



The Importance of Courts for Trade Credit in East African Manufacturing Firms

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Abstract

This paper examines the importance of courts for trade credit amongst manufacturing firms in the East African community (EAC). The paper finds that high enforcement costs do not deter the use of courts to settle disputes associated with trade credit. The analysis suggests that when courts function efficiently they are likely to be a more effective deterrent to opportunistic behaviour relative to non-court mechanisms. Further, the paper finds that when enforcement costs are low firms that have confidence in the judiciary to enforce their property rights are more likely to provide trade credit. The paper also considers whether firm characteristics affect the way firms perceive the judiciary's ability to enforce property rights in business related disputes. Where judicial enforcement is efficient firm characteristics are not important. However, when enforcement costs are high, firm characteristics are important implying that firms are capable of swaying judicial decisions in their favour.

KEYWORDS: courts, enforcement costs, trade credit

1 Introduction

A positive relationship has been established between the quality of the legal system and access to external finance in both developed and developing countries (La Porta et al, 1997; La Porta et al, 1998). According to Fabbri (2001) the legal system affects financial markets in 2 ways. Firstly, it does so through the content of the law which defines the rights and powers of creditors and outside investors. Secondly, the legal system affects financial markets depending on how effectively the laws can be enforced. More efficient enforcement through the court system is associated with greater access to credit (see for example Japelli et al, 2005). In the context of Sub-Saharan Africa (SSA), Nkurunziza (2005) and Fleisig and de la Pena (2003) argue that the poor institutional environment make legal enforcement ineffective for creditors attempting to recover debt.

Much of the literature on the relationship between the legal environment and financial markets has tended to focus on bank and equity finance (see for example Cristini et al, 2001; Lombardo and Pagano, 2002; Japelli et al, 2005). However, other types of finance will also be affected by legal content and enforcement. For SSA interventions to improve access to alternative sources of external finance are important for firm growth. Trade credit is another form of external finance that will be affected by the quality of the legal system. It refers to credit extended by a seller who allows

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delayed payment for his products. In the event of payment disputes the suppliers of trade credit may have to resort to courts. Using Investment Climate data this paper examines how important courts are for trade credit amongst manufacturing firms in the East African Community (EAC).¹

Trade credit is a very important source of external finance for African manufacturing firms. For example, it is the most important source of finance for Zimbabwean firms accounting for up to a third of all outstanding balances across all size categories (Fafchamps et al, 1995). It is reported to be the most important source of non-bank credit for Kenyan firms (Fafchamps et al, 1994). Based on a sample of six countries, Bigsten et al (2003) report that for the majority of manufacturing firms trade credit is the most important source of finance for working capital needs. Trade credit was received by 62 percent of the sampled firms. Therefore, continued research into the nature of trade credit in SSA is a meaningful exercise that can provide useful insights on ways to improve credit access by manufacturing firms.

Trade credit can partly tackle the problem of poor legal systems found in SSA because it does not depend directly on collateral as a contract enforcement mechanism. However, although trade credit is generally not collateralized, it still requires that those providing it use the court system to resolve disputes over payments. This implies that improvements in the quality of the legal system can have important implications for the availability of trade credit. Therefore, if firms in SSA are to fully benefit from trade credit it is important to obtain better insight into how this source of external finance relates to the legal environment. To date very little has been done to examine this relationship, making this study an important contribution to the existing body of knowledge.

Focusing on the manufacturing sector is justified by several reasons. Firstly, securing finance is generally difficult for manufacturing firms (UNIDO, 1999). Moreover, a large number of manufacturing firms in the EAC are Small and Medium Scale Enterprises (SMEs), a feature which tends to tighten financing constraints significantly. This study will shed light on how to improve access to credit by this sector. Secondly, the manufacturing sector has the potential to make a significant contribution to economic development in the EAC as it has done in other regions. The phenomenal growth registered by the Newly Industrialized Countries (NICs) of East Asia is largely attributed to expansion in the manufacturing sector (see Radelet et al, 1997; Timmer and Szirmai, 1997, Hallward-Driemeier et al, 2002).

The broad objective of this study is to investigate how important courts are for trade credit in East African manufacturing firms. To this end we have 3 specific objectives: (a) to investigate the extent to which firms use courts to resolve payment disputes, (b) to assess whether the court system enhances the supply of trade credit, and (c) to examine which types of firms expect courts to enforce their rights in disputes. We find that high enforcement courts do not deter the use of courts to resolve payment disputes. We also find that when enforcement costs are low, firms that have confidence in the judiciary are more likely to provide trade credit. Firm characteristics are of no consequence when the judiciary is efficient. The rest of the paper is organised as follows: section 2 reviews the theoretical and empirical literature; the empirical analysis is conducted in section 3; and section 4 concludes.

