Networks, Communities, and Markets in Sub-Saharan Africa: Implications for Firm Growth and Investment

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Abstract[1]

This paper examines how relationships and networks affect market exchange in Sub-Saharan Africa. After noting that market exchange arguably plays a larger role in Africa than in developed economies, we show that the presence of transactions costs naturally leads market participants to enter in long-term trading relationships. These relationships form business networks that shape market outcomes. We argue that network segmentation can have large efficiency and equity costs, particularly in international trade. Because of network externalities, groups and countries that are familiar with a particular activity tend to continue investing in that activity. The presence of networks and non-convex transactions costs also complicates the analysis of market competition. Implications for future research are briefly discussed.

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After two decades of market liberalization and the collapse of communism, the world has come to think of markets as the natural way to organize economic activity. Yet little is known on how markets operate in practice and how they compare with other allocation mechanisms. This is particularly true in Sub-Saharan Africa, in spite of abundant circumstancial evidence that market outcomes are different from what textbook theory predicts (e.g., Forrest (1994, 1995), Eddy (1979), Cohen (1969), Meillassoux (1971)).

This paper takes a closer look at the role that markets play in African economies. We begin by contrasting markets with other resource allocation mechanisms such as gift exchange and command and control. We argue that the domain of human activity covered by which each of these three mechanisms varies dramatically across regions. Ironically, markets may be more important in Africa than in developed economies because of the near absence of large hierarchical organizations such as firms and government agencies.

We then look at the way markets function in practice and we discuss a variety of transactions costs. Because of small transaction size and rampant poverty, legal institutions offer little protection against breach of contract. Search and screening costs are much higher than in developed economies, and the potential for opportunistic behavior higher. Consequently, market participants tend to operate in a highly simplistic and inefficient manner. Increased trade efficiency can be achieved by emphasizing long-term relationships with other agents and information sharing within business communities.

Networks of relationships shape the form that market exchange takes. As a result of network externalities, market entry is easier for members of a particular group who can be recommended to established firms. We discuss various forms that market entry can take, such as nepotism and cooptation, and illustrate network effects using available evidence on the ethnicity of entrepreneurs in different African countries.

Application of these principles to factor markets leads us to the last part of this paper, which is devoted to firm entry and investment. We argue that network effects steer potential investors towards sectors of activity where they can benefit from network externalities. By extension, network effects also affect carreer choices and investment in human capital. As a result, communities and, possibly countries, can find themselves trapped in inferior equilibria where they continue investing in low income activities because they cannot individually incur the cost of establishing the required contacts to penetrate more profitable sectors. To conclude, we discuss the implications that these ideas have for export-led growth.

Section 1. Allocation and Markets

Economics is about the allocation of scarce commodities to their best use. Allocation can be organized in essentially three different ways: via gift exchange, markets, and hierarchies. Gift exchange is the kind of allocation that takes place within households and families and, to some extent, among friends and neighbors. Gift exchange is different from other allocation mechanisms in that it involves no or few explicit obligations. The division of labor among household members, for instance, is based partly on tradition, partly on quid pro quo and comparative advantage (e.g., Becker (1981), Fafchamps (1999)). Although not all members participate equally to household chores (e.g., Brown and Haddad (1995), Fafchamps and Quisumbing (1998)), there is an implicit understanding that parents, children, sibblings, kin members, are all obligated to each other. The founding principle behind gift exchange is that participants must reciprocate for what others do for them by contributing to the collective good of the household or the clan (e.g., Posner (1980), Platteau (1994a, 1994b), Fafchamps (1992)).[2]

Like gift exchange, market exchange is based on the concept of reciprocity. In a sales contract, for instance, the buyer reciprocates to the seller by giving money. Because trade is

[2] E.g., by studying in school, looking after children, clearing land for crops, and helping each other in times of trouble.

voluntary, what the seller receives must be at least as valuable to her as what she gives. Since the same holds for the buyer, market exchange depends on the existence of gains from trade: the seller must have something that is more valuable to the buyer than to himself for voluntary exchange to take place. This sets markets apart from gift exchange where it is common for exchange to be unequal (e.g., Fafchamps and Quisumbing (1998)).[3]

Another sharp distinction between gift and market exchange is that, in the latter, reciprocity is explicit. Once buyer and seller have agreed to trade at a specific price and quantity, the contributions of each are clearly defined. In gift exchange, a gift is typically expected to be reciprocated in an unspecified manner at some unspecified time in the future. In contrast, a seller expects the buyer to reciprocate a precise amount at a specific time. This precision may be a source of confusion and frustration when markets penetrates areas of exchange previously ruled by gift exchange. The need to adhere to the terms of the contract as specified is likely to be challenged and efforts may be made to renegotiate payment or to delay compliance. This clash between market-based and gift-based ethics has long been a source of interest among anthropologists (e.g., Sahlins (1972), Cohen (1969), Gluckman (1955), Platteau (1994b)). To minimize problems, many sales transactions are organized such that compensation is immediate. Rural markets and urban micro-retail are examples of markets dominated by instant trade. To support such markets, the only institutions required are a police force that protects property rights, and money.

Although money has no intrinsic value, it can be used by the seller to purchase goods from someone else. Thanks to money, market exchange can organize the allocation of goods and services in a decentralized manner, that is, without external intervention to direct exchange. In addition to being decentralized, markets also do not require that agents be altruistic or interested in the common good. In fact, markets work best when agents pursue their own self-interest. These features -- decentralizability and reliance on self-interest as primary human motivation -- stand in

[3] Think of the distribution of household chores between parents and children in most households, for instance.

sharp contrast with gift exchange, which requires some coordination and dedication to the common good. This explains why, ever since Adam Smith (1975), markets have been a source of endless fascination for economists who have come to regard the market as the optimal and efficient manner to allocate goods and services (e.g., Hayek (1945), The World Bank (1981)). Of course, for this beautiful system to perform its function correctly, agents must not cheat (e.g., Williamson (1975, 1985), North (1973)), but more about this later.

