Trade Credit in Zimbabwean Manufacturing

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Abstract

Credit from suppliers is an important but often neglected source of finance for manufacturing firms. Zimbabwe is no exception. Unlike credit from financial institutions, trade credit does not rely on formal collateral but on trust and reputation. Contract enforcement is flexible. Network effects and statistical discrimination affect the screening of trade credit applicants. Black entrepreneurs are disadvantaged by their lack of business contacts and by the difficulty to distinguish themselves from the mass of financially insecure and short-lived African-owned businesses in Zimbabwe. A vicious circle is created between weak financial base, unreliability as a debtor, and inability to access credit.

Introduction

Firms need finance to operate. Entrepreneurs with insufficient funds cannot invest in new equipment and machinery, they find it difficult to reach out for new markets and products, they cannot cope with temporary cash flow problems, and they are slowed down in their desire to innovate and expand. Access to external finance is particularly critical for poor entrepreneurs who, on their own, may never gather funds proportional to their ambitions. If large segments of society are refused access to funds, the pool of talented individuals from which tomorrow's entrepreneurs are drawn remains small, and the economy does not reach its potential. Understanding how African firms access external finance is thus essential for assessing entrepreneurship in Africa and the prospects for future growth in the continent.

Studies of enterprise finance in Africa and elsewhere typically focus on bank credit, and more particularly on bank loans. As it turns out, banks are not the principal source of external finance that African firms have access to; trade credit, that is, credit offered by suppliers dominates the picture. The importance of trade credit is particularly marked among small and medium firms, which are normally thought of as the breeding ground for entrepreneurs and constitute an essential component of a healthy economic structure (Staley and Morse (1965)). This is remarkable because, unlike bank loans and overdraft facilities, trade credit is not

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guaranteed by any formal collateral, that is, by mortgageable assets. The often heard argument that credit constraints are due to lack of collateral is thus clearly unapplicable to trade credit. It is argued that African microenterprises fail to access bank credit because they lack collateral. Yet microenterprises appear to encounter about as many difficulties accessing supplier credit as they do receiving bank credit. There are, therefore, other obstacles to credit than lack of collateral. Understanding how firms select trade credit recipients should thus throw some light on how credit markets work in practice and may revolutionize our view of enterprise finance in Africa.

We present in this paper detailed evidence originating from two sources. The first source is a panel survey of some 200 Zimbabwean manufacturing firms conducted in the Summer of 1993 under the auspices of the Regional Program for Enterprise Development (RPED), a World Bank unit coordinating a joint effort by bilateral and multilateral donors to understand manufacturing in Africa. This source is complemented by a series of case studies undertaken by a team of RPED consultants in the Summer of 1994. This paper is devoted to a detailed presentation of survey results, which are diverse and abundant. Special attention is paid to ethnicity issues. Indeed, business in Zimbabwe is largely in the hands of European settlers. Entrepreneurs from other ethnic origins, e.g., Asians and especially native Zimbabweans, have complained that it is harder for them to access credit and succeed in business. In response, the government has opened special lines of subsidized credit for Blacks.[2] We find evidence that, even after controlling for firm size and sector of activity, Black Zimbabwean entrepreneurs face difficulties obtaining credit. We then try to identify the causal mechanisms to lead to this situation.

The paper is organized as follows. After providing some information on survey design, we examine the relative importance of the various types of finance that Zimbabwean firms use and we take a close look at differences across firm size. We then examine trade credit more specifically and review the terms and conditions of trade credit contracts. We look for evidence of a relationships between cash discounts and liquidity constraints. We continue our review of

[2]As in other countries where ethnic issues are a source of tension, the words by which each group is designated is a sensitive issue in Zimbabwe. For its targeted credit program, the Zimbabwean government has used the word 'indegenous' to refer to Blacks. European settlers have criticized this choice of vocabulary, pointing out that they too have been in the country a long time and thus are indigenous as well. Other countries in the continent have used the word 'Africans' to refer to Blacks. This choice of word has itself been criticized as failing to recognize that any citizen of an African country, regardless of race, is legally an African. In this paper we shall use the words 'Blacks' and 'Africans' interchangeably.

enterprise finance in section 4 where we consider screening and monitoring, contract enforcement, and reputation mechanisms. Conclusions on access to trade credit are summarized at the end.

Section 1. The Data

The evidence presented here originates from two sources: a panel survey of some 200 manufacturing firms conducted by RPED in the Summer of 1993, and a series of RPED case studies undertaken in the Summer of 1994. Results from the two surveys are combined in the presentation.

The Panel Survey

In June and July 1993, a team of researchers coordinated by RPED undertook the first wave of a panel survey of manufacturing firms in Zimbabwe. The panel comprises 200 industrial enterprises in four subsectors of manufacturing: food processing, textile and garments, woodworking and furniture, and metalworking. The two basic criteria used in drawing the panel sample are that there were at least five employees at the time of the survey and that the firms were able to make their own investment decisions. The first criterion excludes most microenterprises and informal sector firms; the second excludes certain company divisions and subsidiaries of mother companies. The sample was selected from two sources: the Central Statistical Office in Zimbabwe, and the GEMINI survey of small scale and micro firms undertaken in August 1991. Details of the RPED panel survey and sampling procedure are discussed in other RPED publications, in particular RPED (1994), Chapter 2. The data from the first survey were analyzed in RPED (1993) and (1994) and are referred to in this report as the panel data.

The Case Study Survey

Among the 114 RPED panel firms located in Harare we randomly selected 40 firms to be interviewed in August 1994 and an additional 28 firms to serve as possible replacements. Of the initial 40 firms, 16 declined to be interviewed. 15 replacements were interviewed in their stead, resulting in a sample of 39 manufacturing firms. Table 1 breaks down the panel sample, the initial sample of 40 firms and the actual sample of 39 firms by ethnicity, size and sector of activity. The table shows that most of the initially selected Asians[3] and half of the Africans

[3]In this report we shall refer to Zimbabweans of African, European, and Asian origin as Africans (or Blacks), Whites, and Asians respectively. The Asian population in Zimbabwe includes people from the Middle-East (Arabs, Syro-Lebanese) and South Asia (India, Pakistan). The 'other' category comprises people of mixed ethnic background and a handful of entrepreneurs of Jewish origin. Because of the similarities in the way Asians and 'other' entrepreneurs socialize and interact with other firms and creditors, we treat them as a single category.

declined the interview and had to be replaced. Large firms were less likely to decline the interview than firms of small and medium size. Across sectors, a smaller proportion of firms in the metal and food processing sectors accepted to be interviewed. As a result, the final case study sample tends to overrepresent large firms, firms owned or managed by Whites, and firms in textile and garments manufacturing. African and Asian entrepreneurs, microenterprises, and firms in the wood sector tend to be underrepresented compared to the panel sample.

In addition to manufacturing firms, 18 trading firms were also interviewed that represent a cross-section of suppliers and clients of manufacturers. They all operate in the same four sectors of economic activity -- food processing, textile and garments, wood products, and metal products -- as the manufacturing firms. Some are active in several of them at the same time. 11 of the trading firms are primarily in the retail business; the others are involved in wholesaling. In the absence of a readily available census of enterprises involved in trade, trading firms were not randomly selected from an existing census or sample of firms. The sample selection approach we adopted was essentially *ad hoc*. The sample we ended up with is probably not representative of the population of trading firms in Harare. We nevertheless attempted to represent firms of all sizes and ethnic origin. Partly due to a bias in who declined to be interviewed, partly as a result of the domination of chains of retail outlets over the retail sector in Harare, the sample of 18 trading firms counts mostly large firms and only one microenterprise. We were somewhat more successful in drawing non-Whites into the sample, but the proportion of Black traders who were interviewed is again small -- a consequence largely of our inability to secure interviews with microenterprises in the trading sector. Only 5 of the 57 surveyed firms (manufacturing and non-manufacturing) are owned or headed by a woman, a proportion substantially lower than that of female owners in the panel survey (19 percent). Since women tend to head smaller firms and to be more active outside Harare, our limited success in reaching microenterprises and our exclusive focus on Harare probably account for the difference.

Among the firms we interviewed, most of those owned or managed b
to be microenterprises or small firms (11 to 100 employees). We interviewed only one medium sized firm headed by an African (101 to 250 employees) and 4 large African-managed firms, some of them parastatals. As was emphasized in the previous chapter, this is largely a reflection of the structure of firm ownership in the four sectors of enquiry, particularly in Harare. To gain a better perspective on the problems faced by Black entrepreneurs, we were able, with the help of Venture Capital of Zimbabwe, to interview an extra half dozen Black entrepreneurs heading medium to

large private firms. These extra firms were obviously not randomly selected and many of them were not even in the four sectors of activity that we cover, so we did not include them in the quantitative results presented in this report. But in interpreting the data we draw on the additional insights that we gained during these interviews.

The questionnaire used in the case study interviews covered a wide range of topics relevant to enterprise finance. It included many qualitative questions as well as a number of open ended questions intended to stimulate discussion and uncover or explore issues that could not be anticipated. Most of the questions concerned different forms of enterprise credit, including bank loans and overdrafts, hire purchase and lease-to-buy contracts, trade credit, and in-kind loans among firms. Questions were also directed to understanding the role and importance of equity as a source of external finance and the reasons why outside equity may or may not be used. In addition to these questions about the use and forms of finance, we asked a number of questions about the different uses finance is put to, such as physical investment and managing the firm's cash flow. The ultimate goal of these questions is to learn how the nature of enterprise finance affects the real decisions firms make.

Given the small size and partially non-random nature of the case study sample, results should be viewed as suggestive rather than definitive. The strength of a case study approach, however, lies not as much in the ability to draw statistically significant or fully generalizable findings as in the ability to gain a deeper insight into the phenomena being studied. That objective we believe we have achieved, as the reader will see.