¹Established in 1999, the EAC is made up of Kenya, Uganda and Tanzania. These countries had enjoyed a long history of co-operation under successive regional integration arrangements prior to 1999. These included the East African High Commission (1948-1961); the East African Common Services Organization (1961-1967); the East African Community (1967-1977); and the East African Co-operation (1993-1999).

2 Theory and Empirical Evidence

The literature has several explanations for why firms supply trade credit. One of the oldest views explain trade credit to be a result of financial market imperfections. This is referred to as the financial or liquidity motive and arises mainly due to imperfections in credit markets. This motive stems from the fact that some firms have easier access to credit markets compared to their customers, providing them with an incentive to use their borrowing capacity to pass credit on to these customers (Schwartz, 1974). It is argued by Emery (1984) that the existence of barriers to bank credit and the resulting non-competitive rents they generate presents an opportunity for non-financial firms to extend credit to excluded market participants.

The imperfect financial markets view of trade credit leads to the argument that bank credit is ‘redistributed’ to financially weaker firms by more financially sound firms in the form of trade credit. The redistribution hypothesis was first proposed by Meltzer (1960) and supported by among others Petersen and Rajan (1997) and Nilsen (2002). According to Love et al (2005) for redistribution to actually occur it must be the case that some firms are able to raise external credit, which they then pass on to weaker firms. Related to the redistribution argument is the ‘complementarity hypothesis’ of Demircuc-Kunt and Maskimovic (2001). The complementarity view argues that trade credit use is greater in countries with large and efficient financial intermediary sectors. Non-financial firms act as agents for financial intermediaries by lending to and borrowing from other firms when they have a comparative advantage in enforcing these credit contracts.

Related to the imperfect financial markets argument is the observation that trade credit demand arises because suppliers do not have the traditional collateral requirements of banks (see for example Fafchamps, 1997). The relationship between the supplier and the buyer generates information that improves the monitoring and enforcement of payments (Petersen and Rajan, 1997). This implies that compared to bank credit, trade credit is less dependent on formal collateral as a means to signal the credit quality of the buyer. Cunat (2004) develops a model showing that the lower the level of collateralizable assets a firm has, the higher the expected demand for trade credit.

Market imperfections can also be found in product markets. This means that there will be uncertainty about the quality of goods delivered by suppliers. In this instance trade credit arises out of a verification motive. By providing trade credit, suppliers give buyers a period to verify the product prior to payment (Smith, 1987). Trade credit sends a positive signal about the quality of the product by affording the buyer an inspection period through deferred payment. This can give the supplier a distinct advantage over competing suppliers. The verification motive is also used to explain trade credit demand. Firms demand trade credit because it affords them a period to inspect the quality of the product prior to paying. Smith (1987) explains that this sends a signal about the quality of the product. Incomplete information about the quality of the goods or the characteristics of the seller may encourage buyers to use trade credit rather than pay cash. This provides them with some protection against opportunistic behaviour by the seller.

According to the sales promotion motive trade credit terms are effective in increasing or maintaining market share, and in downloading excess inventory (Nadiri, 1969). Extending trade credit allows a supplier to gain an advantage over the competition because the buyer is continuously holding his products. At the same time, the seller transfers inventory costs (for example storage costs) to the buyer. Based on this argument the length of the credit terms will be positively related to the amount of time the goods are part of the buyer’s inventory. Trade credit is also used to establish long-term relationships with buyers in the expectation that they will provide a loyal clientele for the products of the seller. In this case trade credit is an investment used to maintain sales at a

given threshold within a secure relationship between suppliers and buyers (Ziane, 2004).

Empirical evidence suggests that ethnicity, firm size, access to bank finance, and profitability affect trade credit markets in Sub-Saharan Africa (SSA). These studies use firm level data and are based mainly on Zimbabwe (Bade and Chifamba, 1994; Fafchamps et al, 1995) and Kenya (Fafchamps et al, 1994). The findings of these authors suggest that micro enterprises are rationed out of the trade credit market. Black-owned enterprises are found to receive the least trade credit. In Zimbabwe firms use a combination of formal screening, statistical discrimination, reputation and acquaintance in selecting recipients. Large firms use credit application forms, and bank and trade references to screen firms applying for trade credit. Firms that are more profitable and that have an overdraft facility are more likely to secure credit. Reputation and relationships are also found to be important mechanisms for accessing trade credit and enforcing payment. Fafchamps et al (1995) also found that almost all Kenyan firms providing trade credit experience some problems with payment. 58 percent of these firms stated that legal action would be the most likely reaction to non-payment. However, legal enforcement is used mainly by large firms in cases where the transaction is large enough to justify the costs associated with courts and lawyers.