In market exchange, the money agents accumulate represents what they have contributed to the welfare of the community. To guarantee that individuals do not get more from the community than what they contribute, one must ensure that they do not spend more than they earn. Although seemingly simple, this requirement is a source of endless difficulty whenever agents expect to contribute more in the future than they have contributed in the past. It explains, for instance, why children find it difficult to borrow for school fees, and why households struck by famine or chased from their homes by war and violence seldom find someone willing to lend to them. Of course, if loans were freely available, these problems could be avoided. But it would be only too easy for crooks to exceed their budget constraint, that is, to rob the community from the fruits of its labor. This explains why market forces are often depicted as heartless: they do not care for the sick and the old and the weak. Social insurance and redistributive justice must be addressed by other means.

Hierarchies are the third mechanism by which goods and services can be allocated among individuals. Firms, government agencies, banks, and parastatals are all examples of hierarchies (e.g., Williamson (1975)). Unlike markets, hierarchies rely on command and control to allocate resources among their members. Command and control includes orders from hierarchical superior, taxes and fees, automated plants, etc. Internal accounting is used to keep track of each unit's

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[3] Money, however, is not essential for market exchange. Other ways of keeping track of individual contributions can be used, such as credit cards or clearing house agreements such as those practiced among stock brokers.

contribution to the common good of the organization. Central planning in socialist economies can be seen as an attempt to organize the whole economy into a single firm or hierarchy. Capitalist economies, although quick to criticize central planning as impractical and inefficient, themselves rely to a very large extent on command and control within their large corporation and government agencies and through government regulation of economic activity.

Unlike markets, hierarchies are complex organizational structures, the purpose of which is to centralize the allocation of resources. Because mandated allocation often conflicts with the self-interest of agents in charge of implementation, hierarchies require incentive systems to ensure compliance. For instance, a firm manager may order workers to process raw materials into finished products, but following orders is typically against workers' immediate self-interest. Similarly, a government agency may instruct its agents to collect customs duties. In this case, collecting the tax is in the agents' interest but transfering the proceeds to the tresury is not. To prevent shirking and embezzlement, the manager has to threaten workers with dismissal (or worse) and spend resources to monitor their actions. Since preventing shirking is costly, one may wonder why hierarchies exist in the first place, i.e., why allocation is not organized via markets instead.

This immediately suggests that, to survive in a competitive environment, hierarchies must have an advantage over markets. One such advantage is the presence of returns to scale in the production process or ownership of exclusive but non-rival intangible assets such as patents, business licenses, brand name, or know how. Hierarchies may outperform the market in other dimensions too, such as search costs, enforcement of contractual obligations, and arbitration of conflicts. Alternatively, hierarchies may be ways of internalizing the talent or human capital of particular individuals, such as the business acumen of the entrepreneur or manager.

Transactions Costs and Markets in Africa

Having presented the three most common ways of organizing the allocation of resources within an economy,[4] it is interesting to consider which allocation mechanisms are more important in different economies. In the U.S. and other developed economies, the domain of gift exchange has all but vanished: the range of goods and services produced by the household for its own consumption is very limited, and social protection is provided primarily through a mix of market and taxes. In contrast, African households, especially in rural areas, provide a wide variety of goods and services to themselves, such as food, shelter, fuel, child and elderly care, training, food preparation, and the manufacture of numerous crafts. In addition, solidarity among relatives and kins represents the dominant form of social insurance. Gift exchange thus constitutes a very important allocation mechanism, which explains why economists working on Africa and other similar parts of the world have long sought to understand the forces that determine the distribution of welfare within households and communities (e.g., Haddad and Kanbur (1990), Dercon and Krishnan (1997), Platteau (1991), Fafchamps (1992), Fafchamps and Quisumbing (1998)).

After gift exchange, markets play a paramount role in Africa, arguably more so than in developed economies. The reason is the relative absence of large hierarchies, and the weakness of those that are present. For instance, in surveys of light manufacturing firms in eight Sub-Saharan countries (e.g., Bigsten et al. (1999, 2000a)), the largest surveyed firm only had 6,000 employees,[5] a very small number compared with developed economies; the average size of manufacturing firms in the sample was around 150 employees, even though firms of 5 employees

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[4] In practice, one also encounters hybrid allocation mechanisms that borrow from several basic organizational forms. Informal loans among relatives and friends -- what Platteau and Abraham (1987), Fafchamps (1999), and Fafchamps and Lund (1999) call quasi-credit -- is an example of a form of allocation process that borrows from gift and market exchange. A franchise and an exclusive dealership contract are examples of hybrids between market and hierarchy. Family businesses and nepotism in promotion are examples of hybrids between hierarchies and gift exchange.

[5] Ironically, this firm went bankrupt before the surveys were over.

or less were excluded from the survey. Since very small firms represent the overwhelming majority of businesses in Africa (e.g., Fafchamps (1994), Daniels (1994)), the average firm size computed over all manufacturers in Africa, including microenterprises, is even smaller. What is true for manufacturing is also true for trade: market intermediation in Africa is characterized by a plethora of small traders, seldom exceeding a handful of employees and family helpers (e.g., Fafchamps (1994), Fafchamps and Minten (1999a)). Although often criticized as overextended (e.g., The World Bank (1981)), African civil service is commonly underequipped and underpaid relative to the many functions it is supposed to assume (e.g., Chew (1990), Collier and Gunning (1999)). In addition, tax collection is notoriously problematic, with the implication that government expenses are financed from a narrow base, primarily export and import customs and duties. To summarize, Africa has few hierarchies, and whatever hierarchies it has are small in size and, in the case of civil service, not very effective in serving their allocation function.

