

Ethnic networks and access to credit: evidence from the manufacturing sector in Kenya

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Abstract

It is often anecdotally observed that networks can facilitate exchange, but there are few empirical studies that explore the significance of such networks. In this paper, we analyze the impact of ethnic networks on access to finance of Kenyan firms using an exceptionally rich data set. We find that ethnicity does not affect access to formal sources of finance, but being a member of an ethnic group is significant in explaining access to informal sources of finance like supplier credit. We interpret these results in terms of information and contract enforcement mechanisms that work within ethnic groups but not across them.

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1. Introduction

It is often observed that when full information and formal third party enforcement of contracts are not available, ethnic networks can facilitate exchange.¹ This is best illustrated in the words of an Indian diamond merchant from New York interviewed by Kotkin (1993).

We Jains are very close and everyone knows everyone.² In a business like ours this is very important since you are entrusting to people all the time to carry small packets of merchandise that could be worth hundred of dollars. . . . If you break the rules, you risk being cast totally out of the group.

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¹ Also see Hamilton (1994), Redding (1990) and Pyatt and Redding (1995) which discuss successful ethnic groups.

² Jains belong to Jainism, a religion practiced by about four million Indians who have historically done well in business.

Gransovetter (1994) argues that what distinguishes business groups from other business associations such as Chambers of Commerce, is the social element of group characteristics among members, which may be based on shared kinship, or ethnic or common background. In countries where ethnic groups are a minority, these informal networks are often important ingredients to the success of its members.³

Although, economists have a long tradition of analyzing “economic” bases for identifying business groups, such as equity cross ownership by members, or interlocking directorates, formal economic analysis of ethnic networks is of relatively more recent vintage. The focus of this analysis has been on theoretical models that emphasize the importance of better information flows and availability of informal enforcement mechanisms within ethnic groups, both of which serve to lower transactions costs.⁴

On the other hand, there are few studies that have rigorously analyzed empirical data on this issue. This is because we rarely have data that allows exploring the significance of information flows and enforcement mechanisms within ethnic groups. Consequently, we know little of the precise mechanisms through which close ethnic ties might facilitate trade. In this paper, we analyze the role of ethnicity, information flows and contract enforcement in determining access to credit of firms in Kenya using exceptionally rich data on a variety of firm transactions.⁵

A key advantage of focussing on Kenya is the presence in the economy of two ethnically distinct groups of businesses, namely, those owned by entrepreneurs of Asian (largely Indian) origin and others owned by Kenyan–Africans. While the former constitute a small minority, their presence in trade and manufacturing is substantial (Himbara, 1994).

There are a number of reasons to believe that there might be extensive information flows amongst Kenyan–Asian entrepreneurs. For example, the formal or organized sector in Kenya is relatively small with correspondingly few players, most of whom since Kenyan independence have been Kenyan–Asian. In addition, for various political and historical reasons, this immigrant entrepreneurial community is socially very closely knit, for example, its members tend to live in clusters of close proximity, have social clubs that are vigorously participated in, and have numerous community activities both within and outside these clubs.

None the less, the question still needs to be addressed, does the structure of trade credit arrangements actually reflect such extensive information exchange among the community members? In this paper, we explore this question and show not only that ethnicity affects credit market outcomes, but also describe the channels through which it might operate. In the process, we provide empirical evidence using quantitative and qualitative data supporting extensive flows of information and reputation amongst Asian ethnic groups in Kenya.

³ “In countries with businesspersons of ethnic minority, this ethnic status is often a source of solidarity among business groups, supplementing that of pure kinship. . . . Whether it is [*several examples of ethnic minorities cited, along with references to studies on each one*], ethnicity provides an axis of differentiating along which members can build trust”, Gransovetter (1994, p. 463).

⁴ See Hart (1998), Greif (1994), and Milgrom et al. (1991).

⁵ Access to external financing is widely recognized as critical to business success. For a description of the importance of informal networks in financing business activities among immigrant communities, especially in California, see Light and Bhachu (1993). For an anecdotal account see Minters (1999).