According to Bigsten et al (2000) small manufacturing firms in Africa prefer direct negotiation to legal action when settling contractual disputes over late payments for trade credit and late delivery of inputs. Mainly large firms use lawyers and courts in the event that negotiations fail. They argue that this might reflect a cultural preference for non-confrontational methods of settling disputes. The length of the relationship between parties is found to reduce the probability of going to court. Their conclusion is that the African manufacturing sector operates in an environment where contractual disputes are frequent but are mainly dealt with through direct negotiation.

Studies from other developing regions have also shown that courts are not the most commonly used mechanism for resolving trade credit disputes. McMillan and Woodruff (1999) explore how Vietnamese firms prevent disputes without the use of courts based on a survey of manufacturing firms. They find that firms cannot rely on courts, and thus use repeated game incentives in their contractual agreements. 90 percent of managers surveyed reported that courts are irrelevant in enforcing contracts or resolving disputes. Hendley et al (2000) investigate how Russian firms enforce agreements with trading partners. They find that Russian firms have a strong preference for using direct enterprise-to-enterprise negotiation to resolve contractual problems.

However, Johnson et al (2002) argue that courts have a role to play even when they function inefficiently. They identify 2 roles for courts. First, courts ensure that bills are paid. Second, courts help to clarify the responsibilities of the contracting parties in the event of dispute, which facilitates their day-to-day interaction. Based on a group of 5 post-communist countries they find that entrepreneurs who state that the courts work provide more trade credit than those who do not. They highlight that these countries all scored poorly in international comparisons measuring the fairness of the judiciary. They also find that functioning courts make it easier for new relationships to be established, implying that they act to stimulate business activity.

3 Data and Empirical Analysis

The main data sources for this study are the Investment Climate Assessment (ICA) surveys of the manufacturing sector. The surveys were conducted by The Regional Program on Enterprise Development (RPED) at the World Bank. The study also makes use of the World Bank Doing Business survey data.

3.1 The Data

A broad range of topics are covered in the ICA surveys including investment, export participation, infrastructure, access to credit, use of courts to resolve disputes, and corruption. The data are mainly cross-sectional having been collected for Kenya, Uganda, and Tanzania between 2002 and 2003. The surveys provide data on 282 Kenyan, 300 Ugandan, and 276 Tanzanian manufacturing firms respectively.

The samples were drawn from censuses conducted by National Statistical Bureaus in each country. To ensure representation of all types of firms, the samples were stratified across location, industry, and size. There were 9 manufacturing industries covered in the surveys, namely: agro, chemicals and paints, construction materials, furniture, metals, paper, printing, and publishing, plastics, textile and leather, and wood. Following the stratification of the sample frame, firms were selected randomly from each cluster. Table 1 shows the distribution of firms across the different industries. The furniture and wood industries are combined allowing us to have 8 industries for each of the 3 countries.

We observe that for all 3 countries the agro-industry is the largest, with Uganda having the greatest number of firms in this industry. This is consistent with the heavy reliance on agriculture in these countries. Uganda also has by far the largest number of firms involved in construction materials, while Tanzania has the largest number of firms in the wood and furniture industry. Kenya has the most firms in plastics and metals. It also has the most firms involved in textiles, garments and leather products.

Kenya has a greater proportion of large firms compared to Uganda and Tanzania as can be seen from Table 2. Less than 4 percent of Kenyan firms are micro in size, while the corresponding share for Uganda and Tanzania is 18 percent and 17.6 percent respectively.² These differences in size are partly a result of economic and political developments that have had an impact on private sector development. Tanzania pursued socialism until 1985 while Uganda was plagued by severe political unrest until 1986 when the current president came to power through a military coup. Furthermore, both Tanzania and Uganda undertook nationalization policies that served to curb foreign investment and entrepreneurship. On the other hand, Kenya pursued more market-oriented policies under a relatively peaceful political environment. Therefore, historically Kenya has enjoyed a more conducive environment for private sector development.

The World Bank's Doing Business (2005) indicators are an important source for data on legal rights of creditors and borrowers, contract enforcement, and information availability with respect to credit markets in the EAC countries. Indicators measure government regulations and their effect on businesses, especially on small and medium-size domestic firms across 155 countries. The data are based on research of laws and regulations, with contribution and verification from more than 3,000 local government officials, lawyers, business consultants, and other professionals who routinely administer or advise on legal and regulatory requirements. Factual information is used in the data collection process allowing for contact with various local respondents. This addresses potential misinterpretations of questions. The indicators are benchmarked to January 2005 and in the majority of cases refer to each country's most populous city. We assume that this data is adequately reflective of what obtained in the EAC countries at the time of the ICA surveys in 2002/2003. This means that the institutional environment is not expected to have changed substantially over a period of 2 to 3 years.