An immediate corollary of the small size of hierarchies is that, controling for differences in the domain of gift exchange, markets play a much more important allocative role than in developed economies (e.g., Fafchamps (1997)). To see how this is possible, consider for instance the number of transactions that are required to channel grain from farmers to urban consumers. In a typical Western country, grain is purchased from farmers by a large corporation, e.g., Cargill, processed in the corporation facilities, and sold to supermarkets and agrobusinesses, who sell to final consumers. There are very few intermediaries between producer and consumer, and the size of each individual market transaction is very large. In contrast, grain in Africa is first purchased from a myriad of small farmers by collecting agents, assembled for shipment by a rural wholesaler, purchased by an urban wholesaler or processor, to be sold to retailers and, finally, micro-retailers (e.g., Gabre-Madhin (1997), Fafchamps and Minten (1999a)). There are many intermediaries and most transactions are very small. Thus, judging by the number of transactions required to bring grain from producers to consumers, grain trade in Sub-Saharan Africa is much

more market intensive than in the U.S.

The fact that most market transactions are very small and most market participants are either individuals or very small firms has serious implications regarding the form that markets take. First, small businesses and poor consumers seldom have valuable assets that could be seized to service a judgement. In this case, the threat of court action is not credible since recovery is either impossible or highly problematic.[6] Furthermore, assuming the faulty party could be forced to pay, the size of transactions is often too small to justify court action anyway. Even if courts were free, agents would still not take small contractual disputes to court because, irrespective of court and attorney fees, valuable time is lost in court. This implies that it would be difficult if not impossible to significantly broaden the reach of courts by reducing their cost.[7] Data indeed indicates that African manufacturers and traders seldom use courts to solve contractual disputes and that the likelihood of court action increase with firm size (e.g., Fafchamps and Minten (1999c), Bigsten et al. (2000a)).

Given that most market transactions are beyond the reach of the law, it is not surprising to discover that African traders and manufacturers opt for trading practices that minimize the potential for breach (e.g., Fafchamps (1996), Bigsten et al. (2000a), Fafchamps and Minten (1999c)). If one were looking in developed economies for an institutional equivalent of African markets, the closest would be flea markets and garage sales. Sales are made primarily on a cash-and-carry basis, especially when they involve small farmers, microenterprises, and final consumers. The placement of orders, invoicing, supplier credit, and the provision of warranty are limited to larger firms. Although it difficult to quantify the cost of operating on a cash-and-carry basis, regression

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[6] One could imagine that agents sue judgement-proof debtors to establish a reputation of toughness (e.g., Kreps et al. (1982); see Hendley (1999) for an example in Russia). If all debtors are judgement-proof, however, such a strategy will fail to increase recovery and is thus irrational.

[7] Much of the time cost of a court dispute arises from the necessity to hear witnesses and organize legal arguments. One could imagine simplifying legal procedures to speed up the process, but this would undoubtedly result in a lower quality of adjudication. Although a rigorous analysis of the trade-off between legal standards and judgement quality is beyond the scope of this paper, it should be clear that summary justice is unlikely to raise confidence in the judiciary.

analysis presented in Fafchamps and Minten (1998) suggests that this cost is probably quite large.

Other features of African markets compound the problem. The quality of agricultural and manufacturing goods produced by small farmers and artisans is very uneven, given the unsophisticated nature of production and transformation processes. This is particularly true in food production for domestic markets. Because the Green Revolution has largely bypassed Sub-Saharan Africa, for the most part farmers continue to use local varieties (e.g., Bates (1983)). Thanks to centuries of seed selection by individual farmers, these varieties have an extremely broad gene pool compared to hybrids or other improved varieties. An immediate consequence is that the quality and taste of domestically produced grain and tubers vary significantly across regions, thereby complicating the task of traders. Genetically speaking, the situation is better for export crops where seeds are more homogeneous and the intrinsic quality of output is less variable. But cash crops also tend to be more susceptible to improper cultivation and handling than local food crops. Quality variation thus plagues Africa's export crop sector as well. As a result, traders often choose to inspect the quality of products at each transaction, adding to the cost of exchange (e.g., Fafchamps and Minten (1999c)).

Product quality is also an important issue in manufacturing and services. The problem is particularly severe for industrial inputs where a consistent quality of inputs is often required to produce a consistent quality output. In the worst case, improper quality can dammage the equipment. Quality control is thus a serious concern in manufacturing as well. Yet, manufacturing and services do not fare much better than agriculture. Unlike in developed economies, there are few if any government standards that facilitate quality verification.[8] Moreover, in contrast to developed economies where large corporation invest heavily in name recognition through adver-

[8] E.g., laws and regulations on: consumer safety standards; food additives; product labeling; improper advertising. Even when such regulations exist, they need not be applied.

tisement, the myriads of firms that dot the African economic landscape are most of the time too small to even consider seeking market-wide name recognition.[9] This lack of transparency about product quality complicates the screening of potential suppliers and makes it difficult to distinguish *bona fide* producers from hit-and-run operators who sell bad products.

The same lack of transparency is reflected in the screening of customers. Bona fide clients are difficult to distinguish from little crooks and fly-by-night traders. More sophitiscated con artists may even mimic honest behavior only to cheat better later. Given the imperfect coverage and dubious quality of personal identification (e.g., ID card) and business registry systems in many Sub-Saharan African countries, it is fairly easy for delinquent clients to blend into the background of poor anonymous microenterprises and customers. This relative impunity favors lax payment practices and delays are frequent (e.g., Fafchamps (1997), Fafchamps and Minten (1999c), Bigsten et al. (2000a)). Screening potential recipients of supplier credit is thus a complicated and risky affair. As a result, supplier credit, invoicing, and payment by check are rare (e.g., Fafchamps (1996), Fafchamps and Minten (1999c)).

