing equally. Intuitively, in the absence of external intervention, the community whose social capital generates the largest private gains and cost reduction should grow at the expense of less efficient communities. Whether the long term configuration of

business involves one or several communities depends on whether the accumulation of social capital generates increasing or decreasing returns to scale. If returns to social capital are monotonically increasing with group size, then a single group should eventually dominate the market. If returns to social capital are monotonically decreasing in group size, exchange should remain atomistic; communities should eventually disappear. If returns are initially increasing then decreasing, there is room for one or several communities depending on market size. Returns to group size might eventually drop because of the cost of information circulation increases exponentially with group size. It may also be that larger groups cannot impose social sanctions onto deviant members because they lack the capacity to set up meta-punishments, that is, punishments for those who refuse to ostracize past cheaters. Whatever the reason, if there are increasing returns to group size, one group should dominate.

Which group dominates, however, may be indeterminate. In this case, history matters: favoritism by governments and colonial administrations can give one group a head-start, hence giving it an advantage that is subsequently difficult to shake (e.g., Himbara (1994), Shillington (1989)). In other cases, historical accidents and relatively minor differences between groups can give one community a small initial advantage that gets reinforced over time. Expatriate communities seem to form a natural candidate for the formation of successful business communities, although there are many counter-examples as well. One possible explanation is that expatriate communities are, at least in part, the result of self-selection: only the most determined and the most ambitious migrate abroad in search of economic success. Expatriate communities are also often subject to residential and occupational restrictions that force them into certain neighborhoods and activities, thereby facilitating the circulation of information and raising the

cost of exclusion from the group. Agriculture, for instance, is not a politically feasible option for Kenyan Asians (e.g., Himbara (1994)). The same is probably true for Syro-Lebanese entrepreneurs in West Africa.

The Origin of Business Networks

In the preceding section, we have remarked that business networks display a degree of ethnic concentration that is unlikely to have arisen from random matching of agents in the population at large. This raises the issue of the origin of business networks and the particular role that ethnicity plays in this respect. We begin by noting that, although ethnic identity is a fluid and constantly evolving concept, no one would deny that identification with a particular ethnic group is a very strong emotion that can drive behavior that is otherwise irrational and destructive, such as civil war. Ethnicity is an important -- and often ignored -- issue in market development because unsupervised markets often develop a strong ethnic bias. It is nobody's secret, for instance, that many business men and women in Indonesia, Malaysia, and Singapore are ethnic Chinese. In much of East Africa, business is in the hands of ethnic South Asians while in West Africa, individuals of Lebanese and Syrian origin dominate sectors of activity such as import-export trade.

Although it might be individually rational, ethnic bias is socially inefficient, in the Pareto sense; it is also inequitable and is an important source of political tension. The question then is: where does ethnic bias come from. Fafchamps (1998a) investigates the issue in Kenya and Zimbabwe manufacturing and concludes that the two most convincing sources of ethnic bias in market exchange are statistical discrimination and network effects. Ethnicity and community effects tend to reinforce each other whenever member-

ship to the dominant business group is partly determined by one's ethnic origin.

The interface between ethnicity, communities, and economic exchange is perhaps the most explosive issue pertaining to markets. Governments interventions in the functioning of markets have nearly always been motivated, implicitly if not explicitly, by resentment towards particular business communities and ethnic groups (e.g., Bauer (1954), Jones (1959)). The restrictions on entry by non-community members that naturally derive from the development of dominant business groups nearly always generate suspicion of collusion, discrimination, and unfair business practices. When politicians become convinced that markets only serve the interests of a small prosperous minority, they are prompt to respond to economic and social crises by market repression and direct government intervention. The widespread use of roadblocks and other restrictions to the spatial movement of goods is perhaps the more vivid -- and most stupid -- manifestation of governments' mistrust for the capacity of the market to serve the interests of producers and consumers. Whatever the cause for ethnic bias in market activity, failing to address the issue adequately is likely to result in policy reversal and the abandonment of market liberalization. Finding ways of ensuring non-discriminatory markets is thus essential for sustained market-based economic development.[12]

To answer this question, we must understand the precise process that gives rise to ethnic bias. This raises the issue of whether business networks and communities organize around pre-existing social constructs or create their own, new groupings. It is often believed that family and lineage play an important part in the formation of business networks. This belief is in part based on the observation that Third World autocrats often

[12] The same can be said of gender bias.

favor businesses owned by relatives.[13] Survey results from Africa paint a more nuanced picture. Family relationships are important in providing start-up capital and some initial business contacts (e.g., Hoogeveen and Tekere (1994), Bade and Chifamba (1994)). They may also be a source of equity finance, possibly because information flows within the family facilitate monitoring (e.g., Fafchamps, Pender and Robinson (1995)). For similar reasons, partnerships and other forms of joint ownership are most commonly based on close family ties, except in very large firms *(ibidem).* This situation is not peculiar to Africa but seems pervasive in developed economies as well.