Section 2. The Relative Importance of Different Sources of Finance

Manufacturing firms in Zimbabwe get funds from a variety of sources. This variety is reflected in firms' outstanding balances (Table 2). On average, supplier credit is the most important source of funds, counting for a quarter to a third of all outstanding balances in all firm size categories.[4] Supplier credit is a form of short-term finance but, because it is typically renewed with each order, it can last indefinitely. Loans from non-bank financial institutions (i.e., finance houses, building companies, pension funds, and government credit programs) come next. Unlike supplier credit, these loans benefit mostly large firms. Moreover, non-bank loans are

[4]In this report, micro-enterprises are those with fewer than 10 (full time and part time) employees , small firms have 11 to 100 employees, medium firms 101 to 250 employees and large firms have over 250 employees.

unevenly distributed within each firm size category: their large share in average outstanding balances is due to a small number of large loans. Bank overdrafts come next by order of importance. Because overdraft facilities are typically renewed annually, they contribute to firms' long term financing in the same way that supplier credit does. Together with trade credit, bank overdraft facilities are *de facto* the longest lasting form of finance manufacturing firms have access to.

Overdrafts represent a large proportion of the funds received by microenterprises not because these firms receive large overdraft facilities but because they receive little credit from elsewhere, except suppliers. This is confirmed by the fact that only a small percentage of microenterprises have an overdraft facility (Table 3). Bank loans, like loans from non-bank financial institutions, are more important for larger firms, although for the largest firms they are superseded by non-bank finance. Borrowing from informal sources like friends and relatives, money lenders, groups, and competitors is not important for large firms, but it is occasionally important for smaller firms. Most informal credit recorded in the 1993 panel survey consists of short term loans of equipment and materials. These loans, repaid in kind, are a survivance from the UDI period during which shortages of raw materials and spare parts were severe and manufacturers learned to share whatever they could find. With trade liberalization, the practice is likely to disappear. Unlike in Ghana (Cuevas et al. (1993), Fafchamps (1996)) and Kenya (Fafchamps et al. (1994)), advances from clients are a negligible source of funds for Zimbabwean manufacturers, even for micro-enterprises.[5]

On the lending side, customer credit dominates the picture. Advances to suppliers are rare. Informal loans go mostly to employees. Some loans of equipment and materials by surveyed firms are also recorded. Net outstanding balances are positive for all firm categories: firms are net recipients of credit. The net contribution of informal lending is positive but small, a reflection of the extent of borrowing and lending among firms: on average many of these transactions cancel out. On the other hand, manufacturing firms in all size categories are, on average, net providers of trade credit. A more detailed analysis reveals that 135 of the 200 panel firms were net granters of trade credit in 1993; 36 were net recipients; and 16 had a zero position due to their non-participation in trade credit transactions. The fact that trade credit represents a

[5]This may, however, be an artifact of the sampling frame: small microenterprises were found to be the heaviest users of customer advances in Ghana and Kenya but they were not included in the Zimbabwe panel sample.

net drain on manufacturing firms' financial resources is hardly surprising: the credit that firms receive from their suppliers covers only raw materials, but the credit they give to their clients must cover the value of their finished products. The difference between the two is value added. The more thoroughly raw materials are transformed in the manufacturing process, the larger the value added, and the larger the need for other sources of finance to fill the gap between supplier and customer credit.

These results are confirmed if one looks at the proportion of firms using various sources of finance (Table 3). It appears that the overwhelming majority of small, medium and large firms receive and give trade credit. Most of them also have an overdraft facility. In contrast, large firms are much more likely than other firms to receive a bank loan. To the extent that frequency of use is an indicator of ease of access, microenterprises appear to have no easier access to supplier credit than they have to bank overdrafts. In fact, microenterprises are twice as likely to give credit to their customers than to receive credit from their suppliers. These features are what we try to explain in the remainder of this paper.

Section 3. Access to Trade Credit and Determinants of Credit Terms

We now take a closer look at the determinants of trade credit. We first divide the panel sample between the firms that receive supplier credit and those that do not, and run a Probit regression on the determinants of trade credit. Results are shown in Table 4. They indicate that larger firms and non-Black firms are more likely to receive trade credit. There seems to be discrimination against Black firms independent of firm size. This result is similar to that obtained for Kenya by Fafchamps et al. (1994). Bade and Chifamba (1994) conducted a more in depth analysis of the same data. They conclude that firms are more likely to get credit from their suppliers when: they purchase regularly and in bulk; the trade discount is large; their end of year stock is high relative to sales; they are more profitable; and they have an overdraft facility. Firms were found less likely to receive supplier credit when the supplier's share of that input is large; and when the firm is Black or foreign owned. Firms' need for credit does not seem to be the sole determinant of trade credit, as those with an overdraft facility are more likely to receive trade credit. Bade and Chifamba's (1994) regression results also suggest that suppliers are more willing to extend credit for large purchases (large trade discount; bulk purchases) and to regular clients (regular purchases). Monopolists are less likely to grant credit than competitive suppliers.

Finally, credit enforcement considerations seem to play a role as firms with an overdraft facility and higher profits find it easier to get trade credit.

Next we examine firms' willingness to grant trade credit. As Table 4 shows, larger firms and non-Black firms are more likely to give credit to their clients. The effect of race is less marked than in the case of supplier credit, however. Firms in the food sector are less likely to give credit to their customers, presumably because goods are perishable and turnover is rapid. In their detailed analysis of the same data, Bade and Chifamba (1994) show that firms are also more likely to grant credit when: they negotiate prices with buyers; they spend less on advertisement; they sell to wholesalers and retailers; and they receive credit from their own suppliers. Results suggest that the inability to grant trade credit is another obstacle small firms must overcome to compete successfully with large firms.

Many of these results are confirmed by the case study. As in the panel data, most of the purchases and sales made by manufacturing firms are on credit. On average, purchases on credit account for 81 percent of all purchases (Table 5). Again, there are sharp differences across ethnic groups or firm sizes. White entrepreneurs in the case study sample purchase virtually all their inputs on credit; Black entrepreneurs, on the other hand, only buy a little more than half on credit. The pattern of supplier credit use is similar to that of overdraft facility: usage is high in all firm size categories except microenterprises. It appears therefore that suppliers are not significantly better than banks in their ability to reach microenterprises. This result somewhat contradicts expectations from the theory: since suppliers gather information on their clients as a by-product of the sale, one would have expected them to use that information to screen trade credit applicants more effectively than banks do -- and thus to grant credit to clients with no access to banks. If this result is confirmed, it implies that there is little hope of channeling more credit to microenterprises by granting more credit to their suppliers. Similar patterns emerge with regard to credit sales, with African firms and microenterprises less likely to sell on credit than other firms. Large enterprises sell a smaller fraction of their output on credit than do medium size firms. A possible explanation for this is that large firms have market power and can impose their payment terms onto customers (see Fafchamps (1996) and Fafchamps et al. (1994) for similar conclusions).

We further examine the determinants of trade credit use by running Tobit regressions on the share of purchases and sales on credit. The dependent variables, which were not collected in the panel survey, are the proportion of purchases and sales made on credit by each firm in the

case study. The regressions account for both left and right censoring. Results are reported in Table 6. The results indicate that large firms both purchase and sell more on credit than small firms. African and other non-White firms also purchase less on credit than White firms, and African firms sell less on credit. Results show that manufacturers buy less and sell more on credit than retailers and wholesalers. That retailers sell less on credit is not surprising since the bulk of their clients are anonymous consumers. Food processing firms sell less on credit than firms in other sectors. This last finding is in line with the idea that perishable items with a short shelf space should receive shorter credit terms (see Schwartz and Whitcomb (1979)).

To throw additional light on the use of trade credit, case study firms were asked why they buy on credit. By far the most common response, cited by firms of all sizes and ethnic group, is that credit improves a firm's ability to manage its cash flow. White firms, however, are more likely to cite other reasons as well. Some, for instance, said that buying on credit is more convenient than cash from an accounting standpoint, and that it is safer than using cash for transactions because of concerns about theft. This can be taken as circumstantial evidence that liquidity considerations might be less important and security considerations more important for White firms. Some respondents also said they buy on credit because the supplier does not offer a cash discount, or because the implicit cost of trade credit is cheaper than alternative sources of finance. Only large firms stated that credit is automatically offered, suggesting that reputation and market power facilitate the provision of trade credit.

Firms were also asked why, if at all, they buy cash. The most common reason cited is that the supplier doesn't offer credit. African firms are more likely to cite the supplier's unwillingness to grant credit as the only reason for buying cash. Other firms often volunteered other reasons as well. Some said they prefer to take the cash discount, others that cash purchases are for small, occasional purchases not worth the hassle of applying to the supplier for a line of credit. One large firm saw cash purchases as a way to attract suppliers of timber from the countryside.[6] A handful of firms, all microenterprises or small firms, stated they don't like to incur debt and prefer to pay cash. Self-rationing is consistent with the models of demand for credit developed by Zeldes (1989), Caroll (1992) and Zame (1993): these firms probably shy away from credit because they fear that a cash flow shock may reduce their ability to pay, lead to default, and have disastrous consequences on their personal assets. Consistent with this interpretation, most of the

[6]We did not have the leisure to investigate further but it may well be that the timber was acquired without proper legal authority.

self-rationed firms keep precautionary savings to deal with emergencies, and only one indicated it had other sources of income it could draw upon in a crisis.