The plethora of market participants also raises search costs, even abstracting from payment issues (e.g., Kranton (1996a), Gabre-Madhin (1997)). Unlike in developed economies, agents can seldom rely on printed catalogues and phone calls to locate what they need with any degree of certainty. Finding goods is a complicated and time consuming process. Moreover, the poor quality of infrastructure in general and roads in particular translates into unforeseen transportation delays and storage losses (e.g., Fafchamps (1996)). All these factors, and others, combine to make market exchange costly, cumbersome, time consuming, and unpredictable. It is therefore no wonder that trade margins on agricultural products are higher in Africa than elsewhere (e.g., Jerome and Ogunkola (1999)).

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[9] A few exceptions can be found in franchising (e.g., international hotels) and in internationally known commodities produced by multinationals or under licence (e.g., soft drinks, cars).

Section 2. Relationships and Networks

Two types of institutional responses have arisen to minimize the large transactions costs inherent to the operation of a flea market economy. The first is the emphasis on relationships; the second is the sharing of information in communities and networks (e.g., Fafchamps (1999)).

In an environment characterized by high search and verification costs, market participants naturally find it in their interest to enter into long-term trading relationships. So doing, they economize on search and screening costs. In developed economies, the best illustration of this principle can be found in the functioning of the labor market (e.g., Granovetter (1995)). Relational contracting is so widely practiced that few economists even think of it as at odds with economic principles that favor spot contracting;[10] in labor contracts, long-term trading relationships are the norm. The rationale is obvious: by hiring a worker for an indefinite period of time, employer and employee save on search and screening costs.[11] The same rationale applies to agricultural and manufacturing markets in Sub-Saharan Africa and elsewhere (e.g., Hayami (1996)), for essentially the same reason.

Shapiro and Stiglitz (1984) were the first to demonstrate formally that relational contracting, by itself, deters cheating. The reasoning is quite simple. Suppose that search is costly and that relationships end when cheating occurs. When choosing whether to cheat or not, agents must compare the short-term gain from cheating with the long-term loss from incurring the search and screening cost of reestablishing a new relationship. If these costs are large enough, cheating can be perfectly deterred without need for legal enforcement of contracts. To put it differently, when it is difficult to identify reliable trading partners, relationships are valuable and economic agents may optimally choose to preserve them. Relationships become their own collateral. These arguments have been formally generalized by Ghosh and Ray (1996), Kranton (1996b) and

[10] So that minute changes in market conditions can be reflected in wages and hours of work.

[11] Ironically, spot labor contracts are quite frequent in poor countries in general and in Africa in particular. Examples are: casual agricultural labor; porters on markets; construction workers; etc.

Fafchamps (1998).[12]

The importance of relationships is often expressed by market participants in terms of trust. In this context, trust can be seen as the confidence that economic agents have that the person or firm they are dealing with has a business serious interest in perpetuating the trading relationship (e.g., Fukuyama (1995), Gambetta (1988)). In most cases, trust arises from the process of successful trading itself in the sense that businessmen and women declare trusting 'people they already know', meaning, people they have bought or sold to in the past (e.g., Fafchamps (1996)). Trust building can be time-consuming. Fafchamps and Minten (1999c), for instance, report that some 10 cash sales are required before Malagasy grain traders begin thinking of a buyer as *bona fide* business person. Since sales are usually spaced at least one week apart, this translates into a 2-3 months waiting period. Fafchamps (1996) and Fafchamps (1997) report waiting periods of 6 to 12 months before manufacturers trust clients enough to grant them trade credit.

The process of trust building may be speeded up if economic agents already know each other in some way or another. This idea has led many to expect family and kinship to play a key role on the establishment of mutual trust and the emergence of markets (e.g., Granovetter (1995)). Recent evidence on the functioning of African markets suggest that this emphasis is probably misplaced (e.g., Fafchamps and Minten (1998), Bigsten et al. (2000a)). Judging from the answers of many African traders and manufacturers, the reason seems to be that formal contracts with family and kin are notoriously difficult to enforce. The logic of the market appears to enter in conflict with the logic of gift exchange and intra-family redistribution. For instance, if a trader sells to a close relative on credit and this relative must take a child to the hospital, family solidarity dictates that payment be delayed. But the trader needs working capital to operate. Failure to collect from relatives translates into loss of earnings and business disruption. For this

[12] Fafchamps (1998) develops a model with two types of agents, good and bad. Bad agents always cheat. The purpose of screening is to ascertain if an agent is good or bad. Conditions are investigated under which such market may emerge naturally, without external intervention.

reason, African businessmen and women keep family and business separate and firms do not buy and sell primarily from relatives and kin.[13] When they do buy and sell from relatives, the end effect seems to be a blurring of the boundaries of the firm and a dilution of profits (e.g., Fafchamps and Minten (1998)).

Fortunately, it is not necessary to know a person in order to be informed about that person: information can be conveyed by a common acquaintance. Surveys of African traders and manufacturers suggest that the most common information sharing mechanism is the referral system (e.g., Fafchamps (1996), Fafchamps and Minten (1999a)). In this system, a propective supplier or customer approaches an unknown economic agent with a recommendation from a joint acquaintance. This acquaintance can be a relative or another business person. The system is quite similar to the workings of the U.S. labor market as described by Granovetter (1995) and formalized by Montgomery (1991). If family relations matter for business, it is probably more through business referral than direct trade with relatives.[14]

This system of referral can be more or less active, depending on the extent to which existing businesses are linked to each other via common acquaintances. For instance, if markets are highly segmented or entry and exit are very rapid, then the chance that two randomly matched agents would have a common acquaintance is likely to be small. When businessmen and women find themselves engaging in shared social activities, such as weddings and funerals, religious meetings, sports events, or business conferences, the likelihood that they would have a common acquaintance increases and so does the circulation of business relevant information. Socialization then becomes an integrant part of business.[15] To succeed, one must be introduced in the right circles and become a member of the right clubs.

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[13] Business partnerships, in contrast to markets, are often grounded in close family ties.

[14] Casual observations suggests that the same holds for labor markets in developed economies, i.e., parents do not employ their kids directly; instead, they help them get a job through their business contacts.