There is, however, no evidence that family relations play a role in market exchange, contrary to what is often believed (e.g., Granovetter (1995)). Trade with relatives and friends is extremely rare (e.g., Bigsten et al. (1998)). Whenever it happens, it has a negative effect on firm performance, probably because trade with family members blurs the boundaries of the firm (e.g., Fafchamps and Minten (1998b)). Discussion with survey respondents further indicate that entrepreneurs find it difficult to keep business with relatives within the confines of a sales transaction. Many respondents, for instance, emphasize that it is difficult to collect payment from relatives (e.g., Fafchamps and Minten (1999)). One Ghanaian carpenter put best when he stated that 'dealing with relatives is the surest way to go out of business'. This interpretation is reinforced by Fafchamps and Lund's (1998) work on mutual insurance in rural Philippines: the authors show that, among close relatives, risk sharing is more likely to take the form of gifts rather than loans. Informal loans without interest and with no set repayment date are the dominant form of insurance with more distant friends and relatives. Platteau and Abraham (1987)

[13] The last example to receive public attention is that of business interests held by Suharto's family in Indonesia.

report similar findings among Indian fishermen.

Again contrary to some commonly held views (e.g., Granovetter (1995)), kinship or place of origin appear to play little or no role in the formation of business networks. Individuals 'from the same village' (an African aphorism often used to refer to close ethnic and kinship ties) constitute a minute portion of the suppliers and clients reported by African manufacturers (e.g., Bigsten et al. (1998)). Proportions might be somewhat higher among microenterprises (e.g., Macharia (1988), Fafchamps (1994)), but this could be an outcome of the apprenticeship system: trade skills acquired through apprenticeship are likely to be concentrated by place of origin if apprentices are recruited principally among family and friends. Fafchamps and Minten (forthcoming) and Gabre-Madhin (1997) find no evidence of network formation by place of origin among grain traders in Madagascar and Ethiopia. These African findings are in contrast with those reported for Asia by Hayami (1996) and other contributors to this volume.

Religion and ethnicity play a complex role in the formation of business networks (e.g., Granovetter (1985, 1995), Cohen (1969), Poewe (1989), Meillassoux (1971), Amselle (1977)). A thorough coverage of the extensive literature on this issue would take us too far, so we shall limit ourselves to a few observations. As we have discussed in previous sections, business networks often -- though not always (see Fafchamps and Minten (forthcoming), Gabre-Madhin (1997), Bigsten et al. (1998)) -- display levels of religious and ethnic concentration that are extremely unlikely to result from random selection. What is often unclear is whether business networks arise from pre-existing ethnic and religious networks or the opposite. Regarding religion, for instance, there is some evidence that religious conversion is sometimes motivated by the desire to join a particular business community (e.g., Ensminger (1992), Shillington (1989)). The same is true of

strict observance of religious principles, such as the adherence to a particular dressing code or the obligation for devout Muslim to undertake a pilgrimage to Mecca if they can afford it (e.g., *hadji*[14] traders in the Sahel), and of membership in religious organizations (e.g., Muslim brotherhoods in Sudan, *marabouts* in Senegal). The upshot of this is that the relationship between religion and business networks is unlikely to be unidirectional. In their description of the Moroccan market of Sefrou, for instance, Geertz, Geertz and Rosen (1979) show the close integration of business networks and religious festival committees. Their interpretation is that both types of social structures reinforce each other: involvement in religious activities provide meeting opportunities for businessmen, which is precisely why they participate in religious activities in the first place. In addition, they argue that religious leaders use their moral authority to arbitrage certain disputes and to organize collective action (e.g., Platteau (1994)). Similar patterns are described for Chinese businessmen in South-East Asia in Geertz (1963).