²Micro enterprises have less than 10 employees, small firms have 10-49 employees, and medium firms have 50-99 employees. Large firms have 100 employees or more.

3.2 Access to External Finance in the EAC

Table 3 shows that Kenyan firms have greater access to trade credit. It also shows that a larger proportion of Kenyan firms have access to bank finance in the form of ordinary loans and overdrafts compared to Ugandan and Tanzanian firms. The share of Ugandan and Tanzanian firms with access to bank loans and trade credit is fairly similar. However, Tanzanian firms appear to have marginally better access to overdraft facilities than Ugandan firms. Table 3 suggests that trade credit and bank finance are complements rather than substitutes.

We observe in Table 4 that amongst micro firms, trade credit is used least in Tanzania. It is also in Tanzania that it is used least amongst large firms. However, in the small and medium sized categories, Ugandan firms use trade credit the least. For all size groups Kenyan firms use trade credit more than Ugandan and Tanzanian firms. This supports the ‘redistribution’ view. Greater access to bank credit is associated with more use of trade credit. We observe a general increase in the use of trade credit with size. Notably, it is large firms who are most likely to have collateral to pledge for bank loans. Large firms may also have better access to internal sources of finance. Therefore, it is the smaller firms with the least collateral and less internal resources that would benefit most from trade credit.

Given the fact that Kenyan firms have greater access to trade credit and bank finance, it is not surprising that they rely less on internal sources of finance for their working capital and investment needs. Table 5 shows that Ugandan and Tanzanian firms depend much more heavily on retained earnings to finance working capital and new investment.

3.3 Testing of Hypotheses

There are 3 hypotheses corresponding to each of the objectives stated in the introduction.

3.3.1 Hypothesis 1: Courts are important for resolving disputes over trade credit payments

Any financial agreement requires an enforcement mechanism. If the suppliers of trade credit are to be protected from opportunistic behaviour from their customers, they must have credible mechanisms to recover debt in the event of default. These mechanisms should also be able to deter their debtors from taking advantage of them. Although it is argued that legal systems in SSA are inefficient, the scope of possible disputes may render non-court mechanisms insufficient. Courts can still have a role to play. Johnson et al (2002) find that even though courts in post-communist countries are inefficient, they do play a part in facilitating business activity.

Table 6 shows the share of firms that use courts and business associations to resolve disputes over trade credit payments. We observe that Kenya has the highest share of firms that use courts in resolving disputes over trade credit. About a quarter of Kenyan firms use the courts. Tanzania has the smallest share at 5 percent. Kenya also has the highest share that uses associations, while the smallest share is found in Uganda. Based on Table 6 it appears that courts are important in Kenya and less important in Uganda and Tanzania. Furthermore, associations play a greater role in dispute resolution in all countries compared to courts. Interestingly, Kenya has the largest share of firms that use the 2 mechanisms. Courts are associations in that country can be considered as complements rather than substitutes.

The observed differences in the role of courts will depend to some degree on differences in the quality of the legal system in the 3 countries. 2 factors are important when considering how the

legal environment differs across countries: (a) the legal rights of creditors and (b) how efficiently these rights are enforced through the courts. Table 7 shows indicators of the legal environment in the EAC capturing these 2 aspects. The Legal Rights Index (LRI) taken from the Doing Business data reflects the legal rights of borrowers and lenders. Using data collected through the study of collateral and insolvency laws, the LRI measures the degree to which collateral and bankruptcy laws facilitate lending. Among aspects covered by the LRI are: the extent to which secured creditors are able to seize their collateral when a debtor enters reorganization; whether general, rather than specific, description of assets is permitted in collateral agreements; and if a registry that includes charges over movable property exists. The LRI ranges from 0 to 10, higher scores indicating that collateral and bankruptcy laws are better designed to expand access to credit.³

The other Doing Business indicators show the cost of enforcement measured as the financial cost associated with recovering debt and the number of days to recover debt through the courts. Kenya has the most superior legal rights but the highest enforcement costs. Uganda has the lowest enforcement costs and legal rights that are similar to Tanzania. Notably, Tanzania which is relatively weak in both legal content and enforcement has the least use of courts. The ICA data also shows that Kenya has the highest share of firms that affect court decisions through bribing. This will tend to increase enforcement costs. Uganda has the smallest share which is consistent with the relatively low enforcement costs found in that country. It appears that enforcement may not matter much for the prevalence of court use.⁴ However, legal protection seems to be important. That is, Kenya which has the most superior legal rights is characterised by the greatest availability of trade credit. It is likely that trade credit contracts in Kenya are more clearly covered in the written law compared to Uganda and Tanzania.