Asked why they sell on credit, most firms answered that it is an important dimension of their ability to compete. Customers don't like to pay cash, they say, competitors offer credit, and the firm can sell more by providing credit. Several firms, none of them a microenterprise, cited accounting convenience as another reason for selling on credit. One firm explained it was using factoring and thus could sell on credit and get cash right away from the factor. From the point of view of the firms, therefore, the sales promotion motive is the most important motive from providing credit to customers (Schwartz and Whitcomb (1979)). Firms were finally asked why, if at all, they sell cash. Enforcement considerations dominate respondents' answers. In most cases, the firm sells cash because it believes it may not be paid and cannot enforce repayment. In fact, the client's failure to repay in the past is often cited as a reason for selling cash. Rationing of credit thus takes place whenever firms do not believe they can trust their clients to pay them. Other reasons for selling cash mirror those cited for buying cash: small, infrequent sales are mostly on a cash basis; some buyers prefer to pay cash; and the respondent may be unable to provide credit to its customers. There are no strong differences across firm sizes and ethnicity. Microenterprises are more likely to have customers who prefer to pay cash, a possible reflection of self-rationing on the part of buyers. Buyers may also prefer to pay cash simply for convenience reasons. Indeed microenterprises sell mostly to final consumers, who may prefer to pay on the spot to avoid coming back to pay and having to keep track of debt obligations. To summarize, evidence of rationing in trade credit is pervasive in the sense that certain buyers do not receive credit from their suppliers.

Trade Credit Duration

More than half of the panel firms responded to questions about credit purchases, covering a total of 167 transactions with suppliers. Credit terms appear relatively standardized and do not differ substantially from those observed in developed economies (e.g., Dun and Bradstreet (1970); Duns Information Services (1993)): 41% of all firms reported that they pay suppliers in full 30 days after delivery; 13% pay after 45 days, and 11% only after 60 days (Table 7). The 45 days average delay is very similar to the average delay between delivery and payment observed in the four sectors of enquiry in the U.S. (see Fafchamps et al. (1995), p.11). This delay results from the combination of two elements: the time elapsed between delivery and statement, and the time

between statement and payment. In Zimbabwe, suppliers normally establish monthly statements. The statement is sent toward the end of the calendar month -- either on the 25th or on the last day of the month, depending on the sector and firm. The statement specifies a term for the client to pay, but we found that not everybody interprets the terms of the statement in the same way.[7] Furthermore, actual payment may fall short of what is written in the statement. With these caveats in mind, three fourths of the case study firms stated that they are given 30 days from the date of statement to pay their supplier. Many of them, however, also indicate that credit terms vary across suppliers. Fewer of the small firms receive credit for over 30 days. Thus, not only are larger firms more likely to qualify for supplier credit, they also receive longer term credit (Tables 7). Discussions with respondents suggest that this is due to the better reputations or relationship that these firms maintain with their suppliers, thereby reducing suppliers' fears about eventually getting paid. Credit duration is also affected by market power because monopsonistic firms (which tend to be larger) often are able to dictate credit terms to their suppliers. Firms in the food sector tend to buy on standard 30 day credit terms or less, presumably because inventory time is shorter.

Panel firms were also asked about credit to their customers. The survey distinguished five categories of clients: private and public end users, private and public retailers and wholesalers, and foreign clients. In total, 175 credit transactions with clients were recorded. Of these, 85 concern sales to private retailers and wholesalers. Credit terms are similar to those given by suppliers (Table 8): in more than a third of the cases, firms report that clients paid their accounts in full 30 days after delivery. Large firms allow their private trading customers longer to pay on average than other clients. Small firms give long credit terms because they are more likely to deal directly with private end users who take longer to pay.

The relationship between trade credit duration and firm characteristics is further explored with the help of a Tobit regression (Table 9). Results confirm that larger firms pay later. Asian firms give their customer less time to pay. Results indicate that old firms pay their suppliers sooner and let their clients pay later, a result consistent with the idea that more mature firms are less subject to liquidity problems and can afford to be generous. Metal sector firms give longer

[7]To see why, consider the following, typical situation. Suppose that the June statement says that payment is due by July 30th; bills that are not paid by the time the August statement is prepared are charged an interest penalty on the August statement as 30-day overdue. When asked how long he has to pay, a respondent may then answer 30 days, since this is what is written in the statement, or 60 days, since no penalty is charged until the second half of August. Both answers are correct but are symptomatic of a slightly different mind set.

terms to their clients. There is some indication that African firms who receive trade credit are given more time to pay once other factors are controlled for, but the effect is not significant.

The Offering of Cash Discounts

Although explicit interest charges are rare (only ten such instances were recorded in the panel survey), in half of supplier credit transactions panel firms report they could have obtained a cash discount for early payment (Table 10). A little less than half the panel firms also offer cash discounts to (some of) their clients.

We run Probit regressions to examine whether there are significant differences among firms in terms of who gets offered and who offers a cash discount (Table 11). Results show is that textile firms are much more likely than other firms to be offered a cash discount, and that metal sector firms are less likely to be offered one. Non-White firms are more likely to be offered a cash discount, possibly because they are perceived to be more risky and must be enticed to pay early. On the giving side, African firms are significantly less likely to offer a cash discount. To throw some light on these patterns, we asked case study firms whether credit terms vary across suppliers and customers. Most firms reported that they do. In the discussion that followed, some respondents indicated that they indeed they use cash discounts to entice early payment by problematic customers. Others, in contrast, said that, when they need cash, they give a big discount to their cash rich customers to raise fresh money. Still others do not mention cash discount with problematic clients in the fear that it would undermine their price. All these findings suggest that trade credit terms are not set unilaterally by the selling firm, but often are subject to negotiation. This is consistent with Bade and Chifamba (1994), who found that firms that negotiate prices with their customers are more likely to provide trade credit.

Next, we examine the implicit interest rate that corresponds to the observed cash discounts. The discount rate reported in the panel survey is 6% on average; the median is 3.3%. Similarly, case study firms report that discounts for early payment average between 3 and 6 percent. One possible reason why many firms continue to use trade credit is that the implicit interest rate is lower than alternative sources of credit. To see why, consider the average case in which the supplier must, in principle, be paid within 30 days of the date of statement. In practice, as the panel survey has shown, this means that the client has on average 45 days to pay from the date of delivery, assuming that deliveries are distributed randomly over the month -- more if buyers concentrate their purchases early in the month. In addition, penalties are typically

charged only if payment has not been received by the next monthly statement. The buyer thus *de facto* has an additional 15 to 20 days to pay (taking into account postal and administrative delays). Thus we reckon that, on average, a client has 30 days more to pay (15 days before, 15 days after) than the explicit payment term written on the statement.

On this basis, the annualized interest rate that correspond to cash discounts of, say, 3% and 6% are 18% and 36% respectively (Table 20). For comparison purposes, lending rates of commercial banks in June 1993 ranged between 29.5% and 47.5% per year (Reserve Bank of Zimbabwe (1993), p. S23). At the time of the case study, the normal interest rate charged on overdrafts was around 30-35% per annum. For many firms, then, trade credit is an attractive source of finance. Additional support for this interpretation is provided by the fact that 15 percent of the firms gave as a reason for using trade credit that it is cheaper than alternative sources of credit. On the other hand, one third of the firms who buy cash said they do so to get the cash discount. Is there a contradiction? Not necessarily. If the cash discount is 6% or more, the return on early payment is equivalent to that of a money market financial investment, but without the transaction costs. A buyer with ample excess cash may thus choose to take the 6% cash discount. Furthermore, not everyone has access to the money market. The highest return small investors can catch is 18-20% on a savings account. The 18% annual return implied by a 3% cash discount is thus sufficient to attract payment from a buyer who has enough excess cash to want to use it, but not enough to consider investing it in the money market. There is, thus, evidence that market forces are at work in determining the level of cash discounts.

Regarding clients, explicit interest charges are again rare, but panel firms offer cash discounts in just over half the transactions. The average cash discount is 3.2%. This cash discount is another measure of firms' subjective discount rates. We computed annualized interest rates for customer credit as we did for supplier credit. Results based on precise data for 19 case study firms that provide credit from the statement date are presented in Table 20. The minimum implicit rates are comparable to those charged by suppliers, although the maximum rates are a bit lower. There is little variation across firm size or ethnicity. We also have data from 5 firms who provide credit from invoice date. The estimated interest rates for these firms are higher: the average minimum and maximum rates is 50% and 65%, respectively. Firms that grant credit from the date of invoice thus appear more cash constrained than those that grant credit from the date of statement.

To examine differences in the level of cash discounts among firms, we run censored Tobit regressions on the annualized interest rate implied by a particular combination of cash discount and payment delay on firm characteristics (Table 13). Results suggest that non-White firms may be offered lower cash discounts (coefficients are nearly significant), perhaps because they are too poor to have access to the money market, and therefore receive a lower yield on excess liquidities and are easier to lure into paying early. On the giving side, older firms tend to give lower cash discount, possibly because they have reached maturity and are less concerned about their cash flow. Asian firms tend to give larger cash discounts. Firm size has no noticeable effect on the size of cash discounts.

Data on cash discounts also offer some information on the extent to which firms are affected by credit constraint. For example, 6 case study firms were declining cash discounts equivalent to an annual interest rate of 60 percent or more. Credit at such high interest rates is uncommon in Zimbabwe. Presumably, only firms would fail to take advantage of such cash discounts that are either severely liquidity constrained, or for which transaction costs in accessing alternative sources of finance are high. If this is true, then it would make sense for suppliers to offer high cash discount in an effort to entice prompt payment. On the giving side, there are 6 firms in the case study sample who offer cash discounts of 60% or above; one of them also reported cash discounts from suppliers with implicit rates of at least 60 percent. They compose a highly diverse bunch: two are large White owned firms, two are small firms (one White and one mixed ethnic ownership), and two are microenterprises (one White owned and one African owned). 5 of these firms have overdraft facilities, but 4 had borrowed up to their overdraft ceiling in the past 12 months. Liquidity constraints may thus explain 5 of these 6 firms' willingness to pay high cash discounts. The sixth one did not appear financially constrained but was until recently headed by an old woman who is averse to debt and also may have sought to minimize collection costs in this way.[8]

Liquidity constraints may also be binding for other firms, though we don't have evidence of such high discount rates for them. There were 10 firms that had attempted to increase their overdraft facility but had been unable to obtain as much credit as they desired, suggesting that the overdraft ceiling is binding for them. Only two of the high discount rate firms are among them.