At first glance ethnicity might appear more exogenous than religion, but reality is more complex. First, what constitutes an ethnic group is a fluid concept. This fluidity is perhaps best illustrated by the recent history of Somalia. In the 1976, Somalia launched a war against Ethiopia in an attempt to reunite all Somali people under the same flag. Fifteen years later, the same Somalia collapsed into separate fiefdom on the basis of ethnicity, now defined differently. Ethnicity and, more generally, community identity can be shaped by history to suit the social preferences of the time. Second, given a particular definition of ethnicity, the ethnic affiliation of a particular individual is not always clear because it depends on various factors such as one's place of birth, mother tongue, place

[14] A *hadji* is a person who has completed a pilgrimage to Mecca.

of residence, religion, race, and ethnic affiliation of one's parents. Whenever these factors do not coincide, the ethnicity of an individual is subject to interpretation. Fulanis living in Northern Nigeria are a good example: because they speak Hausa at home, they often can alternatively identify themselves as Hausas or Fulanis, depending on what suits them best (e.g., Cohen (1969)). In many societies, it is even possible to change one's ethnicity -- at least superficially -- by learning another language or by changing one's name. Intermarriage is another possible avenue into ethnic conversion. Many manifestations of these processes were apparent in surveys, although collecting quantitative data on these issues proved impossible due to the extreme sensitivity of ethnic issues in all societies studied.[15]

Assuming that ethnicity and ethnic affiliation were defined without any ambiguity, the relationship between ethnicity and business networks remains loose even when business networks are ethnically concentrated. The reason is that ethnic groups are, by definition, very large, often numbering in millions. Even ethnic minorities such as Asians in Kenya or whites in Zimbabwe, still count over a hundred thousand individuals in each country, the overwhelming majority of which are not in business. Moreover, those who are entrepreneurs often operate in unrelated sectors of activity. In contrast, business networks are small -- a few hundred individuals at most, often much less (e.g., Granovetter (1995), Mitchell (1969), Barr (1998a)) -- and tightly knit. There is therefore no sense in which an ethnic 'community' can, by itself, serve as platform for the establishment of a business network. A Kenyan Asian cannot, for instance, walk into another Asian's shop and obtain supplier credit without referral. Unless the two individuals find a common

[15] In some cases we had the distinct impression that raising the question of ethnic identification was sensitive precisely because respondents preferred to maintain some ambiguity as to their precise affiliation.

acquaintance that can vouch for them and guarantee repayment, credit will not be offered (e.g., Fafchamps et al. (1994)). Because Kenyan Asians socialize principally with other Kenyan Asians, two Asians are more likely to find a common acquaintance than, say, an Asian and a Kikuyu. Consequently, there is a high probability that a referral system will result in ethnically concentrated business networks. Fafchamps (1998a) tests this proposition formally and shows that, once networks are controlled for, the measured effect of ethnicity on access to supplier credit falls dramatically.

Although family, ethnicity, and religion play some role in the formation of business networks, the picture that emerges from numerous interviews with manufacturers and traders in Africa is one in which business networks for the most part results from business interaction itself. Bigsten et al. (1998), for instance, finds that more than 90% of African manufacturers describe their suppliers and clients as simple business acquaintances. In many cases, commercial relationships are nurtured through business meetings and through socialization outside of work (e.g., Fafchamps et al. (1994), Fafchamps, Pender and Robinson (1995)). In this respect, business is not very different from academia. Individuals who do not socialize with their clients and suppliers and who do not maintain regular business relationships are at a disadvantage (e.g., Fafchamps (1998a), Fafchamps and Minten (1998b)). Ethnic concentration therefore seems to result from nothing else than historical accident and socialization patterns which are reinforced by the practice of business itself.

Communities and Networks

Before concluding, it is worth spending a few moments discussing the various forms that networks can take so as to make the link with the main theme of this book, which is

communities and markets. Empirical evidence collected in Africa indicates that there are many business networks that do not constitute communities. Malagasy traders and Ghanaian manufacturers, for instance, are embedded in various networks of interpersonal relationships, but they do not, as a rule, belong to an homogeneous business community. There may be identifiable communities regrouping subsets of traders or manufacturers, such as Malian traders in Accra's lumber market or Pakistani businessmen in Antananarivo, but these communities are small relative to the total size of the market. These simple observations raise the issue of when networks can be said to form communities.

This is not an easy question. Granovetter (1995) and his followers argue that it takes six people or less to connect any two people in America. In this sense, the whole population of the U.S. -- and even of the world -- can be described as a single large network. While individuals must be connected to qualify as members of a community, the concept of network is clearly much larger than that of community as we normally understand it. What then defines a community? The approach adopted by sociologists seems to have been to regard relationships as the building block of social constructs and to visualize society as a network of relationships (e.g., Mitchell (1969), Coleman (1988)). Some of these relationships may be stronger than others -- strong links vs. weak links in the parlance of Granovetter (1995), and relationships may be multi-faceted, that is, may take place at multiple levels -- economic, social, symbolical (e.g., Basu (1986)).