To highlight the role of information and enforcement, we contrast the determinants of firms' access to a formal (bank overdrafts) versus an informal (supplier credit) source of external finance. Though both sources of finance meet working capital needs of firms, there are certain differences in the extent of information, monitoring and enforcement that are available to the lenders in each case. While banks may have a good idea of the average characteristics of the potential borrowers, they do not have complete information on the attributes of a particular applicant.

On the other hand, suppliers of raw materials may have certain advantages in terms of information, monitoring and enforcement over institutional lenders. According to Peterson and Rajan (1997), these advantages can be broadly grouped into three categories. First, suppliers may have advantages in information collection by visiting buyers' premise more often than institutional lenders. The size and timing of buyer's orders also give suppliers information on the credit worthiness of the business. Second, the supplier may have an advantage in controlling the buyer if there are few other sources of raw materials. The threat of cutting future business by the only supplier may be more credible in ensuring repayment than the threat of withdrawal of future finance by a bank. Third, in case of default by the borrower, the supplier of raw materials may have an advantage in salvaging the firms' assets and inventories compared to institutional lenders.⁶ Because of these differences, suppliers of raw materials may be willing to extend credit to firms denied credit by institutional lenders.

Our analysis indicates that, consistent with asymmetric information theories, firm size, availability of collateral, length of client relationship with banks and education of manager are important determinants of firms' access to formal bank finance. After controlling for these variables, ethnicity of the firms' owner has no explanatory power in access to bank overdraft.⁷ Unlike access to bank finance, access to supplier credit is explained by ethnicity of owner and, to a lesser extent, firm size. While only large African firms have access to supplier credit, Asian owned firms have access to supplier credit irrespective of size. We provide additional qualitative evidence to support our contention that better information and enforcement within the Asian community explains their greater access to supplier credit.

2. Data

The data used here were collected in 1993 in a survey of 207 Kenyan manufacturing firms in four sectors that together account for 72 percent of manufactured output in Kenya, textile and garments, wood-working and furniture, food processing and metal working. Of these, 25 firms were dropped because they were either entirely foreign owned or belonged to a very thinly represented ethnic group, leaving 182 firms that were owned by either Kenyan–African or Kenyan–Asian entrepreneurs.

Firms' access to bank overdraft facilities in the preceding year is indicated by the variable OVERD, which equals one for firms with access to overdraft facility, and equals zero

⁶ Another difference between supplier credit and overdraft facility is that suppliers may extend credit to their clients to increase their own sales.

⁷ Probit regressions showed that determinants of access to bank overdraft versus loans were similar.

Table 1
Number and Percentage of firms with access to overdrafts and supplier credit

	Kenyan–Asian	Kenyan–African
Overdraft	82 (83.6%)	27 (33.7%)
Supplier credit	57 (58.2%)	16 (20.0%)

Table 2
Mean and Standard deviation of explanatory variables mean/(S.D.)

Variable	Kenyan–African	Kenyan–Asian
Wood	0.24 (0.43)	0.29 (0.45)
Metal	0.30 (0.46)	0.18 (0.39)
Textile	0.26 (0.44)	0.31 (0.46)
Food	0.20 (0.40)	0.22 (0.42)
Total number of workers	29.83 (111.26)	88.84 (216.31)
Collateral = 1 (title deed to business premise)	0.17 (0.37)	0.55 (0.49)
Number of years of checking account with bank	6.18 (7.49)	16.85 (11.49)
Years of relationship with primary supplier	7.17 (6.90)	10.00 (7.26)
Frequency of purchase from supplier	126.22 (144.81)	78.91 (125.93)
GMEDUC = 1 (post secondary education)	0.16 (0.36)	0.37 (0.48)
Age of firm in years	10.46 (8.56)	20.87 (13.86)

otherwise. In contrast to bank overdrafts, a firms' access to supplier credit can be defined in more than one way based upon the available survey data. Firms in the survey were asked if the suppliers of their raw materials require them to pay by credit, cash or advance payments for each of their three most important raw materials. These responses summarized modes of transacting with up to nine suppliers, although only a few firms had entries in four or five of the nine cells. In some cases the reported magnitudes of credit purchases were very small, for example, a small furniture manufacturer receiving only varnish or nails on credit basis. Based on responses to these questions, we define firms' access to supplier credit as a dummy variable SCR, which equals one if the firm purchased primarily on credit from at least two suppliers, or from the main supplier of its most important raw material, SCR equals zero otherwise.⁸