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[8]This firm indeed reported that it keeps its overdraft facility for emergencies, and that it also holds precautionary savings in case of a cash flow emergency. It had not used more than 50% of its overdraft facility in the last 12 months.

Taken together, we have reasonable evidence that at least 13 of the 57 case study firms faced binding credit constraint and that, for 5 of these firms, the constraint led to very high discount rates. One characteristic that some of these firms -- but not all -- have in common is that they are high growth firms: their rapid expansion has made them overextended financially. As a result, they are in a cash crunch which, hopefully, should resolve itself with time. These cases raise the issue of access to finance for rapidly growing firms, firms that attempt to seize expansion opportunities before they have been preempted by others. These firms constitute a category one would expect to emerge following a drastic realignment of relative prices as the one induced by structural adjustment. The effect of credit constraints on such firms may thus impede the pace of structural adjustment in Zimbabwe.

Section 4. Information Asymmetries and the Enforcement of Trade Credit Contracts

We suggested in the preceding section that some of the observed features regarding firms' access to credit can be explained by information asymmetries and enforcement problems. In this section we examine these issues directly. We first consider how firms screen trade credit applicants. Next we examine data on contract compliance and methods for resolving contractual conflicts. Finally, we discuss the role that reputation, trust, and socialization play in circulating business information and establishing commercial relationships. General conclusions regarding manufacturing enterprises' access to trade credit in Zimbabwe are presented in the end of the paper.

Screening, Monitoring and Collateral

We first investigate how firms screen and monitor credit applicants and the role played by collateral. Unlike credit from financial institutions, trade credit does not rely on formal collateral. Panel firms indicated that formal guarantees were required by suppliers in less than half the credit transactions recorded. The guarantee offered was, in two thirds of the cases, simply a signed invoice. Similarly, panel respondents required formal guarantees from their clients in only a third of the cases, mostly in the form of signed invoices. The attribution of trade credit clearly relies on a different mix of enforcement mechanisms than bank loans and overdrafts, and this is reflected in the screening process. Case study firms were asked questions about how they obtained trade credit from suppliers and what procedures they use to decide whom they give credit to. Responses show that the most common procedure to solicit credit is to fill a credit application

form and provide trade and bank references. In many cases, the firm's relationship with the supplier or its reputation in the business are important. Reputation is used more by large firms; having a prior relationship with the supplier is more important for micro and small firms. A few microenterprises or small scale African-headed firms were recommended directly to a supplier by a third party. This in itself suggest that reliance on the formal credit reference system was insufficient to dispel the supplier's doubts. A few large firms used their market power to dictate their own credit terms to their suppliers.

When dealing with their own customers, sample firms operate largely in the same way. Only one respondent claimed that over the years he had developed the ability to judge people and thus relied on his own judgement a great deal. Most others require clients to fill a credit application form and to provide references. Many also indicate that they take on customers on a trial basis to allow them to demonstrate their reliability. Many firms collect information about their clients directly, by inspecting the client's business premises or home, and by asking friends and others about the client's reliability. They also rely on previous acquaintance, on the reputation of the client, and on any other knowledge they may have acquired of that client over time. Several larger firms even require loan applicants to pass an independent screening by Dun and Bradstreet, a credit insurance company, or by their factor. When suppliers are not satisfied, they may request the credit applicant to provide a deposit, a bank guarantee, or a personal guarantee to secure their line of credit.

We run probit analyses to test under what conditions firms are subjected to formal screening and whether they obtain credit from the first purchase. Results reveal that African firms are both less likely to be formally screened and less likely to obtain credit from the first purchase (Table 14). This seems to imply that some screening is done purely on the basis of the ethnicity of the applicant. Larger firms are significantly more likely to receive credit from the first purchase, suggesting the importance of reputation as a screening device. As providers of trade credit, large firms are more likely to use formal screening mechanisms such as credit application forms, and bank and trade references. Discussions with respondents suggest that there may be economies of scale in establishing such formalized systems. Several respondents also pointed out that a formal credit application process minimizes the risk of collusion between employees and clients. Firms in the textile sector are less likely to require formal screening of their clients. We do not have a convincing explanation to suggest, except perhaps that competition in this sector is fierce and suppliers avoid antagonizing clients by being too

suspicious. African firms are significantly less likely to provide credit to first time customers. Many plausible explanations for this result are ruled out by the regressions themselves. It is not because these firms are smaller or newer and thus more vulnerable to risk: the coefficients on age and size are very small and entirely non significant. It is not because African firms do not use formal screening mechanisms: the third regression in Table 14 indeed shows that African firms, if anything, screen more (the coefficient is not significant, however; only size matters in that regression). The most likely explanation for this result is that it is a reflection of the liquidity constraints African firms face. This interpretation is reinforced by the fact that subsidiaries, which as a group are less credit constrained, on the contrary are more likely to give credit on the first purchase. Alternatively, it may be that African firms sell mostly to other Africans, who, as a group, are poorer and therefore more risky debtors than non-Blacks, while subsidiaries sell mostly to other well established firms, some of which are within their own group. African firms thus must, on the top of having less access to credit, show extra caution in dealing with their own customers. Both explanations are consistent with Black firms giving less credit to their customers (see section 2).

Contract Compliance and Flexibility

Now that we understand better how firms identify suitable clients, we continue with a picture of what happens in practice when people do not pay. As Table 15 indicates, contracts compliance is not perfect in Zimbabwe -- nor was it in Ghana and Kenya where similar questions were asked (Fafchamps (1996); Fafchamps et al (1994)). Most panel firms experience problems of late and non-payment by customers. Large firms are more likely to run into such problems and face a larger number of problematic cases than small firms, a possible reflection of the larger number of clients that large firms have. As one would expect, cases of late payment are much more frequent than cases of non-payment.

Firms' reaction to breach of contract was assessed in two different ways. Panel firms were first asked to imagine what would happen should they or their clients fail to pay (Table 16). Legal action is the most often cited response. Rescheduling is often cited in connection with clients. The interruption of deliveries is seen as a possible sanction against non-payment in commercial transactions. This finding is consistent with the idea that the threat to discontinue the trade relationship is part of the enforcement mechanism.

Firm behavior when faced with an actual contractual problem is somewhat different, however. Firms' initial response when faced with a payment problem is to seek an amiable resolution through direct negotiation (Table 17). Should these negotiations fail, firms hire a lawyer and threaten to go to court, more frequently so if the client is not paying at all. Private arbitration is rare. Few firms ever threaten clients to call upon the police. The majority of late payment disputes are settled and business resumed. Non-payment is more likely to sever the commercial relationship, a finding in line with what intuition would suggest.

Contract compliance in commercial transactions was examined in further detail in the case study. Interviews indicate that it is common for firms to delay payment beyond the agreed term. One third of the sample firms stated that they normally pay after the term, in most cases within a month of the due date. Over 80 percent of the case study firms have delayed payment at least once (Table 18). A somewhat smaller fraction of White firms report paying normally after the term, but a larger fraction of White firms report having delayed payment at least once. The latter finding is hardly surprising given that White firms are typically older and larger and deal with more suppliers. Fewer microenterprises normally pay after term, partly because they often do not receive trade credit, and when they do they are afraid to lose it. African firms and microenterprises are less likely to delay for more than one month when they do delay, and are less likely to be charged interest penalties for late payment.

In order to disentangle the effects of race, firm size and other factors, we run a Probit analysis of whether firms normally or ever pay late. Results shows that food and wood sector firms are less likely to pay late (Table 19); other firm characteristics are not significant. These results have limited statistical power due to the small number of observations, but they do *not* support the hypothesis that the surveyed African firms and microenterprises receive less trade credit because they are generally less reliable in repaying loans.

Similarly, over 40 percent of the case study firms report that their customers normally pay late, and nearly all firms have had customers pay late at least once (Table 20). Microenterprises are less likely to have customers pay late and to charge interest penalties; when customers delay payment to microenterprises, they also are less likely to pay more than 30 days late. The reason for these findings undoubtedly is that microenterprises are typically so liquidity constrained that they could not afford having their customers pay late. Whenever they give credit, which tends to be less frequent, it is for a shorter duration and delays are kept short. Interviews with respondents indicated that micro-entrepreneurs take the time necessary to harass their client until

they get their money. They could not survive otherwise. Firms owned by Africans and other non-White ethnic groups also appear less likely to have customers pay late or delay for a long time. A Probit regression shows no statistically significant coefficients, however.

Next we investigate whether there are significant differences among firms in the incidence of financial penalties for late payment. Probit regressions show that larger firms are both more likely to be charged financial penalties by their suppliers and to charge financial penalties to their customers (Table 21). Penalties are thus more standard for larger firms that operate with their suppliers and customers in a less personalized manner. Asian-owned firms, on the other hand, are less likely to charge financial penalties than other firms, indicating that they rely more on informal means of enforcing credit terms. This is consistent with the way Asian firms were found to operate in Kenya (Fafchamps et al. (1994)) and stresses the importance of relation-specific capital (i.e., trust) in enforcing trade credit transactions. Several firms, however, indicated that they do not pay financial penalties. Large firms, for instance, though more likely to be charged interest for late payment, are no more likely than other firms to pay financial penalties.[9]

We also quizzed respondents on what happens when they pay suppliers late or when their clients delay payment to them (Table 22). Most firms view repayment delays of less than one month as part of doing business. It is understood that customers sometimes face temporary cash flow problems that prevent them from paying on time. Such delays are not cause for major concern, especially if the customer has a good track record. Firms get more annoyed, and begin taking action beyond 30 days. Many firms nevertheless indicate that what action they take depends upon their relationship with the customer and on the extent of communication between the two. Firms repeatedly stated that if a customer comes forward saying he is facing a short term problem, and then demonstrates a good faith effort to pay, no action is taken beyond, perhaps, the imposition of interest penalties. If the suppliers feels that the customer is not behaving responsibly, however, or if the customer is not valued, the supplier may stop deliveries and, in extreme cases, take the client to court. Firms typically have a hierarchy or sequence of responses when a client fails to pay, beginning with contacting the debtor to find out what the problem is,

[9]Several respondents indicated that financial penalties have been ruled illegal by the South African Supreme Court (whose jurisprudence Zimbabwe seems to share), unless they were explicitly stipulated in the contract. Furthermore, the maximum interest that can be charged is the 'legal' interest (i.e. the interest rate used by Zimbabwean courts to compound financial obligations over time) which was, at the time of the survey, 18% per annum, well below the money market rate. A number of suppliers now stipulate in their credit application form that they will charge interest for late payment, but many respondents either refuse to sign these forms, or simply ignore interest charges. As one of them puts it, "Who's gonna sue me for a few thousand Zim dollars? Besides, as long as I pay the principal and place a new order, the supplier is happy". Enforcement, again, occupies center stage.

then using repeated requests, perhaps coupled with threats to stop supplying the customer, then stopping supplies, then sending the customer a final notice, and finally turning the matter over to an attorney. There is some variation among firms, as large, monopolistic firms are quicker to stop deliveries, while others appear at a loss to prevent payment delays on the part of large or monopsonistic buyers, including government agencies. Conversations with respondents indicate that flexibility appears to have diminished in recent years as inflation and tighter monetary conditions have led to much higher nominal interest rates, increasing incentives to pay late and making default more likely. Firms are now more anxious to receive payment on time and willing to impose penalties for late payment than they used to. In many cases they even have reduced the repayment period or stopped providing trade credit altogether.