Moving from the fuzzy concept of community to the more general notion of networks presents other advantages. Consider the issue of network capital, for instance. In general, someone who has more links has more options and, other things being equal, is likely to be better off. The number of one's connections can thus be taken as one measure

of one's social capital: the more links, the more social capital (e.g., Barr (1998a), Fafchamps and Minten (1998b)). In contrast, measures of social capital built on the notion of communities are unable to make such fine distinctions (e.g., Putnam, Leonardi and Nanetti (1993), Coleman (1988)). The concept of network also throws new light on the definition of dominant market position. Consider a situation in which individuals with very few links command a key position in the economy. To see how, suppose that N producers and M consumers of a particular product do not deal with each other directly but use intermediaries -- i.e., traders. Further suppose that products are assembled from producers by one individual that we shall call the assembler, and that they are sold to consumers by another individual which we call the retailer. Assembler and retailer deal with each other via a wholesaler. In this simplified example, the wholesaler has the least number of links -- two -- but the most market power: without the wholesaler, goods can not move from producers to consumers. Unlike in a production monopoly, the wholesaler must buy what he or she sells. If transacting was costless, the wholesaler could not extract any monopoly rent: the threat of entry would prevent that. If transactions costs are non-convex, however, as is the case in the presence of screening costs, trade concentration naturally arises as a way to economize on transactions costs (e.g., Fafchamps (1992)). This simple example illustrates that the network structure of the market can confer market power to some agents in a way that is not adequately captured by the concept of business community.

Within a network view of the world, communities or cliques can be defined as sets of agents or 'nodes' that are linked to each other in multiple and strong ways (e.g., Mitchell (1969)). Examples of such communities include the set of businessmen and women who regularly go to the same church or temple, members of the same golf club,

and individuals affiliated to the same professional organization.[16] Some of these communities may restrict or condition entry, in which case one may want to call them clubs, e.g., a golf club. Others are open to all, e.g., churchgoers. Some communities are formal and have a legal status with an internal constitution and rules of procedure, e.g., a business association. Others remain informal, e.g., the individuals who meet in a particular bar or restaurant.

The available empirical evidence suggests that it would be perilous to restrict the definition of communities to only some of these categories. For instance, Hendley, Murrell and Ryterman (1998) shows that, in the case of Russia, business communities can largely be identified with professional associations. Narayan and Pritchett (1996) similarly use membership in community associations as their concept of network capital. In contrast, discussions with African manufacturers indicate that Kenyan Asians meet at weddings and funerals and Zimbabwean whites meet at sport events and business conferences. Studying which form of organization is optimal is beyond the scope of this paper but, intuitively, open communities should be better than closed ones and formal organizations with clear rules and procedures should be better than informal organizations. Communities are not always free to choose their internal organization, however: the form they take is partly influenced by the state's attitude toward business. Discussions with survey respondents, for instance, revealed that Ghanaian lumber mill owners used to meet at their professional association in Kumasi. In the late 1980's, several of them found themselves indicted by the government in front of tribunals of exception. Although the exact reasons for these events are unclear, respondents expressed a strong suspicion that

[16] In contrast, family does not, in general, define a community in this sense. This is because individuals by definition belong to partially overlapping networks of family relations.

they were politically motivated and aimed at curbing the power of the association. In these circumstances, it is not too surprising if Ghanaian manufacturers now prefer to meet informally.

Conclusions

The legal system alone cannot develop fully fledged markets. Personal trust and relationships are important, especially in early stages of development when firms -- and therefore transactions -- are small, product quality is not standardized, and economic agents have no forecloseable assets. In these circumstances, business networks help reducing transactions costs by circulating information on contractual performance and by coordinating the punishment of cheaters. Networks thus play a important positive role in market development. The early development of markets cannot be understood without investigating the role played by business networks. In presence of non-convex transactions costs, we also showed that we must worry about the market power that business networks confer to certain individuals who occupy key positions in an exchange system.

Regarding market development policy, we argued that the emergence of business networks can generate various forms of discrimination and exclusion which operate to the disadvantage of non-network members. These effects get compounded by statistical discrimination when business networks are built around particular religious, ethnic, or racial groups. Efforts to develop markets should be take into account the potential for a political backlash when resentment against successful business networks reaches a breaking point.