Table 1 shows access to credit by type and ethnicity. Evidently, Asian-owned firms have superior access to credit, both formal and informal. The question we want to answer is whether this difference in credit access between the two ethnic groups can be explained by our control variables or not?

Table 2 shows some other relevant attributes of the sampled firms. Compared to Kenyan African firms, Kenyan–Asian firms are larger (more workers), more likely to have collateral (title deed to business premise), and display a longer checking account history with banks and a longer relationship with suppliers of raw materials. African firms buy raw materials more frequently from their suppliers in comparison to Asian firms. Finally, Asian

⁸ In Biggs et al. (1996), we define access to supplier credit in several alternative ways. The results in each case were consistent with the analysis in this paper.

entrepreneurs are more educated than their African counterparts. In the rest of the paper we control for the firm and owner characteristics to explore if ethnicity on its own has an effect on firms' access to finance.

3. Determinants of access to overdrafts and supplier credit

Most theoretical analysis has dealt with barriers to trade arising from asymmetric information between borrowers and lenders, (Ray (1998)). Borrowers have better information about their projects than lenders. In presence of imperfect information, lenders are unable to screen and monitor individual projects and, hence, rely on borrowers' characteristics to assess the viability of the projects. As more public information is available on larger and older firms, lenders prefer such firms in their lending decisions. Besides publicly available information, lenders often rely on private information on borrowers accumulated through repeated interaction. Hence, lenders are more likely to lend to borrowers that have had longer relationship with them. Education of manager/owner may also provide some information about the firms management and, hence, lenders may prefer to lend to firms with educated managers. Besides information that helps identify creditworthy borrowers, lenders also want a contract enforcement mechanism that creates an incentive for loan repayment. This is especially true in case of developing countries where legal enforcement mechanisms are weak.⁹ As collateral reduces enforcement costs (besides also signaling project quality), banks prefer to lend to firms with collateral. In the absence of any statistical discrimination, one does not expect borrowers' ethnicity to be an important determinant of access to bank finance. Table 3 shows the expected signs on the main variables of interest.

3.1. Regression model

Let $y_i = 1$ if firm i has access to working capital, and 0 otherwise, and let x_i denote the vector of explanatory variables (as in Table 3). We use a probit model by defining y_i^* as the underlying response variable for access to credit and assuming

$$y_i^* = \beta'x_i + \varepsilon_i$$

where β is the parameter vector and ε denotes independent, identically distributed error term.

In practice y_i^* is unobservable but we do observe the dummy variable y_i where

$$y_i = 1, \quad \text{if } y_i^* > 0, \quad \text{and} \quad y_i = 0 \text{ otherwise.}$$

We assume that the decisions to supply overdraft (by banks) and supplier credit (by other firms) are separate.¹⁰

⁹ Aryeetey et al. (1997) found poor legal contract enforcement to be a severe problem in Sub-Saharan countries. See also Biggs et al. (1994).

¹⁰ A bivariate probit, with access to the two sources of credit as dependent variables, yielded a small and insignificant correlation between the error terms. Our treating the two decisions as separate is further supported by the absence of any significant linkages between formal and informal markets in African countries, as documented by Aryeetey et al. (1997).