Most sample firms expect that their suppliers will eventually stop supplying them if they delay payment very long (Table 22); nearly all of them feel that this would occur within 90 days. Most also feel that suppliers would eventually initiate legal action, though they expect this to take up to 180 days. African and microenterprises appear more likely to expect such actions than other firms, and they expect supply cutoffs to occur sooner than other firms, a possible reflection of their weak economic position. That microenterprises fear legal action more than larger firms is contrary to our initial expectations. We had indeed thought that microenterprises would feel sheltered from judicial action by the high cost of suing them relative to the debts they may have. It may be that microenterprises have wrong expectations and that the threat of court action is not credible. Discussions with attorneys and credit recovery agencies, however, suggest otherwise: Zimbabwean courts seem to deal with uncontested delinquent debts expeditiously, to the point that debt recovery has become routinized and that transaction costs are lower than we had anticipated (see Fafchamps et al. (1995), Chapter 3). As a result, summons are filed for relatively moderate sums: the threat of court action is, indeed, real. Irrespective of whether debtors' expectations are 'rational' or not, the fact remains that they expect to be punished, and this is sufficient inducement not to delay beyond reason.

The great majority of case study firms stop deliveries if their customers are 90 days late in their payments. They also are very likely to take legal action if payments are 180 days late. Among microenterprises, however, only one stated it would stop deliveries if payments were delayed very long. The others said the question was not applicable to their situation because they do not make regular deliveries. Probit analysis further indicates that larger firms are more likely to stop deliveries (Table 23). It also confirm that larger firms are less likely to fear interrupted

deliveries or legal action should they delay payment for long. Older firms also are less likely to perceive legal action as a potential threat. These findings suggest that relationships and market power are important factors in the enforcement of trade credit contracts: older firms are likely have well established relationships with suppliers, and suppliers have more to lose by attempting to punish a larger firm. We now explore these issues in more detail.

Reputation, Trust and Socialization

We have seen that trust and reputation play a central role in the way creditors screen debtors and in the way contractual difficulties are handled. We now examine how trust is established and how reputation circulates among firms. Nearly 90 percent of the sample firms indicated that they are familiar with their suppliers at least as business acquaintances, and many said that the relationship has social dimensions as well (Table 24). Several respondents commented on the importance of a good relationship with suppliers, not just to have access to trade credit or flexibility in repayment, but also to help ensure that supplies are available, reliable, and of good quality. Fewer microenterprises and African firms reported being acquainted with their suppliers, a feature consistent with our previous finding that suppliers are more likely to stop deliveries to such firms. Microenterprises and African firms are also less likely to be acquainted with their customers, and in general, sample firms are less acquainted with their customers than with their suppliers. This is because firms have more customers than suppliers, but it also reflects that for many years Zimbabwe was a supply constrained economy in which the availability of raw materials and spare parts was problematic. In these circumstances, one would expect firms to cultivate goods relationships mostly with their suppliers to guarantee supplies.

Probit analysis of the extent of relationships with suppliers and clients confirms that African firms have more superficial relationships with their suppliers, but shows no significant effect of firm size or age (Table 25). This is distressing, as it suggests that ethnic barriers may be more limiting to African firms than their young age and small size. Firm characteristics do not seem to explain whether firms have a social relationship with their clients.

Reputation also plays an important role in enforcing trade credit contracts. Most firms believe that defaulting on a particular supplier could result in losing credit from all suppliers. This perception is more common among larger firms. An implication of this is that larger firms have more 'social capital' at stake and so their reputation can be used as an enforcement mechanism. Most firms also indicate that delinquent customers may lose the ability to obtain

credit from other suppliers. Microenterprises constitute an exception: only one such firm indicated that it could face a reputational penalty. This is important because it may explain why microenterprises fail to get trade credit in the first place. Microenterprises also appear unable to impose a reputational sanction onto their own customers. Probit analysis indeed supports the conclusion that smaller firms are less likely to impose reputational penalties (Table 26). This alone would explain their reluctance to grant trade credit.

The most common means by which reputational penalties are imposed are the information published in the Dun and Bradstreet gazette, and informal networks of suppliers who share information. Most firms nevertheless indicate their reluctance to spread "bad press" about a problematic client as long as there is a chance they may get paid. Many, however, respond to inquiries made about particular customers. Reputational penalties are thus strongest in case of clear cut default. The importance of formal credit ratings via Dun and Bradstreet suggests a degree of sophistication in the circulation of credit reference information not found in Ghana or Kenya, where firms rely exclusively on informal information networks, if at all (Fafchamps (1996), Fafchamps et al. (1994)).

Taken together, these results support the importance of both reputation and personal relationships in commercial transactions and particularly trade credit. Reputation is important in Zimbabwe because of the existence of several interconnected networks of credit reference information, at the center of which lies Dun and Bradstreet. The existence of these networks is what enables firms to rely on formal screening procedures and to grant credit to many first time buyers. Thus, the system frees firms from exclusive reliance on personal relationships and past experiences. It, however, does not benefit all firms in the same way. Large firms with a well established reputation of course are the major beneficiaries of the system. Many smaller firms eventually benefit from the system as well once they have established a track record. But the reputation system represents a formidable hurdle for new firms and generally fails to benefit microenterprises because they often fail to meet an essential prerequisite, registration with the Registrar of Companies. Registration is indeed costly as it requires the establishment of formal accounts and the payment of various fees.

Firms without a publicly visible track record must fall back on more rudimentary practices for establishing trade credit relationships of the kind that we documented in Ghana and Kenya (see Fafchamps (1996) and Fafchamps et al. (1994)), namely: personal recommendation and trust building. Those who do not pass formal screening often are given another chance to prove

themselves over a trial period. They may also be able to drum support from a third party who will vouch for them or even, in some rare cases, guarantee the payment of their debts. At the bottom of the scale are clients who failed in the past, or who are too small for the supplier to bother. At every step of the screening mechanism, suppliers must assess the information they collect in light of what they know of the general population of potential trade credit recipients. To do so, they are likely to use all the information available to them, including one piece of information that is difficult to hide: the ethnic origin of the firm's owner or manager. Because Blacks as a group are poorer and Black firms tend to be younger and less experienced, statistical discrimination probably affects how suppliers perceive them, particularly, but not necessarily, if it is reinforced by prejudice.

Conclusions

Zimbabwean firms typically finance their activities from a variety of sources, not a single undifferentiated source. Trade credit is an important source of short term liquidity for most firms. Trade credit terms are comparable to those observed in industrialized economies (see Dun and Bradstreet (1970)). The cost of funds needs not be equalized across sources of funds, as a comparison between the interest rate on overdrafts and the implicit cost of trade credit indicates. Suppliers modulate credit terms by type of borrower. Large firms tend to get credit for longer periods at lower interest rate; they are also more likely to be offered cash discounts. These findings may reflect market power and differences in credit costs due to the existence of fixed transaction costs. Variations in cash discounts and repayment periods reflect differences in suppliers' own conditions as well as differences among their customers.

Zimbabwean firms use a combination of formal screening, statistical discrimination, reputation, and acquaintance before granting trade credit. Most suppliers use sophisticated screening procedures and rely on the reputation of the credit applicant if it is easily assessed. Unknown clients may be provided credit only after a trial period long enough for trust to develop between the parties. Large firms are more likely to obtain trade credit thanks to reputation and market power effects. The evidence again suggests that statistical discrimination may be used when assessing credit recipients. African firms, for instance, are less likely to be formally screened. These findings indicate that suppliers find it more difficult to collect and gauge information on African firms than on other firms. African firms themselves are also less likely

to provide trade credit, a possible reflection not only of liquidity constraints but also their own inability to identify trustworthy clients.

Reputation and relationships are important means of determining access to trade credit as well as of enforcing repayment. The ability to use reputational penalties is fairly sophisticated in Zimbabwe, and the use of credit ratings by Dun and Bradstreet and other organizations fairly common. Thanks to reputation effects, access to one type of finance, e.g. overdraft, helps accessing another, e.g. trade credit. Informal networks are also quite important in "spreading the word" about bad debtors. Reputation effects are most important for large firms. Relationships are more important for small and medium firms. Microenterprises typically have neither. African enterpreneurs are less likely to know their banker or their suppliers personally. Due to this lack of connections with the White and Asian dominated business community, African firms appear at a disadvantage in accessing credit beyond what can be attributed to their young age and small size.