Having spent time and effort investigating the role of business networks in market development, is it possible to imagine markets without them? The answer is a guarded

yes. There are indeed ways by which institutions or technology can substitute for networks. Brand recognition is a good example. In a world where production is undertaken by a myriad of small producers and products are highly heterogeneous, such as agricultural products and crafts in poor countries, assessment of product quality is costly. In contrast, developed economies are characterized by the presence of a small number of producers offering products which are highly standardized and homogeneous over time. This enables consumers to economize on quality assessment by relying on brand name instead. Knowing this, producers may invest in the reputation of their products, which then becomes an additional guarantee of quality. A similar process takes place when traditional seeds, which often result from centuries of informal breeding by farmers and are extremely variable across space, are replaced by standardized modern varieties (e.g., Hayami and Ruttan (1985)). Even in the absence of returns to scale in production, quality control can be simplified through standardization. Franchising is a good illustration of such a process. It is unclear why franchising is absent from poor countries while the need for quality control is so patent. One possible explanation is that franchise contracts are difficult to enforce.

Institutional innovations can also be found that facilitate credit checks. Credit reference bureau exist that disseminate information about opportunistic breaches of contract. Organized exchanges can also be instituted that force market participants to post a bond before engaging in exchange. This bond ensures that contracts are honored, thereby eliminating the need for credit screening and speeding up transactions. The applicability of these innovations to poor countries deserves more research.

References

Amselle, J., *Les Négociants de la Savanne*, Editions Anthropos, Paris, 1977.

Aoki, M., Murdoch, K., and Okuno-Fujiwara, M., *Beyond the East Asian Miracle: Introducing the Market Enhancing View*, CEPR Publication No. 442, Stanford University, Stanford, October 1995.

Axelrod, R., *The Evolution of Cooperation*, Basic Books, New York, 1984.

Bade, J. and Chifamba, R., ‘‘Transaction Costs and Institutional Environment,’’ *The Manufacturing Sector in Zimbabwe: Dynamics and Constraints*, Free University of Amsterdam/University of Zimbabwe, RPED Country Study Series, The World Bank, Amsterdam, April 1994.

Barr, A., ‘‘Social Capital and Technical Information Flows in the Ghanaian Manufacturing Sector,’’ *Oxford Economic Papers*, July 1998a. (forthcoming).

Barr, A., *Enterprise Performance and the Functional Diversity of Social Capital*, Center for the Study of African Economies, Oxford University, Oxford, June 1998b. (mimeograph).

Basu, K., ‘‘One Kind of Power,’’ *Oxford Econ. Papers*, 38: 259-282, 1986.

Bauer, P. T., *West African Trade: A Study of Competition, Oligopoly and Monopoly in a Changing Economy*, Cambridge U.P., Cambridge, 1954.

Bigsten, A., Collier, P., Dercon, S., Fafchamps, M., Gauthier, B., Gunning, J. W., Isaksson, A., Oduro, A., Oostendorp, R., Patillo, C., Soderbom, M., Teal, F., and Zeufack, A., *Contract Flexibility and Conflict Resolution: Evidence from African Manufacturing*, Department of Economics, Stanford University, Stanford, March 1998. (mimeograph).

Braudel, F., *Civilization and Capitalism*, Harper and Row, New York, 1986.

Coate, S. and Ravallion, M., ‘‘Reciprocity Without Commitment: Characterization and Performance of Informal Insurance Arrangements,’’ *J. Dev. Econ.*, 40: 1-24, 1993.

Cohen, A., *Custom and Politics in Urban Africa: a Study of Hausa Migrants in Yoruba Towns*, University of California Press, Berkeley, 1969.

Coleman, J. S., ‘‘Social Capital in the Creation of Human Capital,’’ *Amer. J. Sociol.*, 94(Supplement): S95-S120, 1988.

Collier, P. and Gunning, J. W., *Explaining African Economic Performance*, Center for the Study of African Economies, Oxford University, Oxford, May 1997. (mimeograph).

Cuevas, C., Hanson, R., Fafchamps, M., Moll, P., and Srivastava, P., *Case Studies of Enterprise Finance in Ghana*, RPED, The World Bank, Washington D.C., March 1993. (draft).