Looking at Table 8 it is interesting to note that Tanzania which has the smallest share of firms using courts has a large share of sales to private customers and government agencies resulting in overdue payments. This suggests that the alternative enforcement mechanisms being used in Tanzania are ineffective to some extent. An enforcement mechanism is effective not only because it efficiently and fairly resolves a dispute, but also because it poses a credible threat to deter firms that have received trade credit from taking advantage of their suppliers. In Kenya 28 percent of sales to private agents result in overdue payments. This may reflect opportunistic behaviour resulting from the high enforcement costs. Firms anticipate that court action is too costly for their suppliers and default as a result.

In contrast, Uganda which has the lowest enforcement costs has on the whole the least problems with overdue payments. In particular, a substantially lower share of private customers in Uganda fails to pay on time. This suggests that the threat of court action in Uganda is a credible threat to private firms because the courts are relatively efficient. It may partly explain why there is a smaller share of Ugandan firms actually using the courts compared to Kenya.

It is important to note that we have not controlled for other factors that impact access to external finance. According to Haas (2004) this is a major weakness of the law and finance literature. Factors such as bank supervision, natural endowments, political stability, the level of economic development, and social capital are likely to be important. These factors are likely to be behind the interesting observation that although contract enforcement costs are highest in Kenya, Kenyan firms still have

³Although this indicator emphasises the collateral mechanism, it is considered to be appropriate as an overall indicator of creditor rights.

⁴One may ask whether these indicators are appropriate as measures of enforcement. It is possible that there could be reverse causality between the cost of enforcement and demand for court services. For example, higher demand for court use in Kenya may lead to a backlog of cases resulting in long waiting periods before disputes are resolved.

the most access to trade credit. For example, because Kenya has historically enjoyed a higher level of economic development than in Uganda and Tanzania, access to external finance will be more favourable for Kenyan firms even if legal enforcement in Kenya is of poor quality.

In addition, the analysis can not claim that causality runs in any particular direction. For instance, greater access to trade credit in Kenya increases the likelihood that disputes over financial contracts will arise. A greater demand for court services in Kenya for the resolution of these conflicts may be the reason behind the high enforcement costs observed in that country. It is also possible that the superior creditor rights in Kenya are a response to the expansion of the formal credit market, rather than a cause of this expansion.

Nevertheless, our investigation suggests that courts are more important for resolving disputes in Kenya than in Uganda and Tanzania. However, courts appear to be more of a deterrent to opportunistic behaviour in Uganda relative to the other 2 countries. This is mainly a function of the more efficient enforcement that obtains in Uganda. Courts are least important in Tanzania where both legal rights and enforcement are relatively weak.

3.3.2 Hypothesis 2: Trade credit supply increases with the efficiency of the court system.

Hypothesis 2 is tested using a probit model. The dependant variable is whether or not the firm sells some of its goods on credit as given by equation 1.

$$\begin{aligned} \text{Sell Goods on Credit} &= 1 \\ \text{Do not sell goods on credit} &= 0 \end{aligned} \tag{1}$$

We use firm perceptions about the judiciary to proxy for the efficiency of the court system. Firms were asked the extent to which they felt the judiciary would enforce their property rights in business related disputes. Responses ranged from 1 (fully disagree that judiciary will enforce) to 6 (fully agree that judiciary will enforce). We construct a binary variable that takes a value of 1 for firms that have confidence in the judiciary and 0 otherwise. Our expectation is that firms which have greater confidence in the judiciary will supply more trade credit.

The rationale for the other explanatory variables included in the model is as follows: Firms with bank loans are in a better position to provide trade credit according to the ‘redistribution view’. Older firms have stronger networks and are thus better positioned to provide credit. Large firms are better positioned to provide trade credit relative to small firms. Due to network effects locally owned firms may supply more trade credit. However, these firms may have fewer resources than foreign firms. Similarly, African owned firms may wish to provide trade credit due to network effects but may be constrained from doing so due to inadequate resources. The education level of management will impact a firm’s ability to assess the viability of a potential trade credit recipient. This variable refers to whether or not the firm’s top manager has had post-secondary school education. Geographical regions with a higher level of business activity are likely to be characterized by greater trade credit supply. The main industrial regions in Kenya, Uganda and Tanzania are Nairobi, Central and Dar-er-Salaam respectively. Finally, firms in some industries may be more capable of supplying trade credit.