[15] Business communities may also collude to exclude cheaters, an idea that goes by the name of multilateral reputational equilibrium in the literature (e.g., Kandori (1992), Greif (1993)). The paucity of evidence for collusive punishment in African markets is discussed more in details in Fafchamps (1999).

Networks and relationships play a role not only to labor and credit markets, where information and enforcement problems are the most severe, but also in markets for goods and services. The reason is that, except for simple spot transactions, the purchase and sale of commodities opens the door to all kinds of abuse -- from non delivery to late payment and from deficient quality to incorrect quantity. As Fafchamps and Minten (1999), Fafchamps (1996), Bigsten et al. (2000a) show, many of these difficulties can be overcome if buyer and seller trust each other enough. Networks can also serve other purposes, such as mutual insurance and the sharing of market or technological information (e.g., Fafchamps and Lund (1999), Barr (1998, 2000)). Closely-knit communities may also use their ties to voluntarily restrict entry and raise profits.

Relationships and networks are useful not only among market participants but also with outsiders such as potential informants on technology and markets (e.g., technicians, newsagents). Interaction between business and politicians are a particularly visible illustration of the power of networks and relationships because of their high profile in the press and popular psyche. Without denying that certain businessmen and women derive an unfair advantage from their priviledged contacts with public servants and politicians, it is unclear whether these practices actually help business. To say this differently, corruption is easier and easier to hide between two parties who know each other well, so that those with better contacts may use corruption more effectively. But the existence of corruption itself may be quite detrimental to business as a whole if public officials seek to maximize the rents they extract from economic agents by imposing unnecessary bureaucratic procedures and regulations. Moreover, business groups most successful in seeking the favors of the state -- or perceived to do so -- typically suffer popular resentment which explodes sporadically and can be used as lightning rod by unpopular regimes. This is particularly true when favoritism runs along ethnic or racial lines. The resulting political uncertainty is bound to reduce incentives to invest and to raise capital flight. The complex relation between business networks and the state thus stands in contrast with most of the other functions of networks, which

tend to raise economic efficiency by reducing transactions costs.

It is easy to see that agents who socialize more intensively and have more business contacts will be at an advantage relative to less well connected agents (e.g., Fafchamps and Minten (1998)). Moreover, other things being equal, well connected agents will be more likely to trade with one another. The reason is that they can more easily find and screen each other. Consequently, members of better connected groups have a comparative advantage relative to others in the conduct of business. This advantage appears in the literature under various names, such as network externalities or social capital. Evidence of network effects in Sub-Saharan Africa is provided, for instance, by Barr (2000), Fafchamps (1997) and Fafchamps and Minten (1998).

Network externalities tend to restrict market entry. This is because agents who receive information from their community that helps them screen each other become less willing to spend resources screening individuals from outside their community (e.g., Fafchamps (1998)). As a result, economic agents prefer to deal with members of their own community (e.g., Macharia (1988)). This process may explain, for instance, 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 (1997)). 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 business 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 (e.g., Fafchamps et al. (1994), Bigsten et al. (2000a)). While there is little doubt that colonial policies favored non-African firms, it is fairly clear that current ethnic concentrations cannot be explained by this

heritage alone. Fafchamps (1999), for instance, shows that historical concentrations could not have survived to this day if entry and exit had been randomly distributed across all ethnic groups after colonial policies were removed.

Network Renewal and Community Formation

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. 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 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 generates 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 impor-

tant 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. (2000a), 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 -- network externalities -- 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.

Even so, 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, whites in Zimbabwe, or Bamilekes in Cameroon, are numbered in hundreds thousand individuals if not millions 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 (2000)) -- and are 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. Unless two propective trading partners find a common acquaintance that can vouch for them, trust will not be established instantly simply because of common ethnicity. To the extent that members of a particular ethnic or religious group socialize primarily with members of that group, however, they are more likely to a find common acquaintance within that group. Consequently, there is a high probability that a referral system will result in ethnically concentrated business networks. Fafchamps (1998) tests this proposition formally and shows that, once networks are controlled for, the measured effect of ethnicity on access to supplier credit falls dramatically.[16]

[16] Once ethnic concentration has been established, statistical discrimination against outsiders is likely to arise, even if it did not exist initially. To see why, suppose, for instance, that all fish traders are Luo. A fish trader is approached by a non-Luo who claims to sell fish. Given the prevalence of ethnic Luos in fish trade, it is very likely that this person is lying or, at the very least, inexperienced. It may then be optimal for the trader to refuse to even consider the newcomer's offer.

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 result from business interaction itself. Bigsten et al. (2000a), 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)). 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 (1998), Fafchamps and Minten (1998)). Ethnic concentration therefore seems to result from nothing else than historical accident and socialization patterns which are reinforced by the practice of business itself. The dynamic evolution of business networks over time deserve more investigation (see for instance Forrest (1994, 1995), Cohen (1969)).

Factor Markets

Since labor, credit, and equity transactions are even more susceptible to opportunistic behavior than sales transactions, the role of networks and relationships is likely to be even greater in factor markets than in product markets. Much work has already been done on credit markets so that it is not necessary to discuss them here (e.g., Adenikinju and Oyeranti (1999), Steel et al. (1997), Aryeetey and Udry (1999)). Equity markets have received much less attention and, when they have, all the emphasis has been put on stock markets. To most African entrepreneurs, however, going public remains an unreachable goal. Yet, this does not imply that they cannot raise equity finance through partnership with other small investors. A significant portion of African manufacturers indeed operate as partnerships or joint private ownership (e.g., Bigsten et al. (2000a)). In addition, quasi-equity investment by relatives and friends is a widely cited source of start-up funds.[17] Access to partnership equity, however, is not evenly shared.