The importance of regular purchases as a determinant of supplier credit and the use of stopped deliveries when payment is not forthcoming can be understood as evidence that the enforcement of trade credit contracts relies primarily on repeated interaction. This is confirmed by the fact that formal collateral is not used for trade credit. By relying on the value of the commercial relationship as enforcement device, suppliers economize on monitoring at the disbursement stage. They monitor clients indirectly through their monthly repayment pattern. If payment is not forthcoming, they eventually withdraw credit by stopping deliveries. Substantial repayment flexibility is nevertheless evident in most trade credit transactions and suppliers typically have a hierarchy of responses to payment delays. They begin with low cost collection efforts, then progressively increase the pressure on delinquent customers. The fact that suppliers are reluctant to embark upon severe measures such as legal action and spreading bad press on a client suggests that they also value the relationship and hesitate before undertaking an action that will damage it. As was found in Ghana and Kenya (Fafchamps (1996), Fafchamps et al. (1994)), most cases of late payment are resolved in an amiable fashion and business is resumed. Only large monopolistic firms were seen to behave differently, imposing severe penalties more quickly. This may be because their desire to preserve a relationship is less pressing -- the client can be replaced -- and because they find it in their interest to develop a reputation of toughness.

There is no evidence that the surveyed African firms are less reliable than other firms in repaying trade credit on time. This may be interpreted as limited evidence that statistical

discrimination is based on an inaccurate perception of Black firms' reliability and thus is prejudiced. An important caveat is that RPED surveys in Zimbabwe exclude the smallest of the microenterprises where most African enterpreneurs can be found (Daniels (1994)). If small microenterprises not covered in the sample have shaky finances (see Daniels (1994)) and therefore are bad payers, and if suppliers can not assess African firms' size accurately, then statistical discrimination may not entirely be due to prejudice. The evidence suggests another important explanation why African firms get less trade credit: network effects. Suppliers, who in their majority are White or Asians, are simply less acquainted with African enterpreneurs and therefore have less information on their reliability. A point in favor of that explanation is that we did not find evidence that Black trade credit recipients are more (or less) likely to be charged financial penalties, to have deliveries stopped, or to be subject to legal action when they delay payment: once sufficient trust has been built for trade credit to be granted, Black firms are treated on an equal footing with other firms. In contrast, large firms are less likely to be subjected to interrupted deliveries or legal action, a finding in agreement with the importance of market power and suppliers' desire to keep large customers. Legal action is less likely against older firms when they delay payment to suppliers, stressing the importance of relationships and reputation as alternatives to legal sanctions.

To summarize, there is ample evidence that certain Zimbabawean manufacturing firms, but not all, are rationed in their access to credit. Evidence suggests that African firms are less likely to obtain trade credit than other firms, controlling for factors like firm size, age and sector of activity. These findings suggest that differences based purely on ethnicity exists in Zimbabwe's trade credit market. In our view, this is due to a combination of two factors. First, African firms as a group may be subject to statistical discrimination: they are perceived as less reliable in repaying loans, possibly because they receive less credit and find it harder to smooth cash flow shocks (see Fafchamps et al. (1995), Chapter 6). Second, African firms are generally less well connected and have few acquaintances in banking and business. Socialization with potential sources of finance is low. Personal relationships are rare. These two factors combine to compound their difficulties in accessing external funds in general and trade credit in particular. Black entrepreneurs are thus disadvantaged by their lack of business contacts and by the difficulty to distinguish themselves from the mass of financially insecure and short-lived African-owned businesses in Zimbabwe. A vicious circle is created between weak financial base, unreliability as a debtor, and inability to access credit.

References

Arrow, Kenneth J., *Essays in the Theory of Risk Bearing*, Markham Publ. Co, Chicago, 1971

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

Bade, Jan, and Ronald Chifanba, "Transaction Costs and the Institutional Environment", in *The Manufacturing Sector in Zimbabwe: Dynamics and Constraints*, RPED Country Study Series, Free University of Amsterdam, University of Zimbabwe and the World Bank, Washington, D.C., April 1994

Carroll, Christopher D., "The Buffer-Stock Theory of Saving: Some Macroeconomic Evidence", *Brookings Papers on Econ. Activity*, 2:61-156, 1992

Coate, Stephen, and Glenn C. Loury, "Will Affirmative Action Policies Eliminate Negative Stereotypes?", *Amer. Econ. Rev.*, 83(5):1220-1240, December 1993

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

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

Cortes, M., A. Berry and A. Ishaq, *Success in Small and Medium-Scale Enterprises: The Evidence from Columbia*, The World Bank, Washington, D.C., 1987

Cuevas, Carlos, Rebecca Hanson, Marcel Fafchamps, Peter Moll, and Pradeep Srivastava, "Case Studies of Enterprise Finance in Ghana", RPED, The World Bank, Washington D.C., March 1993, (draft)

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

Dun and Bradstreet, Inc., *Handbook of Credit and Collection*, Dun and Bradstreet Credit Services, New York, 1970

Duns Analytical Services, *Industry Norms and Key Business Ratios - Desk Top Edition 1992-1993*, Dun and Bradstreet Information Services, 1993

Eaton, Jonathan, and Mark Gersovitz, "Debt with Potential Repudiation: Theoretical and Empirical Analysis", *Review Econ. Studies,* XLVIII:289-309, 1981

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

Fafchamps, Marcel, Tyler Biggs, Jonathan Conning, and Pradeep Srivastava, *Enterprise Finance in Kenya*, Regional Program on Enterprise Development, Africa Region, The World Bank, Washington, D.C., June 1994.

Fafchamps, Marcel, Jonh Pender, and Elizabeth Robinson, *Enterprise Finance in Zimbabwe*, Regional Program for Enterprise Development, Africa Region, The World Bank, Washington, D.C., April 1995.

Fafchamps, Marcel, "The Enforcement of Commercial Contracts in Ghana", *World Development,* March 1996.

Fudenberg, Drew, and E. Maskin, "The Folk Theorem in Repeated Games with Discounting or with Incomplete Information", *Econometrica*, 54:533-554, 1986

Gambetta, Diego, *Trust: Making and Breaking Cooperative Relations*, Basil Blackwell, New York, 1988

Geertz, Clifford, Hildred Geertz, and Lawrence Rosen, *Meaning and Order in Moroccan Society,* Cambridge U. P., Cambridge, 1979

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

Grossman, Herschel I., and John B. Van Huyck, "Sovereign Debt as a Contingent Claim: Excusable Default, Repudiation, and Reputation", *Amer. Econ. Review,* 78 (5):1088-1097, 1988

Hart, O., and B. Holmstrom, "The Theory of Contracts", *Advances in Economic Theory,* Truman F. Bewley (ed.), Cambridge University Press, Cambridge, 1987

Kandori, Michihiro, "Social Norms and Community Enforcement", *Review Econ. Stud.*,59:63-80, 1992

Kletzer, Kenneth M., "Asymmetries of Information and LDC Borrowing with Sovereign Risk", *Econ. J.*, 94:287-307, June 1984

Kreps, David M., P. Milgrom, J. Roberts, and R. Wilson, "Rational Cooperation in the Finitely Repeated Prisoners' Dilemma", *J. Econ. Theory*, 27:245-252, 1982

Laffont, J., and J. Tirole, "The Dynamics of Incentive Contracts", *Econometrica,* 56(5):1153-1175, Sept. 1988

Little, Ian, Depak Mazumdar, and J. M. Page, *Small Manufacturing Enterprises: A Comparative Study of India and Other Economies*, The World Bank, Oxford University Press, New York, 1987

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

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

McKinnon, Ronald I., *Money and Capital in Economic Development*, The Brookings Institution, Washington D.C., 1973

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

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

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

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

Platteau, Jean-Philippe, "Behind the Market Stage Where Real Societies Exist - Part II: The Role of Moral Norms, *J. Development Studies*, 30(4):753-817, July 1994

Radner, R., "Repeated Principal-Agent Games With Discounting", *Econometrica,* 53:1173-1198, 1985

Raub, Werner, and Jeroen Weesie, "Reputation and Efficiency in Social Interactions: An Example of Network Effects", *Amer. J. Sociology*, 96(3):626-54, November 1990

Reserve Bank of Zimbabwe, *Quarterly Economic and Statistical Review,* 14(3), September 1993

RPED, *First Report on the Zimbabwe Survey*, Free University of Amsterdam, University of Zimbabwe and the World Bank, Amsterdam, November 1993

RPED, *The Manufacturing Sector in Zimbabwe: Dynamics and Constraints*, RPED Country Study Series, Free University of Amsterdam, University of Zimbabwe, and the World Bank, Washington, D.C., April 1994

Schwartz, R., and D. Whitcomb, "The Trade Credit Decision", *Handbook of Financial Economics,* J. Bicksler (ed.), North-Holland, New York, 1979

Staley, Eugene and Richard Morse, *Modern Small Industry for Developing Countries*, McGraw-Hill, New York, 1965

Steel, W. F., and L. M. Webster, "Small Enterprises under Adjustment in Ghana", The World Bank, Washington, D.C., June 1991, Tech. Paper No. 138, Industry and Finance Series

Stiglitz, Joseph E., "Incentives and Risk Sharing in Sharecropping", *Rev. Econ. Stud.,* 41(2):219-55, 1974

Stiglitz, Joseph E., and A.M. Weiss, "Credit Rationing in Markets With Imperfect Information", *Amer. Econ. Rev.*, 71(3):393-410, June 1981

Stone, A., B. Levy, and R. Paredes, "Public Institutions and Private Transactions: The Legal and Regulatory Environment for Business Transactions in Brazil and Chile", The World Bank, Washington, D.C., April 1992, Policy Research Working Paper No. 891

Townsend, Robert M., "Optimal Contracts and Competitive Markets with Costly State Verification", *J. Econ. Theory*, 21:265-293, Oct. 1979

Udry, Christopher, "Rural Credit in Northern Nigeria: Credit as Insurance in a Rural Economy", *World Bank Econ. Rev.*, 1990

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

Zame, William R., "Efficiency and the Role of Default When Security Markets are Incomplete", *Amer. Econ. Rev.*, 83(5):1142-1164, December 1993

Zeldes, Stephen P., "Optimal Consumption With Stochastic Income: Deviations from Certainty Equivalence", *Quarterly J. Econ.,* 104(2):275-298, May 1989.