The probit estimation is only done for Uganda and Tanzania. In the case of Kenya the model can not be estimated due to the underidentification problem. This occurs when one or more of our independent variables perfectly predict a particular outcome. For example, it could be

that one of our industry dummies always takes a value of 1 when our dependant variable equals 1. In this case a model with finite coefficients cannot be fitted. The problem can be solved in a step-by-step process. First, the variable causing the problem is removed. Second, the observations that led to the problem are taken out of the estimation. Finally the modified model using the remaining observations is fitted. However, in the case of Kenya the problem can not be solved in this conventional way because too many variables are involved: 4 independent variables and 5 dummy variables. The major cause of this problem is that 95 percent of Kenyan firms supply trade credit. Thus there is almost no variation in the dependent variable. In contrast the corresponding figures for Uganda and Tanzania are 36 percent and 23 percent respectively. The results of the probit estimation are presented in Table 9.

According to Greene (2003) an important limitation of probit estimation by maximum likelihood is that it requires a complete specification of the distribution of the observed random variable. In the event that the correct distribution differs from what we assume, the likelihood function will be misspecified, and our estimator will be misleading. When using cross-sectional data, problems such as heteroscedasticity can arise. In order to account for this our results are based on an estimator due to Huber (1967) and White (1980, 1982) that is found to be robust to several forms of misspecification error. The literature widely refers to this estimator as the Huber-White ‘sandwich’ estimator.

Confidence in the judiciary has a highly significant positive effect on trade credit supply in Uganda. This is similar to the findings of Johnson et al (2002) and supportive of hypothesis 2. Table 7 showed that Uganda has the least costly court enforcement. Ugandan firms can have confidence in the judiciary because in practice recovering overdue debt is less costly than in the other EAC countries. This provides an incentive to increase the supply of trade credit. However, for Tanzania we observe an unexpected negative (insignificant) effect. This is surprising, implying that firms that rely less on the court system are more likely to supply trade credit. It is nevertheless consistent with the relatively small share of Tanzanian firms that use courts to resolve disputes observed in Table 6. Informal means of resolving disputes may be more effective in Tanzania.

Firms with bank loans are more likely to extend trade credit in both countries. This effect is only significant in Tanzania, at the 10 percent level. It implies that the ‘redistribution effect’ is present to some extent. If firms are redistributing bank finance as trade credit, then the benefits to improving the legal environment are enhanced. This is because a better legal system improves the likelihood that firms unable to secure bank finance directly receive it indirectly as trade credit. Being in the agro and construction industries in Uganda has a significant negative effect on whether or not a firm supplies trade credit, while being in the metal industry in Tanzania has a positive effect.

Size and age are insignificant in both countries. Locally owned firms supply significantly less trade credit in Uganda. This is a surprising result which is contrary to our assertion of network effects. Local ownership has a positive insignificant effect in Tanzania. In both countries being African does not have a meaningful effect on trade credit supply. This finding suggests that network effects based on ethnicity are weak in these 2 countries. Educational attainment of management has a positive significant effect in Uganda, but is insignificant in Tanzania. This suggests that educated managers in Uganda are better at identifying profitable opportunities in other firms. Being in the main business region has a negative insignificant effect on trade credit supply in both countries.

Probit coefficients can not be interpreted in the same way as coefficients in standard linear regression models; they do not equal the marginal impact of the explanatory variables. To gain further insight into the model we use the marginal probability elasticity technique. This gives the

marginal impact on the explanatory variable of a unit change in one variable while holding the others constant at some value. In the case of discrete variables we obtain marginal effects calculated as the finite changes in these variables as their values change from 0 to 1.

Table 10 shows these marginal effects. It is instructive to focus on explanatory variables that were found to be significant in the probit analysis presented in Table 7. We observe that Ugandan firms that have confidence in the judiciary are 21 percent more likely to supply trade credit. This lends strong support to the view that an efficient court system enhances the availability of external finance. Locally owned firms are 18 percent less likely to extend trade credit and the probability that managers with post-secondary education supply trade credit is 15 percent higher than for their counterparts. Industry effects are large: firms in the agro and construction industries are 38 percent and 44 percent less likely to provide trade credit respectively. In Tanzania firms with bank loans are 16 percent more likely to supply trade credit. The implication of this is that the ‘redistribution effect’ is at work in Tanzania. Being in the metal industry is associated with an 18 percent higher likelihood of providing trade credit.

Not all firms believe that courts are able to resolve trade credit disputes. This is true even in Uganda where the judiciary is a credible enforcement mechanism. Bigsten et al (2000) demonstrated that firm characteristics are important for whether or not firms use the court system. The third hypothesis tests whether firm characteristics affect how firms perceive the judiciary.