Table 3
Expected signs on variables of interest

Variable	Expected sign	Information	Enforcement
Size of the firm	Positive	Information is more readily available on larger firms hence, lenders more likely to provide credit to them	–
Age of the firm	Positive	More information available on older firms	–
Length of relationship with lender	Positive	Lender has more private information on firms which have longer relationship with	–
Education of general manager	Positive	Educated managers have better managed/profitable firms.	–
Collateral	Positive	–	Help in reducing enforcement cost for the lender
Ethnicity variables	–	Better information within ethnic groups	Reputation mechanism help in enforcement

3.2. Determinants of access to bank overdrafts

First consider the determinants of firms' access to formal bank overdrafts. Our explanatory variables include log of total workers (SIZE), length of prior relationship with banks, measured by log of number of years of checking account history (LCHKAGE), availability of collateral (COLLATERAL), a variable GMEDUC, which equals one if the manager/owner has post-secondary education, and three sector dummies. To capture ethnicity of firms' owners, we define a variable ASIAN, which equals zero for African-owned firms and is equal to one for Asian owned firms. We also interact size and ethnicity to investigate whether size has a different impact on Asian versus African-owned firms, this interaction term we call ASIZE. The results are presented in column one of Table 4.

As might be expected, firm size, ownership of collateral, education of general manager and the length of checking account history are all statistically significant and positively related to firms' access to bank overdrafts. Furthermore, entrepreneurial ethnicity is completely irrelevant in explaining firms access to bank overdrafts. For comparison with later results, column two in the table includes the interaction between size and ethnicity, but the coefficients on ethnicity and the interaction term are both insignificant.

Note that the coefficients reported are not the marginal effects, which for column two equal 0.34 for collateral, 0.21 for size, 0.11 for length of checking history and 0.24 for education of the general manager.¹¹ This would imply, for example, that firms with collateral have 34 percent points higher chance of receiving overdraft facilities from banks compared to firms without collateral, and similarly for the other variables.

¹¹ The marginal effect, $\partial E(y)/\partial x$, equals $\varphi(\beta'x)\beta$, where $\varphi(\cdot)$ is the probability density function of standard normal distribution. The marginal effects were calculated at the means of the explanatory variables.

Table 4
Access to overdraft facility and supplier credit using probit model (coefficient and standard error)

Explanatory variables	Access to overdraft facility	Access to overdraft facility	Access to supplier credit	Access to supplier credit
Intercept	−2.31 ^a (0.53)	−2.73 (0.75)	−2.39 ^a (0.47)	−2.88 ^a (0.53)
Wood	0.21 (0.49)	0.22 (0.50)	0.28 (0.34)	0.39 (0.35)
Metal	−0.05 (0.40)	−0.03 (0.41)	0.48 (0.32)	0.61 (0.33)
Textile	0.49 (0.45)	0.53 (0.46)	0.74 ^b (0.32)	0.93 ^b (0.34)
Size = log (total number of workers)	0.49 ^a (0.15)	0.76 (0.36)	0.27 ^a (0.10)	0.54 ^a (0.16)
Collateral	1.20 (0.42)	1.23 (0.43)	−0.17 (0.28)	−0.18 (0.28)
Log (length of checking account with a bank)	0.43 (0.15)	0.40 (0.16)	–	–
Log (length of supplier relationship)	–	–	0.29 (0.15)	0.20 (0.16)
Education of general manager	0.92 (0.41)	0.89 (0.41)	0.43 (0.28)	0.41 (0.28)
Asian	−0.19 (0.38)	0.50 (0.86)	0.56 ^a (0.26)	1.74 ^a (0.54)
ASIZE	–	−0.34 (0.40)		−0.44 ^a (0.18)
Observations	159	159	171	171
Log (likelihood ratio)	−49.93	−49.51	−91.13	−87.94

Note: the number of observations in the access to overdraft and supplier credit regression are different because of differences in number of missing observations for length of checking account history and length of relationship with the supplier. To confirm that our results were not because of differences in observations, we reran the regressions with a smaller sample that had observations for checking account history and length of supplier relationship. The basic results and analysis was consistent with the reported results.