Table 1. Characteristics of the Case Study Sample

Firm Characteristic	Panel sample (manufacturing)	Case Study (manufacturing)			Case study (non-manufac-turing)
		Original Sample	Declined Interview	Actually Interviewed	
Ethnicity[1]					
African	33%	24%	50%	23%	22%
European	46%	49%	19%	64%	56%
Asian	13%	15%	80%	5%	6%
Other	8%	12%	25%	8%	17%
Size[2]					
Micro	20%	25%	60%	15%	6%
Small	33%	30%	42%	28%	22%
Medium	23%	20%	50%	21%	17%
Large	24%	25%	10%	36%	56%
Sector					
Food	24%	23%	56%	23%	33%
Textile	13%	28%	27%	44%	17%
Wood	44%	30%	25%	13%	22%
Metal	18%	20%	63%	21%	11%
Mixed	n.a.	n.a.	n.a.	n.a.	16%
No. of Firms	*201*	*40*	*16*	*39*	*18*

[1] Ethnicity of the owner or manager is not known for 7 of originally selected 40 firms. The percentages shown refer to those firms for which the ethnicity could be determined.

[2] Micro: 1-10 employees; Small: 11-100 employees; Medium: 101-250 employees; Large: 251 employees and above.

Table 2 : Mean Outstanding Balances (Z$'000)

Inflow of funds:	**Micro**	**Small**	**Medium**	**Large**	**Mean**
Gross outstanding balances	11	406	2799	25771	6812
Of which (in percent):					
Overdrafts	64%	17%	30%	21%	23%
Bank loans	0%	12%	20%	14%	14%
Loans from non-bank financial institutions	0%	9%	11%	30%	28%
Informal borrowing	9%	34%	8%	4%	5%
Owed to suppliers	27%	26%	30%	30%	30%
Owed to clients	0%	1%	0%	0%	0%
Outflows of funds:					
Gross outstanding balances	-9	-372	-2054	-13613	-3682
Of which (in percent):					
Informal lending	11%	1%	2%	6%	5%
Due from suppliers	0%	0%	2%	1%	1%
Due from clients	89%	99%	96%	94%	94%
Net balances:					
Net outstanding balances	2	33	744	12157	3129
Of which:					
Net trade credit	-5	-258	-1180	-5011	-1461
Net informal credit	0	134	202	358	168
No. of observations	*40*	*64*	*45*	*44*	*200*

Source: RPED panel data. Micro: 1-10 employees; Small: 11-100 employees; Medium: 101-250 employees; Large: 251 employees and above. A few firms could not be classified by size due to missing data; they are nevertheless included in the panel average. Positive number = inflow of funds; negative number = outflow of funds.

Table 3. Use of Formal and Informal Borrowing and Lending

Proportion of firms with:	Micro	Small	Medium	Large	Mean
An overdraft facility	23%	64%	91%	91%	68%
An outstanding bank loan	3%	13%	27%	50%	24%
An outstanding non-bank loan	0%	17%	13%	43%	19%
(Ever had a formal loan)	18%	41%	51%	73%	70%
An outstanding informal loan received	15%	14%	18%	23%	17%
Outstanding supplier credit	25%	81%	91%	95%	74%
An outstanding informal loan given	30%	53%	78%	84%	60%
Outstanding customer credit	55%	83%	98%	98%	84%

Source: RPED panel data.

Table 4. Probit Regressions on Trade Credit Use

	Const.	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
Receives supplier credit	**1.28**	**-1.43**	-0.08	-0.01	**0.01**	-0.16	-0.48	0.05	5.53	168
	0.009	*0.000*	*0.848*	*0.663*	*0.018*	*0.726*	*0.123*	*0.918*	*0.999*	
Grants credit to clients	**1.33**	**-0.81**	0.10	-0.01	**0.02**	**-0.95**	-0.15	-0.29	6.22	200
	0.033	*0.064*	*0.854*	*0.638*	*0.027*	*0.052*	*0.725*	*0.592*	*0.999*	

Source: Panel data. Asymptotic significance levels for two-sided t-test in italics.

Table 5. Proportion of Total Purchases and Sales Made on Credit

	All	African	White	Other	Micro	Small	Medium	Large
Purchases on credit	81%	57%	91%	79%	29%	81%	97%	90%
Nber of observations	*55*	*13*	*33*	*9*	*7*	*15*	*10*	*23*
Sales on credit	64%	41%	73%	53%	19%	65%	86%	61%
Nber of observations	*52*	*10*	*34*	*8*	*4*	*15*	*10*	*23*

Source: Case Study Sample.

Table 6. Tobit Regressions on the Proportion of Total Purchases and Sales Made on Credit

	Const.	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
Purchases on credit	**78.80**	**-20.1**	**-23.6**	-16.6	-0.13	**19.34**	-16.0	-10.6	-17.4	**21.64**	53
	0.000	*0.094*	*0.032*	*0.143*	*0.587*	*0.004*	*0.243*	*0.377*	*0.271*	*0.063*	
Sales on credit	18.21	**35.73**	**-25.2**	-12.9	0.151	**14.95**	**-30.9**	8.84	0.771	1.112	50
	0.360	*0.002*	*0.036*	*0.304*	*0.567*	*0.044*	*0.017*	*0.475*	*0.961*	*0.916*	

Source: Case Study Sample. Regression accounts for left (share = 0%) and right (share = 100%) censoring. Asymptotic significance levels for two-sided t-test in italics.

Table 7. Average Number of Days Elapsed Between Delivery and Payment to Supplier

Repayment period:	All	African	White	Other	Micro	Small	Medium	Large
1 to 15 days	13%	11%	10%	18%	15%	7%	18%	13%
16 to 30 days	41%	42%	40%	39%	62%	43%	31%	41%
31 to 45 days	23%	16%	28%	16%	15%	25%	27%	22%
46 to 60 days	13%	11%	11%	21%	8%	18%	12%	7%
60 days and over	11%	21%	11%	5%	0%	7%	12%	17%
Average delay:	45	50	42	38	30	40	42	60
Number of obs.	*167*	*19*	*81*	*38*	*13*	*56*	*49*	*46*

Source: RPED Panel data.

Table 8. Average Number of Days Elapsed Between Delivery and Payment by Clients

Repayment period:	All	African	White	Other	Micro	Small	Medium	Large
1 to 15 days	11%	26%	4%	16%	30%	16%	2%	4%
16 to 30 days	38%	37%	37%	35%	30%	42%	49%	26%
31 to 45 days	21%	9%	23%	29%	10%	14%	30%	23%
46 to 60 days	15%	14%	23%	10%	15%	14%	9%	23%
over 60 days	15%	14%	14%	10%	15%	14%	9%	23%
Average delay:	50	41	57	40	46	54	41	58
(with private retailer/wholesaler)	40	37	43	39	30	36	43	44
Nber of observations	*164*	*35*	*71*	*31*	*20*	*50*	*43*	*47*

Source: RPED Panel Data.

Table 9. Tobit on Duration of Trade Credit

	Const.	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
From supplier	**3.99**	0.26	-0.07	**-0.01**	**0.00**	-0.22	-0.06	-0.03	0.20	92
	0.000	*0.121*	*0.650*	*0.024*	*0.011*	*0.302*	*0.771*	*0.894*	*0.537*	
To client	**4.44**	-0.02	**-0.30**	**0.01**	0.00	**-0.73**	**-0.76**	**-0.77**	0.05	161
	0.000	*0.928*	*0.064*	*0.091*	*0.620*	*0.000*	*0.000*	*0.001*	*0.776*	

Source: RPED Panel data. Asymptotic significance levels for two-sided t-test in italics.

Table 10. The Offering of Cash Discounts

	All	African	White	Other	Micro	Small	Medium	Large
Offered by supplier	47%	64%	41%	54%	38%	45%	57%	36%
Offered to client	42%	21%	51%	53%	18%	42%	58%	52%
Nber of observations	*146*	*14*	*73*	*35*	*8*	*51*	*46*	*39*

Source: RPED Case Study Sample.

Table 11. Probit Regressions on Whether a Cash Discount Was Offered

	Const.	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
By supplier	**-1.54**	**.71**	**.56**	-.01	-.00	**.82**	**1.87**	**.71**	-.05	128
	.001	*.050*	*.064*	*.26*	*.293*	*.092*	*.000*	*.015*	*.933*	
To client	-.19	**-.63**	.02	.00	.00	**-.63**	**.58**	.24	.22	174
	.528	*.029*	*.927*	*.905*	*.262*	*.048*	*.033*	*.472*	*.502*	

Source: RPED Panel data. Asymptotic significance levels for two-sided t-test in italics.

Table 12. Cash Discounts (expressed as annualized interest rate)

Offered by supplier:	All	African	White	Other	Micro	Small	Medium	Large
minimum	18%	21%	17%	20%	n.a.	20%	18%	18%
maximum	37%	54%	25%	44%	n.a.	48%	24%	36%
Nber of observations	*24*	*5*	*12*	*7*	*0*	*6*	*5*	*13*
Offered to clients:								
minimum	22%	26%	19%	31%	n.a.	25%	14%	24%
maximum	27%	26%	26%	31%	n.a.	25%	14%	37%
Nber observ. (rates)	*19*	*2*	*14*	*3*	*0*	*6*	*5*	*8*

Source: RPED Case Study Sample. Implicit annual interest rates were calculated on the basis of minimum and maximum reported cash discount for respondents who gave a point estimate for the credit term and by adding 30 days to the credit term (see text for justification).