3.3.3 Hypothesis 3: Firm characteristics determine whether or not firms have confidence in the judiciary to enforce their property rights in business related disputes.

Hypothesis 3 is also tested using a probit model where the dependent variable is the firm perception about the judiciary’s ability to enforce property rights used in hypothesis 2.⁵ Kenya is included in this estimation. Standard firm characteristics enter as explanatory variables. The rationale for these variables is as follows: Larger firms may have more confidence in the judicial process because they are better positioned to afford the associated costs and have greater reputational capital relative to smaller firms. Older firms may rely less on the court system because they have established networks which can depend on relational enforcement mechanisms. Firms with access to bank loans have more resources to engage in legal action and are therefore more likely to be confident in the judiciary. Similarly, more educated managers are better equipped to use courts. African entrepreneurs and firms that are locally owned are likely to prefer non-court enforcement mechanisms based on network effects implying that these firms may place less confidence in the judicial system. Regions where business activity is more developed may have better judicial enforcement. We also control for industry-specific effects. The results are presented in Table 11.

It is interesting to note that our model is jointly insignificant in the case of Uganda. We also note that not a single explanatory variable is significant for this country. This may be interpreted as the model being poorly specified. However, given that the model is significant for both Kenya and Uganda, we can reject this argument. In our view, this result suggests that judicial enforcement in Uganda is impartial across firms with different characteristics. The Ugandan judiciary does not discriminate when firms require its services. This is consistent with Table 7 which shows that Uganda has the lowest enforcement costs and the least corruption in the judiciary.

⁵It would have been better to consider the firms that actually use courts. This is a more objective measure than the perception based variable we use. However, the number of firms using courts in each country is small meaning we would not be able to make any meaningful inferences from the estimations.

Rather surprisingly, both size and age do not have a meaningful effect on whether firms expect the judiciary to enforce their property rights in business related disputes. This indicates that reputation and network effects based on how long firms have been in the market are not important. Also surprising is the negative effect of having a bank loan in the case of Uganda, and particularly Kenya, where this effect is significant at the 5 percent level. The implication of this is that firms with loans may use these funds to bypass the requirements of the legal system. Firms may decide to use these resources to pay bribes rather than adhere to procedures. This is consistent with the high enforcement costs found in Kenya. In Tanzania access to bank loans has the expected effect. Tanzanian firms with bank loans are more likely to have confidence in the judiciary implying that loans are used to cover the costs associated with bringing legal proceedings to a favourable conclusion.

Local ownership has a negative insignificant effect in Kenya and Uganda. However, it has a highly positive significant effect in Tanzania. This suggests that foreign owned firms in Tanzania have little confidence in the judicial system. Being African only has a meaningful effect in Kenya where African entrepreneurs are more likely to have confidence in the judiciary. Contrary to expectations, the education level of management has a negative effect on confidence in the judiciary in all 3 countries. In Kenya this negative effect is significant at the 10 percent level. More educated managers are those who would be more aware of the way in which the judiciary system actually functions. They are the ones who would be aware of the inefficiencies in the judiciary system. Thus, even though this result is unexpected, it is arguably consistent with the poor judicial enforcement in Kenya. In all countries being in the main industrial region has a positive, though insignificant, effect on confidence in the judiciary. There is no evidence indicating that being in a particular industry affects how firms in the EAC perceive the judiciary.

Table 12 shows the marginal effects of the variables found to have a significant effect on firm perceptions about the judiciary. Hence we focus on Kenya and Tanzania. The magnitude of access to bank loans is fairly large for both though with differing signs. Local ownership has a large effect in Tanzania: locally owned firms have a 32 percent greater probability of being confident in the judiciary. In Kenya managers with post-secondary education have a likelihood of being confident in the judiciary that is 17 percent less than other managers.

4 Conclusions

This paper attempted to empirically examine the importance of courts for trade credit amongst manufacturing firms in the EAC. We found that high enforcement costs do not deter the use of courts to settle disputes associated with trade credit. Rather, the demand for court services to settle disputes increases with the quality of creditor rights. The observation that courts in Kenya take a significantly longer period to settle disputes may be a result of this higher demand compared to Uganda and Tanzania. Faster resolution of disputes in Uganda and Tanzania may mask the fact that there is significantly less to enforce in these countries.

Furthermore, courts are likely to be a more effective deterrent to opportunistic behaviour relative to non-court mechanisms. Tanzania which has the least use of courts was also found to have the greatest share of sales resulting in overdue payments. In contrast, Uganda which has the most efficient court system among the 3 countries has the least problems with overdue payments. Thus, courts appear to be an effective deterrent to opportunistic behaviour when they function efficiently. Our analysis also showed that business associations can play a role in resolving disputes over trade credit. These associations are of greater value when the court mechanism is more costly. The

strengthening of business associations as a complementary mechanism through which disputes are resolved can have a positive effect on the availability of trade credit.