^a Significant at 1 percent.

^b Significant at 5 percent.

3.3. Determinants of access to suppliers credit

As noted, small firms lacking collateral and credit history are often denied bank credit and may have to rely primarily on informal sources, such as supplier credit. Suppliers of raw materials may be willing to give credit to such firms for various reasons including greater information obtained from frequent interaction, which informs them about things such as reliability in re-payment and overall financial strength. One expects, therefore, that suppliers would be more likely to give credit to firms buying from them for longer periods.

The results in the third column of Table 4 show that firm size and entrepreneurial ethnicity are the only determinants of firms' access to supplier credit. Thus, like bank credit, small firms have difficulty in obtaining supplier credit. Unlike banks, however suppliers of raw materials do not seem to rely on physical collateral, whose coefficient is insignificant. The significant ethnicity dummy shows Asian-owned firms have much greater credit access than African-owned firms.

In the last column of Table 4, we include the interaction term ASIZE to allow the coefficient on firm size to vary by ethnicity. Its coefficient is significantly negative, implying differential effect of size across Asian and African firms. Specifically, the calculated marginal effects are 0.22 for firm size, 0.66 for Asian, and -0.17 for ASIZE. Thus, marginal effect of being Asian, $\partial E(y)/\partial \text{Asian}$, is $(0.66 - 0.17 * \text{SIZE})$ which decreases with size, implies that the difference in credit access between Asian and African firms becomes minimal for larger firms.

For smaller firms, in contrast, ethnicity has a significant effect. Thus, for African firms in the regression, the marginal effect of size is 0.22. By contrast, the marginal effect of size for Asian owned firm is the sum of marginal effects of SIZE and ASIZE and equals only 0.05. This implies that increase in firm size substantially improves the probability of credit access in case of African firms. Firm size however, has little effect on the likelihood of Asian firms receiving supplier credit.¹²

Finally, the coefficient on the length of firms relationship with the supplier of raw material is of right sign, but contrary to our expectation it is statistically insignificant.¹³

3.4. *Is more supplier credit given within the same ethnic group?*

Asian firms may receive more supplier credit relative to African firms because more Asian owned firms give supplier credit and they prefer to give it within their own group. We find evidence in support of this hypothesis. Only 19 out of the 80 African-owned firms (24 percent) reported extending supplier credit while 65 out of 98 (66.3 percent) Asian firms were extending credit. A probit regression (not reported here) also showed that Asian firms were more likely to extend credit, after controlling for firm and owner differences.

Next it remains to be tested whether firms prefer to give credit within their own ethnic group. We define a variable SETHIN, which equals one if the ethnicity of the supplier of raw materials is the same as that of the firm buying, and zero otherwise. This variable is included along with other explanatory variables used in Table 4, and the results are reported in Table 5. The variable SETHIN is highly significant. This means that firms are more likely to give supplier credit within the same ethnicity group.

3.5. *Other possible reasons for the regression results*

3.5.1. *Omitted variables*

It is possible that the dummy for ethnicity (ASIAN) may merely be picking up the effect of some omitted variables that can also help explain access to supplier credit. To check for

¹² Later we show that most supplier credit is given by Asian owned firms. In absence of good information on African firms, suppliers use size as a proxy for information. For Asian owned firms, suppliers have good information on their characteristics, and hence do not need to proxy information by size.

¹³ This is consistent with our contention that information in itself is not enough in explain Asian-owned firms' better access to supplier credit. Small African-owned firms may establish a long term relationship with their supplier, but still be denied credit, as enforcement—the other important ingredient of access to credit—works best within ethnic groups. Analogously, length of prior relationship would be insignificant for Asian-owned firms due to reputation within the ethnic group. We provide more qualitative evidence to support this in section IV.