Daniels, L., *Changes in the Small-Scale Enterprise Sector from 1991 to 1993: Results from a Second Nationwide Survey in Zimbabwe*, Gemini Technical Report No. 71, Gemini, Bethesda, Maryland, March 1994.

Dutta, B., Ray, D., and Sengupta, K., ‘‘Contracts With Eviction in Infinitely Repeated Principal-Agents Relationships,’’ *The Economic Theory of Agrarian Institutions*, P. Bardhan (ed.), Clarendon Press, Oxford, 1989.

Eddy, E., *Labor and Land Use on Mixed Farms in the Pastoral Zone of Niger*, University of Michigan, 1979. Livestock Production and Marketing in the Entente States of West Africa, Monograph No. 3.

Ellison, G., ‘‘Cooperation in the Prisoner’s Dilemma with Anonymous Random Matching,’’ *Rev. Econ. Stud.*, 61: 567-588, 1994.

Ensminger, J., *Making a Market: The Institutional Transformation of an African Society*, Cambridge University Press, New York, 1992.

Fafchamps, M., ‘‘Solidarity Networks in Pre-Industrial Societies: Rational Peasants with a Moral Economy,’’ *Econ. Devel. Cult. Change*, 41(1): 147-174, October 1992.

Fafchamps, M., *Non-Convex Transaction Costs, Networks, and Market Power*, Stanford University, Stanford, August 1992. (mimeograph).

Fafchamps, M., ‘‘Industrial Structure and Microenterprises in Africa,’’ *J. Developing Areas*, 29(1): 1-30, October 1994.

Fafchamps, M., Biggs, T., Conning, J., and Srivastava, P., *Enterprise Finance in Kenya*, Regional Program on Enterprise Development, Africa Region, The World Bank, Washington, D.C., June 1994.

Fafchamps, M., Pender, J., and Robinson, E., *Enterprise Finance in Zimbabwe*, Regional Program for Enterprise Development, Africa Division, The World Bank, Washington, D.C., April 1995.

Fafchamps, M., ‘‘The Enforcement of Commercial Contracts in Ghana,’’ *World Development*, 24(3): 427-448, March 1996.

Fafchamps, M., ‘‘Trade Credit in Zimbabwean Manufacturing,’’ *World Development*, 25(3): 795-815, 1997.

Fafchamps, M., *Ethnicity and Credit in African Manufacturing*, Stanford University, Stanford, October 1998a. (mimeograph).

Fafchamps, M. and Lund, S., *Risk Sharing Networks in Rural Philippines*, Department of Economics, Stanford University, Stanford, December 1998. (mimeograph).

Fafchamps, M., *Market Emergence, Trust and Reputation*, Stanford University, Stanford, February 1998b. (mimeograph).

Fafchamps, M., ‘‘Risk Sharing and Quasi-Credit,’’ *Journal of International Trade and Economic Development*, August 1998c. (forthcoming).

Fafchamps, M., Gunning, J. W., and Oostendorp, R., *Inventory, Liquidity, and Contractual Risk in African Manufacturing*, Department of Economics, Stanford

University, Stanford, August 1997. (mimeograph).

Fafchamps, M. and Minten, B., *Relationships and Traders in Madagascar*, Department of Economics, Stanford University, Stanford, June 1998a. (mimeograph).

Fafchamps, M. and Minten, B., *Returns to Social Network Capital Among Traders*, Department of Economics, Stanford University, Stanford, December 1998b. (mimeograph).

Fafchamps, M. and Minten, B., *Property Rights and in a Flea Market Economy*, Department of Economics, Stanford University, Stanford, March 1999. (mimeograph).

Fisman, R., *Trade Credit and Capacity Utilization in Developing Economies*, The World Bank, Washington, D.C., December 1998. (mimeograph).

Foulds, L. R., *Graph Theory Applications*, Springer-Verlag, New York, 1992.

Gabre-Madhin, E., *Grain Markets in Ethiopia*, Food Research Institute, Stanford University, Stanford, August 1997. (mimeograph).

Geertz, C., *Peddlers and Princes: Social Change and Economic Modernization in Two IndonesIndonesian Towns*, University of Chicago Press, Chicago, 1963.

Geertz, C., Geertz, H., and Rosen, L., *Meaning and Order in Moroccan Society*, Cambridge U. P., Cambridge, 1979.

Ghosh, P. and Ray, D., ‘‘Cooperation in Community Interaction Without Information Flows,’’ *Review of Economic Studies*, 63: 491-519, 1996.