[17] Although start-up finance from relatives and friends often appears in surveys under the rubric of 'loan', it shares many of the features of gift exchange, in that repayment is contingent upon performance. Such 'loans' should thus be

Fafchamps, Pender and Robinson (1995), for instance, report that most small entrepreneurs do not know anyone who could invest in their business as partner. In contrast, large firms often know people who could invest in their business but choose not to bring additional partners to avoid losing control.[18] In equity markets too, relationships and networks are crucial and are likely to play a paramount role in firm entry and firm growth and survival.

Labor markets are no less subject to network segmentation than other factor markets. In fact, relational contracting, employee referral, network segmentation, and statistical discrimination were all first discussed in labor contracts. Granovetter (1995), for instance, showed that most job openings in the U.S. are filled through referral (see Montgomery (1991) for a formal model). Network effects are thus not unique to poor countries and not specific to Africa. As with product markets, two types of transaction issues affect the functioning if labor markets: to identify workers with the required skills; and to deter cheating. Casual observation suggests that, in the context of Sub-Saharan Africa, the second problem is more serious than in, say, developed economies (e.g., Kessy (1999)).

The labor economics literature typically casts moral hazard issues in terms of shirking and employee discipline (e.g., Shapiro and Stiglitz (1984)). There are, however, many other possible sources of moral hazard: employee absenteism; non-payment of wages and benefits by employers; embezzelment of pension funds by management; diversion of business by agents and management; use of company funds and equipment for own business and personal affairs; extorsion of side-payment from clients and suppliers; as well as theft, pilferage, and embezzlement by employees. Judging from what can be read in the literature (e.g., Bates (1983)), these problems are most accute in public administrations and parastatals, where they are commonly categorized under the catch-all rubric of corruption. But they are by no means limited to public entities (e.g.,

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regarded as a form of short-term equity investment and ressemble more venture capital than credit.

[18] It is unclear whether it is always rational for entrepreneurs to refrain from bringing in new partners for fear of losing control. If power enters in the utility function of entrepreneurs, for instance, they may choose not to expand through equity although doing so would raise their profits.

Kessy (1999)).

It is beyond the scope of this paper to elaborate further, but a few stylized facts are worth pointing out. It is well known, for instance, that large firms pay higher wages than small firms for similar workers, more so in Africa than elsewhere (e.g., Mazumdar and Mazaheri (1998), Bigsten et al. (1999, 2000b), and the references cited therein). One possible interpretation is that firms with a larger labor force find it difficult to monitor workers and must rely on the threat of layoff to discipline workers. Since the probability of being caught is lower with less monitoring, the penalty for being caught shirking must be higher. This issue deserves more investigation.

Regarding loss of property, Fafchamps and Minten (1999c) report data on the incidence of theft among grain traders in Madagascar. Thanks to the extreme measures traders take to discourage theft, reported cases are relatively rare. But, when theft occurs, surveyed traders tend to suspect employees. One third of the respondents declare not hiring more workers for fear of theft. Similar observations were made during fieldwork in other African countries. Many African entrepreneurs also find it difficult to delegate authority. Fafchamps and Minten (1999c), for instance, report that nearly all surveyed Malagasy traders inspect grain quality in person and hardly ever delegate this task to employees and family helpers. Poewe (1989) reports some outrageous examples of the dangers of delegating power in Zambia. Given the paucity of data on this issue, it is perillous to generalize from these results. But casual observation suggests that African businessmen and women hold power close to their chest and, as a result, are often overextended and overworked. Suspicion toward employees and subordinate management appears common.

Workers too have reasons to be suspicious. Judging from newspaper accounts, the non-payment of wages is frequent in African public administrations and parastatals. Many employers appear to have a cavalier attitude towards employee benefits and pension funds (e.g., Nihan and Demol (1982)). We have very little hard data on the severity of all these problems, but the circumstancial evidence is sufficiently disturbing for these issues to be investigated seriously.

Besides, the Madagascar data on theft among grain traders suggests that the largest efficiency cost of moral hazard in labor contracts is probably not moral hazard itself but the measures employers and employees take to prevent it, such as: refraining from delegating authority and from hiring more employees, thereby stunting firm growth; choosing capital intensive technology to minimize labor needs; spending time and resources monitoring workers and equipment; hiring guards; etc.

To summarize, the costs of searching, screening, and deterring opportunistic behavior are likely to be even more severe in factor markets than in product markets. If anything, relationships and networks are expected to be relied upon even more intensively to economize on these costs. African factor markets are thus expected to be influenced by relationship and network effects even more severely than product markets.

Section 3. Firm Entry, Investment, and Competition

So far, the discussion has been organized around market exchange, not firm entry and investment. The two are closely linked, however. First of all, entry and investment require funds to purchase equipment and hire workers, as well as information on which technology to adopt, which managers to hire, and the like. Better connected entrepreneurs have better access to factors of production and to the information required to package them into productive investments. Barr (2000), for instance, argues that better connected Ghanaian entrepreneurs are better able to identify profitable technologies.

Second, entry in a particular line of business implies entry into a particular market. For instance, one cannot set up a grain trading business without buying and selling from other traders.[19] Potential investors who already know people in a particular line of business -- or who

[19] Possible exceptions are rural markets where producers sell their products to local consumers, and urban fish and produce markets where smoked fish and vegetables are sold by producers directly. But these examples hardly constitute trading businesses.

can be introduced by relatives and friends -- are therefore at an advantage. During survey work, for instance, we heard several similar stories in which traders set up an entirely new shop in a new location and immediately received credit from suppliers because they were well connected, while their less connected competitors were struggling to self-finance the expansion of their business. Potential entrepreneurs are thus most likely to enter a line of business in which they have relatives or friends, not because they can more easily buy from them or sell to them, but because relatives and friends can provide them with much needed references and background information.

Once patterns of specialization are esblished, they are likely to get reinforced over time due to network externalities. For instance, if there are many Luos in fish trade, Luos who wish to start their own business are more likely to enter fish trade than any other trade, simply because they are more likely to already have contacts with fish traders. Segmentation reproduces itself.[20] Segmentation has several problems, however. First of all, not all segments of economic activity are equally profitable. This means that certain groups will be better off because the segment of activity in which they have an advantage happens to be more profitable. This is an important equity concern, but by itself it need not have an efficiency cost: as long as all profitable business opportunities are seized, investment is efficient. The political risk associated with segmentation may nevertheless be a disincentive to invest and a driving force behind capital flight.