Table 5
Firms prefer to give credit within their own ethnic networks

Explanatory variables	Access to supplier credit	Access to supplier credit
Intercept	-2.39 ^a (0.51)	-2.30 ^a (0.60)
Size = log (total number of workers)	0.35 ^a (0.11)	0.70 ^a (0.22)
Collateral	-0.10 (0.32)	-0.08 (0.33)
Log (length of supplier relationship)	0.29 (0.17)	0.18 (0.18)
Education of general manager	0.48 (0.32)	0.47 (0.43)
Asian	-	1.76 ^a (0.64)
Asian ^a size	-	-0.60 ^b (0.24)
SETHIN (1 if ethnicity of the supplier is the same as that of the firm, 0 otherwise)	0.91 ^a (0.32)	0.79 ^b (0.34)
Observations	146	146
Log (likelihood ratio)	-75.72	-71.72

^a Significant at 1 percent.

^b Significant at 5 percent.

this we included more explanatory variables in the regression such as age of the firm, a variable for whether supplier of raw material is a monopolist, and length of firms relationship with banks. We also included lagged profits of firms in the regression to see if Asian firms were more profitable and, hence, deserved more supplier credit. Inclusion of these variables did not affect the results in the regression and furthermore the coefficients on them were insignificant.

3.5.2. Failure to distinguish demand from supply

Our regression results are consistent with the hypothesis that African-owned firms simply do not want to borrow from suppliers. If these firms demand less supplier credit, the sign on the dummy ASIAN would still be positive implying more Asian (and less African) owned firms receive supplier credit.

To exclude this possibility, we analyzed responses of firms to the questions, what are your three biggest growth problems? While 61 percent of the African-owned firms mentioned credit to be their major problem, only 31 percent of Asian owned firms ranked credit as a major problem. Subsequently, we ran a probit regression to determine characteristics of firms that identified credit as a major problem, this showed that, after controlling for other variables, African-owned firms were more likely to rank credit as a major problem. This is consistent with our hypothesis that African owned firms receive, not demand, less supplier credit.

In sum, therefore, our regression results show that firm size, length of relationship with the lender, education of owner/manger and availability of collateral are important determinants of firms access to bank overdrafts. In contrast, ethnicity of the firms' owner is the main determinant of access to supplier credit. For African-owned firms access to supplier credit increases with size, which proxies for information, but no such relationship exists for Asian owned firms. We believe that this is so because Asian suppliers use their ethnic networks to obtain information on their large and small Asian clients, and hence, do not need to use size as a proxy for information.

Suppliers of raw materials should have detailed information on firms with whom they have long term relationships. If information is all that matters in access to supplier credit then length of relationship with the supplier should have been highly significant in explaining access to supplier credit. The fact that it is not in the regression suggests that there is something else besides information that explains Asian firms' better access to supplier credit. We argue that within ethnic groups enforcement based on reputation, an equally important factor explaining Asian firms' better access to supplier credit. Also, the observation that physical collateral, which is highly significant in explaining access to overdrafts, is insignificant in explaining access to supplier credit points towards an alternative collateral, i.e. social collateral, based on reputation within the ethnic network, as being used by suppliers to help in enforcement.

4. Information transmission and reputation mechanisms

The key to private contract enforcement through reputation mechanisms is the existence of extensive information flows, so that each individual knows how others have behaved in the past. Given the observed asymmetries in trade credit among firms in the two entrepreneurial ethnic groups, we now evaluate the extent to which corresponding asymmetries can also be found in the flows of information across these firms. In addition, we also consider whether there exist reputation mechanisms amongst the Kenyan–Asian entrepreneurs and, equally important, whether such mechanisms are absent amongst firms in the other group.

The data used for this purpose come from a case study that was a follow-up to the large-scale RPED survey described in Section 2. The sample includes a sub-group of the manufacturing firms from the larger survey, supplemented by some trading firms.¹⁴ The case study focused on eliciting qualitative details of trade credit arrangements, thus allowing greater scrutiny of the role of information and contract enforcement in the organization of trade credit amongst firms in Kenya.