Gluckman, M., *Custom and Conflict in Africa*, Basil Blackwell, Oxford, 1955.

Granovetter, M., ‘‘Economic Action and Social Structure: The Problem of Embeddedness,’’ *Amer. J. Sociology*, 91(3): 481-510, 1985.

Granovetter, M., ‘‘The Economic Sociology of Firms and Entrepreneurs,’’ *The Economic Sociology of Immigration: Essays on Networks, Ethnicity, and Entrepreneurship*, p. 128-165, Alejandro Portes (Ed.), Russell Sage Foundation, New York, 1995.

Granovetter, M. S., *Getting a Job: A Study of Contacts and Carreers*, University of Chicago Press, Chicago, 1995. 2nd edition.

Greif, A., ‘‘Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders’ Coalition,’’ *Amer. Econ. Rev.*, 83(3): 525-548, June 1993.

Greif, A., ‘‘Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies,’’ *J. Polit. Econ.*, 102(5): 912-950, 1994.

Hart, O., *Firms, Contracts, and Financial Structure*, Clarendon Press, Oxford, 1995.

Hayami, Y. and Kikuchi, M., *Asian Village Economy at the Crossroads: An Economic Approach to Institutional Change*, University of Tokyo Press and Johns Hopkins University Press, Tokyo, 1981.

Hayami, Y. and Ruttan, V., *Agricultural Development: An International Perspective*, John Hopkins, 1985. Revised Edition.

Hayami, Y., ‘‘Peasant in Economic Modernization,’’ *American Journal of Agricultural Economics*, 5: 1157-1167, December 1996.

Hendley, K., Murrell, P., and Ryterman, R., *Law, Relationships, and Private Enforcement: Transactional Strategies of Russian Enterprises*, IRIS, University of Maryland, College Park, September 1998. (mimeograph).

Himbara, D., ‘‘The Failed Africanization of Commerce and Industry in Kenya,’’ *World Development*, 22(3): 469-482, 1994.

Hoogeveen, H. and Tekere, M., *Entrepreneurship: Who is a Successful Entrepreneur?*, Free University of Amsterdam/University of Zimbabwe, RPED Country Study Series, The World Bank, Amsterdam, April 1994.

Jones, W. O., *Manioc in Africa*, Stanford University Press, Stanford, 1959.

Kandori, M., ‘‘Social Norms and Community Enforcement,’’ *Review Econ. Stud.*, 59: 63-80, 1992.

Kranton, R. E., ‘‘The Formation of Cooperative Relationships,’’ *Journal of Law, Economics, and Organizations*, 12(1): 214-233, 1996.

Kranton, R. E., ‘‘Reciprocal Exchange: A Self-Sustaining System,’’ *Amer. Econ. Rev.*, 86(4): 830-851, September 1996.

Lang, W. W. and Nakamura, L. I., ‘‘The Dynamics of Credit Markets in a Model with Learning,’’ *J. Monetary Econ.*, 26: 305-318, 1990.

Ligon, E., Thomas, J. P., and Worrall, T., *Informal Insurance Arrangements in Village Economies*, Department of Economics, University of Warwick, Coventry, England, January 1997. (mimeograph).

Lorenz, E. H., ‘‘Neither Friends nor Strangers: Informal Networks of Subcontracting in French Industry,’’ *Trust: Making and Breaking Cooperative Relations*, D. Gambetta (ed.), Basil Blackwell, New York, 1988.

Macharia, K., *Social Networks: Ethnicity and the Informal Sector in Nairobi*, Institute for Development Studies, University of Nairobi, Nairobi, 1988. Working Paper No. 463.

Marris, P., ‘‘African Businessmen In a Dual Economy,’’ *Journal of Industrial Economics*, 19: 231-245, 1971.

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

Milgrom, P. R., North, D. C., and Weingast, B., ‘‘The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs,’’ *Economics and Politics*, 2(19): 1-23, 1991.

Mitchell, J. C., *Social Networks in Urban Situations: Analyses of Personal Relationships in Central African Towns*, Manchester U. P, Manchester, 1969.

Montgomery, J. D., ‘‘Social Networks and Labor-Market Outcomes: Toward an Economic Analysis,’’ *Amer. Econ. Rev.*, 81(5): 1408-1418, December 1991.

Mumbengegwi, C., ‘‘Indigenous and Small Scale Enterprises,’’ *The Manufacturing Sector in Zimbabwe: Dynamics and Constraints*, Free University of Amsterdam/University of Zimbabwe, RPED Country Study Series, The World Bank, Amsterdam, April 1994.