Table 13. Censored Tobit on Cash Discount (based on implicit annualized interest rate)

	Const.	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
From supplier	.64	-1.53	-1.35	.04	-.00	-2.37	-.85	**5.04**	-.29	39
	.741	*.104*	*.105*	*.194*	*.147*	*.353*	*.642*	*.020*	*.834*	
To client	**4.20**	.02	**.65**	**-.01**	-.00	-.07	.15	.05	-.17	84
	.000	.922	.003	.038	.405	.845	.523	.857	.529	

Source: Panel data. Asymptotic significance levels for two-sided t-test in italics.

Table 14. Probit Regressions on Screening and Ease of Access to Trade Credit

Suppliers	Const.	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
Formal screening	0.95	0.4	**-1.12**	-0.1	0	-0.1	-0.8	-0.1	-0.2	-0.4	49
	0.27	*0.43*	*0.07*	*0.81*	*0.31*	*0.78*	*0.23*	*0.92*	*0.75*	*0.5*	
From 1st purchase	-0.92	-0.45	**-1.71**	-0.96	-0.01	**1.534**	0.729	-0.39	-0.70	-0.44	48
	0.460	*0.623*	*0.052*	*0.214*	*0.555*	*0.021*	*0.502*	*0.626*	*0.560*	*0.590*	
Clients											
Formal screening	3.956	-5.69	0.639	0.424	-0.04	**1.829**	-1.03	**-1.57**	-0.21	4.94	51
	0.953	*0.932*	*0.507*	*0.616*	*0.235*	*0.007*	*0.320*	*0.070*	*0.862*	*0.945*	
From 1st purchase	-0.42	0.788	**-1.23**	-0.68	0.001	-0.13	**1.17**	0.59	0.73	**1.33**	52
	0.636	*0.174*	*0.031*	*0.186*	*0.938*	*0.697*	*0.098*	*0.339*	*0.326*	*0.046*	

Source: Case Study Sample. Asymptotic significance levels for two-sided t-test in italics.

Table 15. Frequency of Contractual Problems

Proportion of firms which, last year:	**Micro**	**Small**	**Medium**	**Large**	**Mean**
Faced late payment by client	63%	72%	91%	93%	80%
Faced non-payment by client	48%	56%	80%	77%	64%
Number of occurrences:					
Late payment	24	18	98	101	61
Non-payment	4	6	6	19	9

Source: RPED panel data. The distinction between late payment and non-payment is based on the subjective perceptions of panel respondents. Non-payment are typically identified by respondents as situations in which little or no hope remain of collecting payment.

Table 16. Firms' perceptions

Action taken by/against:	Suppliers	Clients
Interest penalties	17%	14%
Legal action	44%	49%
Rescheduling	17%	23%
Interruption of deliveries	42%	22%

Source: RPED panel data. Note: multiple answers allowed.

Table 17. Resolution of payment difficulties

Action taken:	**Late payment cases**	**Non-payment cases**
Direct bargaining	54%	51%
Private arbitration	0%	6%
Threatened/went to police	2%	9%
Hired a lawyer	29%	71%
Outcome of the dispute:		
Dispute was settled	68%	43%
Respondent satisfied with outcome	78%	37%
Parties still doing business with each other	60%	18%

Source: RPED panel data.

Table 18. Repayment of Supplier Credit

Pay after term?	All	African	White	Other	Micro	Small	Medium	Large
Normally	33%	40%	30%	38%	20%	43%	30%	32%
Ever	82%	73%	79%	100%	60%	100%	100%	67%
Nber of observations	*54*	*11*	*34*	*9*	*5*	*15*	*10*	*24*
When delay payment to supplier:								
Penalties charged	59%	33%	64%	67%	0%	64%	56%	72%
Penalties paid	42%	13%	50%	44%	0%	50%	38%	50%
Delay > 30 days	27%	0%	30%	33%	0%	15%	44%	30%
Nber of observations	*45*	*8*	*28*	*9*	*5*	*14*	*8*	*18*

Source: Case Study Sample.

Table 19. Probit Regressions on Whether Firm Pays Suppliers Late

	Const.	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
Normally pays late	-0.66	0.30	0.87	0.78	-0.02	0.50	**-1.49**	-0.91	**-1.44**	0.36	49
	0.509	*0.625*	*0.119*	*0.241*	*0.227*	*0.144*	*0.022*	*0.112*	*0.085*	*0.516*	
Ever paid late	3.47	-1.37	-0.13	4.85	-0.01	0.28	**-1.83**	-0.89	**-3.23**	-0.97	52
	0.023	*0.108*	*0.832*	*0.926*	*0.459*	*0.524*	*0.039*	*0.274*	*0.007*	*0.160*	

Source: Case Study Sample. Asymptotic significance levels for two-sided t-test in italics.

Table 20. Repayment of Credit by Clients

Clients pay after term	All	African	White	Other	Micro	Small	Medium	Large
Normally	44%	25%	53%	25%	20%	42%	50%	48%
Ever	96%	82%	100%	100%	83%	92%	100%	100%
Nber of observations	*53*	*11*	*34*	*8*	*6*	*13*	*11*	*23*
When clients delay payment:								
Penalties charged	55%	56%	63%	25%	17%	46%	78%	62%
Delay > 30 days	36%	14%	46%	20%	0%	50%	78%	62%
Nber of observations	*49*	*9*	*32*	*8*	*6*	*13*	*9*	*21*

Source: Case Study Sample.

Table 21. Probit Regressions on Whether Financial Penalties Charged

	Constant	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Nber. observ.
By suppliers	0.107	-0.92	-0.29	0.414	-0.01	**0.616**	-0.34	-0.22	-0.11	43
	0.905	*0.136*	*0.633*	*0.498*	*0.599*	*0.095*	*0.61*	*0.711*	*0.896*	
To clients	-0.984	-0.38	0.658	**-1.294**	-0.01	**0.944**	0.429	-0.39	0.131	47
	0.292	*0.518*	*0.382*	*0.03*	*0.319*	*0.03*	*0.52*	*0.518*	*0.866*	

Source: Case Study Sample. Asymptotic significance levels for two-sided t-test in italics.

Table 22. Repayment of Credit by Clients

	All	African	White	Other	Micro	Small	Medium	Large
When delay payment to supplier, eventually:								
Deliveries are stopped	74%	83%	75%	67%	100%	79%	88%	61%
Legal action is taken	72%	100%	67%	67%	100%	79%	67%	62%
Nber of observations	*45*	*8*	*28*	*9*	*5*	*14*	*8*	*18*
When a client delays payment, firm eventually:								
Stops deliveries	88%	71%	93%	88%	25%	89%	90%	100%
Takes legal action	82%	75%	85%	67%	75%	80%	90%	81%
Nber of observations	*49*	*9*	*32*	*8*	*6*	*13*	*9*	*21*

Source: Case Study Sample.

Table 23. Probit Regressions on Action Taken When Debtors Delay For Long

Suppliers	Constant	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Nber. observ.
Stop deliveries	**2.370**	0.643	-0.391	0.155	-0.023	**-1.160**	1.560	**1.522**	0.274	41
	0.054	*0.320*	*0.723*	*0.805*	*0.185*	*0.032*	*0.123*	*0.055*	*0.753*	
Take legal action	**8.306**	**-3.114**	7.734	1.709	**-0.084**	**-1.203**	1.474	-1.600	**-5.203**	35
	0.022	*0.093*	*1.000*	*0.148*	*0.068*	*0.074*	*0.269*	*0.255*	*0.069*	
Clients										
Stop deliveries	**-4.884**	6.970	4.985	1.771	-0.030	**5.030**	7.071	-5.135	-5.511	41
	0.071	*0.474*	*0.141*	*0.279*	*0.439*	*0.043*	*1.000*	*0.158*	*0.126*	
Take legal action	8.142	-6.729	-0.585	-1.308	0.016	-0.084	-0.873	-0.946	5.580	44
	1.000	*1.000*	*0.400*	*0.156*	*0.495*	*0.876*	*0.424*	*0.274*	*1.000*	

Source: Case Study Sample. Asymptotic significance levels for two-sided t-test in italics.

Table 24. Firms' Relationships with Suppliers and Clients

	All	African	White	Other	Micro	Small	Medium	Large
Social relationship with suppliers	89%	77%	86%	100%	71%	93%	89%	92%
Social relationship with clients	73%	62%	77%	78%	57%	67%	70%	83%
Nber of observations	*56*	*13*	*34*	*9*	*7*	*15*	*10*	*24*

Source: Case Study Sample. Other firms have either no personal interaction or minimal business contacts.

Table 25. Probit Regressions on Socialization with Suppliers and Clients

	Const.	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Subsi-diary	Nber. observ.
With suppliers	9.32	-6.96	**-2.71**	3.01	-0.04	-0.28	1.80	**2.44**	0.01	-0.74	53
	0.859	*0.894*	*0.023*	*0.967*	*0.215*	*0.689*	*0.357*	*0.029*	*0.988*	*0.480*	
With clients	0.54	0.68	-0.20	0.15	0.00	0.24	-0.45	0.33	-0.04	-0.40	54
	0.608	*0.284*	*0.701*	*0.866*	*0.835*	*0.499*	*0.516*	*0.558*	*0.961*	*0.425*	

Source: Case Study Sample. Regression accounts for left (share=0%) and right (share=100%) censoring. Asymptotic significance levels for two-sided t-test in italics.

Table 26. Probit Regression on Reputation Impact of Trade Credit Default by a Client

	Constant	Manuf. dummy	African owner	Other owner	Age of firm	Size of firm	Food dummy	Textile dummy	Wood dummy	Nber. observ.
Lose credit from others	-1.087	0.575	-0.104	-0.389	0.004	**0.886**	**-2.009**	-0.849	-0.742	44
	0.325	*0.358*	*0.890*	*0.515*	*0.797*	*0.058*	*0.012*	*0.213*	*0.373*	

Source: Case Study Sample. Asymptotic significance levels for two-sided t-test in italics. A similar Probit analysis on the reputation impact of trade credit default vis a vis a supplier shows no significant differences across firms.