4.1. Initiating a credit relationship

The responses of firms as to how they initially got access to trade credit are summarized in Table 6. Almost 40 percent of the firms bought on cash for a while before being allowed access to trade credit. Thus, repeated interaction formed the basis for their credit relationship. In the remainder of the cases, access to credit was immediate because the firms knew the supplier from before, had mutual contacts, or else the firm was large enough to be well known in the market. Therefore, 60 percent of the observed credit relations with suppliers were established on the basis of personal contacts, mutual acquaintances or market reputation.

But there is a striking difference between the responses of Kenyan–Asian versus Kenyan–African owned firms in Table 6. Most Kenyan–Asian firms in the sample had access to supplier credit and, as seen in the table, three-fourths of them had acquired it immediately, due to prior or mutual contacts or business reputation. In contrast, about 80 percent (i.e.

¹⁴ The sample had 58 firms, of which 35 manufacturing firms were also part of the larger survey. The remaining were trading firms, either wholesale or retail. For more details, see Biggs et al. (1994).

Table 6
Establishment of trade credit with suppliers

	All firms	Kenyan–African	Kenyan–Asian
Bought on cash for a while (%)	38	78	26
Used mutual contacts (%)	15	0	19
Knew supplier from before/well known in market (%)	48	22	55
Number of firms	32	9	23

Source: RPED case study survey, 1993.

seven of nine) of the Kenyan–African firms receiving supplier credit had obtained it based on repeated interaction over a period of time. Of course, buying on cash for a while is not sufficient to ensure access to trade credit, only a third of all Kenyan–African firms in the sample were receiving any trade credit.

Repeated interaction, therefore, appears somewhat significant only in case of Kenyan–African credit recipients. Even then, its importance is limited due to the weakening of personal enforcement mechanisms when the buyer is small and anonymous and hence, can switch suppliers costlessly at any time.

4.2. Screening potential borrowers

Firms were asked how credit relationships are initiated when *they* are the supplier-lenders and what constitutes a creditworthy customer. Their responses fell into two categories, namely, that they would lend either to someone they already knew or had had a long and successful business history with, and, second, to buyers that had a sound reputation—e.g. among other suppliers, community members—for prompt repayment (“good paymaster” in local parlance).

The respondents were also asked to describe how they would assess creditworthiness of customers *they did not already know* (from previous or mutual contacts or business reputation) with responses summarized in Table 7.

Not surprisingly, very few firms were willing to take a chance and risk extending credit to strangers about whom they had no information. The more frequent answers of respondents can be grouped into three categories, direct observation, asking around, and repeated interaction. Direct observation typically takes the form of the respondents physically visiting their client’s business and, in the course of general conversation, observing how well the

Table 7
Screening of potential trade credit recipients (multiple answers allowed)

	All firms	Kenyan–African	Kenyan–Asian
Repeated sales on cash (%)	56	33	67
Ask around (%)	80	33	100
Direct inspection (%)	73	100	53
Take a chance (%)	9	7	10
Number of firms	45	15	13

Source: RPED case study survey, 1993.

Table 8
Socialization with suppliers

	All firms	Kenyan–African	Kenyan–Asian
Anonymous relationship (%)	32	62	13
Business casual (%)	30	19	38
Business lunches (%)	8	9	6
Community relations (%)	23	0	38
Previous acquaintance (%)	7	9	6
Number of firms	53	21	32

Source: RPED case study survey, 1993.

client is doing. They note how the client is dealing with customers and workers, the quality and amount of goods in stock, the rapidity with which inventories circulate, etc.

Clearly, however, direct inspection of the client's business is more likely with Kenyan–African businesses, all of whom cited it as a prerequisite to establishing credit relations with customers. In contrast, all Kenyan–Asian businesses cited “asking around” as a means of evaluating creditworthiness of unknown customers. The contrasting responses of firms, emphasizing direct inspection versus asking around, underline the asymmetry in business practices between firms in the two groups, Kenyan–African firms appear to have fewer links to information networks from which they can obtain information about potential recipients of trade credit.