Second, segmentation is likely to distort the aggregate allocation of investment. To see why, suppose again that Luos dominate fish trade. Since new Luo investors have an advantage in fish trade thanks to the contacts they have with other traders, they are likely to invest in fish trade as well. If there are many Luos who wish to enter business, there will be an oversupply of fish trading services, that is, excess entry. At the same time, another line of business, say software

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[20] In fact, one could hypothesize that the Indian cast system is the formalized end result of such segmentation process in an economy where patterns of activity specialization are very static over time.

programming, may be undersupplied because the group of people who know about software is too small to grow. The end result is too many fish traders and too few software programmers.

Third, segmentation has implications for the kind of careers people plan for themselves. Consider again the choices open to an ambitious Luo. One option is to follow in his kinmen's footsteps and prepare for the fish trade; another option is to study software programming. In addition to the fact that studying is costly, segmentation lowers the anticipated returns from learning programming relative to those generated by learning the fish trade. Of course, if our young man had lots of friends in Bangalore, India, software programming may begin to look more attractive. Short of this, fish trade is likely to be the optimal choice.

This reasoning therefore suggests that the aggregate efficiency cost of network segmentation might be quite high once its distortive effects on investment and choice of carreers is properly taken into account. More research is necessary to quantify the magnitude of these effects.

Networks and Competition

The existence of network segmentation also has deep implications about market competition. For lack of space, we shall limit ourselves to a few observations. It is commonly believed that the number of firms operating in a particular market is a good indication of the extent of competition. This need not be the case in the presence of network effects, however. First of all, relationships are not in general tradable.[21] Although contacts are an accumulable assets (see Fafchamps and Minten (1999b) for evidence), the absence of a market for individual contacts preclude that returns to contacts are arbitraged out. Consequently, firms and individuals with better contacts will collect a rent and make more profit (e.g., Barr (1998, 2000), Fafchamps and Minten (1998)).

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[21] More impersonal aspects of relationships, such as reputation in the population at large, may nevertheless be traded. The goodwill of firms, their brand name, and their trademarked products, for instance, are all subject to intellectual property rights and can be traded as such (e.g., Tadelis (1999)).

This may explain why certain sectors of activity witness free entry and yet remain uncompetitive. Barrett (1997), for instance, reports massive entry into grain trade following market liberalization in Madagascar, but points out that certain market functions such as grain assembly and large-scale wholesale remain more profitable and are more concentrated. This kind of result is usually interpreted as evidence of imperfect capital markets. Fafchamps and Minten (1998) and Fafchamps and Minten (1999b), however, suggests another possible explanation, namely, social capital: better connected traders make more profit and, hence, invest more and expand their business. To put it differently, what appear to be happening is that a small group of well connected traders capture the more lucrative portion of the business. Competition among them is insufficiently fierce so that smaller, less efficient traders are able to compete. In other words, the mere presence of small, inefficient traders together with large, well connected traders is a sign that competition among large traders is insufficient -- otherwise they could drive the smaller traders out of business by cutting their margin. In this case, the abundance of small firms coupled with a high concentration of activity in the hands of larger firms indicates less competition, not more as is usually assumed. If large traders were competing with each other more forcefully, small traders would disappear because they do not have the adequate social capital and operate in an inefficient manner (e.g., no invoicing, no credit, etc).

At the same time, the presence of a single seller or buyer in a market need not indicate insufficient competition. The reason is that the establishment of trust is a costly process. The same is true for the search process itself. Trust building, screening, and search costs are all examples of sunk transactions costs: they need be incurred only once. Once these costs have been incurred, it is in the interest of the parties to continue trading with each other. Other transactions costs have to be incurred repeatedly but may also have a non-convex nature, such as transportation and negotiation costs. All are examples of non-convex transactions costs.

To see how non-convex transactions costs may naturally result in monopoly or monopsony,

consider a remote village somewhere in Africa. Suppose that the cost of accessing this village by truck is C. Further assume that what villagers have to sell can represented by an inverse supply curve $P(Q) = a + b\,Q$ where $Q \equiv \sum_i q_i$ is total quantity, and q_i is the quantity purchased by trucker i. Truckers charge Cournot prices; if a single trucker shows up in the village, he or she charges the monopsony price. Variable cost is ignored to simplify notation. The first order condition for profit maximization is the usual:

$$P + q_i\,P' = 0$$

which, assuming a linear supply function, yields the usual:

$$q_i^* = \frac{P^s - a}{b(n+1)}$$

where P^s stands for selling price and n is the number of truckers. Free entry implies that truckers enter until they just break even. The break-even or zero profit condition is:

$$\frac{(P^s - a)^2}{b(n+1)^2} \geq C \tag{1}$$

Equation (1) determines the free entry equilibrium number of truckers n^*. It is clear from equation (1) that n^* is a decreasing function of C: the higher transactions costs are, the fewer truckers make the trip to the village. For sufficiently high C, a single trucker shows up, to whom villagers sell at the monopsony price. This examples illustrates that, in the presence of non-convex transactions costs, free entry need not result in competitive pricing. In fact, if the lone trucker was forced to pay a higher than monopsony price, he or she would not undertake the trip and villagers would be worse off. Yet, short of eliminating transactions cost C, monopsonistic or oligopsonistic competition naturally arise from free entry, without assuming any factor market imperfection (e.g., Fafchamps (1992)). The implication of these tentative conclusions is that, in the presence of non-convex transactions costs such as those incurred in the formation of relationships, contestability is a better measure of competition than industry or sector concentration.