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

North, D. C., *Institutions, Institutional Change, and Economic Performance*, Cambridge University Press, Cambridge, 1990.

Platteau, J. and Abraham, A., ‘‘An Inquiry into Quasi-Credit Contracts: The Role of Reciprocal Credit and Interlinked Deals in Small-scale Fishing Communities,’’ *J. Dev. Stud.*, 23 (4): 461-490, July 1987.

Platteau, J., ‘‘Behind the Market Stage Where Real Societies Exist: Part I - The Role of Public and Private Order Institutions,’’ *J. Development Studies*, 30(3): 533-577, April 1994a.

Platteau, J., ‘‘Behind the Market Stage Where Real Societies Exist: Part II - The Role of Moral Norms,’’ *J. Development Studies*, 30(4): 753-815, July 1994b.

Poewe, K., *Religion, Kinship, and Economy in Luapula, Zambia*, The Edwin Mellen Press, Lewinston, 1989.

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

Risseeuw, P., ‘‘Firm Growth in Zimbabwe 1981-1993,’’ *The Manufacturing Sector in Zimbabwe: Dynamics and Constraints*, Free University of Amsterdam/University of Zimbabwe, RPED Country Study Series, The World Bank, Amsterdam, April 1994.

Shapiro, C. and Stiglitz, J. E., ‘‘Equilibrium Unemployment as a Worker Discipline Device,’’ *Amer. Econ. Rev.*, 74(3): 433-444, June 1984.

Shillington, K., *History of Africa*, St. Martin’s Press, New York, 1989.

Spagnolo, G., *Social Relations in the Workplace: A "Linked Games" Approach*, Working Paper No. 76, Working Paper Series in Economics and Finance, Stockholm School of Economics, Stockholm, October 1995.

Staatz, J. M., *The Economics of Cattle and Meat Marketing in the Ivory Coast*, University of Michigan, 1979. Livestock Production and Marketing in the Entente States of West Africa.

Udry, C., ‘‘Rural Credit in Northern Nigeria: Credit as Insurance in a Rural Economy,’’ *World Bank Econ. Rev.*, 4(3): 251-269, September 1990.

Udry, C., ‘‘Risk and Insurance in a Rural Credit Market: An Empirical Investigation in Northern Nigeria,’’ *Rev. Econ. Stud.*, 61(3): 495-526, July 1994.

Velenchik, A. D., ‘‘Apprenticeship Contracts, Small Enterprises, and Credit Market in Ghana,’’ *World Bank Economic Review*, 9(3): 451-475, September 1995.

Williamson, O. E., *Markets and Hierarchies: Analysis and Antitrust Implications*, The Free Press, Macmillan, New York, 1975.

Williamson, O. E., *The Economic Institutions of Capitalism*, The Free Press, Macmillan, New York, 1985.

Table 1. Loyalty to Suppliers in African Manufacturing

	Burundi	Cameroon	Ivory Coast	Kenya	Zambia	Zimbabwe
Length of relationship with supplier (years)	7.0	7.5	7.9	9.3	9.5	14.6
Percent of input from single supplier	76.9%	70.0%	77.9%	61.2%	64.8%	78.5%
Firm places regular orders	62.8%	78.6%	78.9%	83.0%	84.4%	85.3%

Source: Bigsten et al. (1998). Microenterprises excluded from samples.

Table 2. Ethnic Composition of the Ownership of African Manufacturing Firms

	Burundi	Cameroon	Ivory Coast	Kenya	Zambia	Zimbabwe
African origin	81.7%	79.3%	57.0%	41.7%	59.5%	29.4%
European origin	5.8%	16.9%	33.0%	3.6%	13.0%	49.7%
Asian origin	12.5%	3.8%	10.1%	54.7%	27.6%	20.9%

Source: Bigsten et al. (1998). Microenterprises excluded from samples.

Table 3. Estimate of Ethnic Bias in Ownership of New Firms

	Burundi	Cameroon	Ivory Coast	Kenya	Zambia	Zimbabwe
Time between independence and survey	34	34	34	30	31	15
Average age of firms	11	12	15	19	18	25
Proportion of non-African owners at survey	18.3%	20.7%	43.1%	58.3%	40.6%	70.6%
Implied proportion of entry by non-Africans	14.6%	17.0%	36.6%	59.5%	27.6%	28.5%

Source: Bigsten et al. (1998). Microenterprises excluded from samples.