4.3. Socializing with suppliers

Another example of asymmetric information exchange among the two types of firms is evident in the fact that Kenyan–African firms tend to display a greater incidence of anonymous transacting with their suppliers compared to Kenyan–Asian firms. Table 8 summarizes responses of firms with respect to the extent of their socialization with firms supplying them their most important raw materials.

Almost two-thirds of the Kenyan–African firms indicate anonymous transacting with their suppliers (not meeting them outside of purchases and not knowing them other than by name) in contrast to the Kenyan–Asian firms, almost 90 percent of whom show some relationship with suppliers that transcends anonymity.

Since the form and content of socialization may vary across different groups, the case study further explored the extent of socialization and exchange of information amongst the firms. In particular, the respondents were asked if they knew specific attributes about their suppliers, such as the private residence of the supplier, significant changes in profits of the supplier or any major recent events affecting the supplier's business. Conversely, they were also asked if *they* believed their suppliers knew these attributes about them. Again, the responses confirm the sharp distinction between the two groups, almost three-quarters of the Kenyan–Asian firms indicated their supplier(s) would know the location of (the respondent's) private residence, as opposed to only a fourth for the Kenyan–African firms. Similarly, almost two-thirds of the Kenyan–Asian respondents indicated they would know about major shocks to their suppliers' businesses and vice versa, including through

the community or from other businesses. Kenyan–African firms, in contrast, seemed to know little about their suppliers and believed their suppliers knew equally little about them.

What clearly emerges from the discussion above is the existence of extensive information flows amongst the Kenyan–Asian ethnic businesses. The richness of this information enables firms to quickly and directly access the reputation of those from the same ethnic group that are not known directly. At the same time, concern for their own reputation is important for these businesses in guiding their actions, including acting as social collateral for those lending to them. Interestingly, a few of the Kenyan–Asian firms reported exchanging client related information with *competing* suppliers, regularly meeting to discuss late payments and defaulters. That firms which otherwise compete for the same clients can agree to share such strategic information highlights the critical importance of information flows and reputation for contract compliance within the observed trade credit arrangements.

5. Concluding observations

This paper analyzes empirically the often-hypothesized idea that ethnic networks can facilitate economic exchange, and also attempts to describe the actual mechanism through which such networks might work. Our analysis suggests that ethnicity, not *per se*, but because of its strong overlap with credible information flows, is an important determinant of access to trade credit in Kenya. It is these information flows that enable reputation to emerge as an enforcement mechanism, thereby enabling credit contracts.

Our comparison of access to bank overdrafts and informal trade credit shows firm size, collateral and checking account history are important determinants of access to overdrafts, while ethnicity of borrower plays no role. In sharp contrast, they have little impact on access to trade credit, which is primarily determined by owner ethnicity.

We use qualitative evidence to extensively document the asymmetric information flows, which are extensive amongst the Kenyan–Asians and not so amongst firms in the other group. The extensive ethnicity-based information flows amongst Kenyan–Asians enable lenders to not only ameliorate problems of incomplete information but also to utilize reputation as an enforcement mechanism.

Consequently, Kenyan–Asian firms can access supplier credit irrespective of firm size or prior transactions. Small Kenyan–African firms in contrast typically start with cash purchases, but the absence of extensive information flows implies that very few of them eventually end up with access to supplier credit.¹⁵ Information acquired through regular transacting over a period is not sufficient to enable credit transactions, a strong enforcement mechanism, such as reputation in the present case, is also necessary.

¹⁵ A Kenyan-Asian businessman, when discussing why he would be generally reluctant to lend to the numerous small Kenyan-African firms buying from him even for long periods of time, mentioned that being small, these businesses were anonymous and could switch suppliers with little consequence. Hence, according to the businessman, when it came to the anonymous small firms, “if you sell on credit, not only are you likely to lose the principal but also a regular customer”.

Note added in proof

The views in the paper are of the authors and should not be interpreted as those of their respective institutions. The paper was written when Raturi and Srinastana were working at the World Bank.

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