In addition, when transactions costs are sunk, not only will oligopoly or monopsony arise, it

will perdure over time. This pattern is quite apparent in manufacturing input markets. Bigsten et al. (2000a), for instance, report that most African manufacturers purchase their inputs from a handful of suppliers to whom they are extraordinarity loyal, even when alternative suppliers are available. This finding is consistent with the irreversible nature of screening and search costs and with the establishment of relationships based on mutual trust. Although theoretical and empirical work has begun on the structure and efficiency of trade in the presence of networks (for recent theoretical work, see for instance Bala and Goyal (1999), Kranton (1996a, 1996b), Fafchamps (1992)), much work remains to be done.

Application to International Trade

Before we conclude, it is useful to briefly explore how the concepts developed here apply to international trade. The example of the Luo fish trader and Bangalore software programmer illustrates that the concepts of trade networks and market segmentation, that we developed to describe how domestic African markets function, may actually help us understand Africa's place in the world economy: if African entrepreneurs are more familiar with primary commodities such as coffee or vanilla than with manufacturing or software programming, chances are they will invest in coffee and vanilla.[22]

Although economists actually have very little hard evidence on what makes a country a successful exporters, casual observation suggests that network and segmentation effects are worth investigating (e.g., Rauch and Casella (1998), Casella and Rauch (1998), Banerjee and Munshi (1999), Banerjee and Duflo (1999)). It has long been recognized that it is difficult for a country to break into export markets. Traditional explanations for international patterns of trade, such as labor costs and comparative advantage, fail to explain why some cheap labor countries

[22] In several African countries, market liberalization has resulted in new entry, but much of it seems to be in primary production and exports (e.g., Akiyama et al. (1999)). On the theoretical side, Young (1991)'s model provides a formal description of lock-in into specialization patterns that perpetuate themselves over time.

manage to export manufactures while others do not. Could it be that network and segmentation effects could explain them better?

Biggs et al. (1994), for instance, documents efforts by U.S. retail corporations to source products in Africa. What is immediately apparent from the description of these efforts is that the search and screening process is extremely costly for U.S. corporations. Sourcing from Africa is complicated by the fact that U.S. firms lack reliable contacts in the continent that can assist them in screening out undesirable firms -- or even countries. If U.S. retail corporations with all the resources and finance they can muster find it hard to source products in Africa, it must be extremely difficult for African firms to investigate and penetrate Western markets, except in sectors where they already have some contacts.

Circumstantial evidence suggests that contacts among expatriate communities accross international boundaries may play a crucial role in the international location of industries (e.g., Fafchamps (1994)). The relocation of textile and garment industries from Taiwan to Mauritius has, for instance, been attributed to links with the local Chinese community. Similar international links and the particularly important role played by expatriate Chinese have been noted in East Asian economies such as Singapore, Malaysia, Indonesia, and Thailand. Interpersonal relationships with businessmen and women in Hong-Kong and Taiwan have similarly been credited for the rapid development of the coastal areas of mainland China (e.g., Casella and Rauch (1998)).

What remains to be seen is whether expatriate communities present in Sub-Saharan Africa (e.g., Asians, Syro-Lebanese, Europeans) can play a comparable role of bridge between Africa and more developed economies,[23] and whether newly established expatriate African

[23] If the East Asia experience is representative, it is disappointing to note that, unlike Taiwan and Hong-Kong, the parts of the world where Africa's expatriate communities primarily come from are not faring much better than Africa itself (e.g., South Asia, Middle East). This simple fact may explain why Sub-Saharan Africa has so far remained by the wayside in the industrial globalization process. Of course, not so long ago Taiwan and Hong-Kong had incomes per head comparable to those of Africa today. If this experience can be extrapolated to Africa, 'all' that is needed is for one or two African economies -- not necessarily large ones -- to take off and establish themselves as manufacturing export platforms. Contagion to neighboring countries could then follow the East Asia example, i.e., through African expatriate communities within Africa.

communities in Europe and North America can serve as a beachhead for African manufacturing exports. Empirical work on international networks involving African and foreign entrepreneurs is much needed to get a more accurate picture of the prospects for export-driven growth in Sub-Saharan Africa.

Conclusions

We have seen that allocation of resources can be organized in essentially three different ways: via gift exchange, through markets, and using command and control.[24] Gift exchange continues to play a major role in the allocation of subsistence goods among individuals and households in much of Sub-Saharan Africa. Unlike developed economies where command and control allocation dominates within large corporations and public agencies, in Africa markets are the primary allocation mechanism outside of gift exchange. These markets, however, are different from those portrayed in economic textbooks: they involve individuals who form relationships and networks to economize on transactions costs. In the words of Granovetter (1985), markets are embedded in webs of social relationships that help shape them.

We have discussed in detail the different types of market imperfections that give value to relationships and we have documented the formation of networks. Contrary to what is often believed, buying and selling to family members is rare. Relatives appear to play a role principally in terms of business exposure, training, equity financing, and referral. Evidence suggests that communities form around business activities, be it through wedding and funerals or sports events, rather than the contrary. Ethnic concentration probably reinforces itself over time as a result of the referral process, possibly compounded by statistical discrimination once business populations become sharply differentiated.

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[24] These three institutional arrangements largely overlap with what Braudel (1986) calls the subsistence, market, and capitalist spheres.

These principles apply to product as well as factor markets. We provided evidence regarding equity and labor markets in particular. Much work remains to be done to ascertain how much of an impediment to growth moral hazard in factor markets actually represents, once preventive measures adopted by economic agents are taken into account. Network segmentation was shown to have allocation costs which impact firm entry and investment in a perverse manner. Thanks to the referral process, familiarity with a particular type of business tends to reproduce itself over time, thereby locking particular groups or countries into a specific production pattern.

We then applied these insights to international trade issues. Although the data on international networks is still in its infancy, circumstantial evidence -- particularly from East Asia -- suggests that network externalities might be quite large. Research is urgently needed on relationship between network segmentation and the international division of labor.

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