Our results showed that perceived efficiency of the courts has a highly significant effect on the supply of trade credit in Uganda. Firms that have confidence in the judiciary to enforce their property rights are more likely to provide trade credit. The marginal effect of this confidence was found to be fairly large. It appears that the relatively low enforcement costs in Uganda can act as an incentive for firms to extend trade credit. In contrast, confidence in the judiciary is negatively related to trade credit supply in Tanzania. This surprising finding is consistent with the low share of Tanzanian firms who make use of the courts. The supply of trade credit also appears to be positively affected by access to bank finance, particularly in Tanzania. This supports the ‘redistribution view’, and shows that strengthening the legal environment can allow firms unable to access bank finance directly, to do so indirectly through trade credit.

The paper also considered whether firm characteristics affect the way firms perceive the judiciary’s ability to enforce property rights in business related disputes. In Uganda firm characteristics have no effect suggesting that the judiciary is impartial across firms, a finding that is consistent with the low enforcement costs and low prevalence of corruption. However, in Kenya and Tanzania firm characteristics were found to be important implying that firms in these countries are more capable of swaying judicial decisions in their favour.

The key policy implication of the paper is that improving the efficiency of the judiciary can have a positive impact on trade credit supply. This suggests that business activity in the manufacturing sectors of the EAC countries can be enhanced by strengthening the court system. This is an important result for countries where improving access to external finance can have a meaningful effect on firm growth.

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Table 1: Industry Distribution of Firms

Sector	Kenya	Uganda	Tanzania
Agro-industry	83 (29.4)	122 (40.7)	81 (29.3)
Chemical and Paints	25 (8.9)	18 (6.0)	27 (9.8)
Construction materials	17 (6.0)	40 (13.3)	11 (4.0)
Metals	49 (17.4)	21 (7.0)	29 (10.5)
Wood and Furniture	20 (7.1)	54 (18.0)	65 (23.6)
Paper, Printing and Publishing	18 (6.4)	23 (7.7)	25 (9.1)
Plastics	23 (8.2)	7 (2.3)	7 (2.5)
Textile, Garments and Leather products	47 (16.7)	15 (5.0)	31 (11.2)
Total Number of Firms	282	300	276

Source: World Bank (2002/03), Investment Climate Surveys

Note: Numbers in parentheses are percentage shares.

Table 2: Size Distribution of Firms (%)

Size	Kenya	Uganda	Tanzania
Micro	3.8	18.0	17.6
Small	34.0	51.0	40.1
Medium	17.6	11.3	17.6
Large	44.7	19.7	24.6
Total	100.0	100.0	100.0

Source: World Bank (2002/03), Investment Climate Surveys

Table 3: Share of Firms Receiving Type of External Finance (%)

	Kenya	Uganda	Tanzania
Trade Credit	83.2	58.9	62.3
Bank Loan	39.1	20.2	19.1
Bank Overdraft	66.4	23.5	30.4

Source: World Bank (2002/03), Investment Climate Surveys

Table 4: Share of Firms that Receive Trade Credit by Size (%)

	Kenya	Uganda	Tanzania
Micro	60.0	44.4	31.3
Small	83.1	51.6	56.0
Medium	84.8	73.5	81.3
Large	83.8	84.7	80.6

Source: World Bank (2002/03), Investment Climate Surveys

Table 5: Share of Retained Earnings in Working Capital and New Investment (%)

	Kenya	Uganda	Tanzania
Working Capital	47.7	80.0	74.0
New Investment	52.7	71.4	67.9

Source: World Bank (2002/03), Investment Climate Surveys

Table 6: Share of Firms Using Courts and Associations for Dispute Resolution (%)

	Kenya	Uganda	Tanzania
Courts	23.8	8.7	5.4
Associations	37.3	25.1	27.9

Source: World Bank (2002/03), Investment Climate Surveys

Table 7: Indicators of the Legal System in the EAC

	Kenya	Uganda	Tanzania
Legal Rights Index	8	5	5
Cost of Enforcing Contract (% of debt)	41.3	22.2	35.3
Number of Days to Recover Overdue Debt	360	209	242
Firms Impacting Court Cases by Bribing (%)	42.3	28.9	32.1

Source: World Bank (2005), Doing Business in 2005 Database and World Bank (2002/03), Investment Climate Surveys

Table 8: Share of Sales Resulting in Overdue Payments (%)

	Kenya	Uganda	Tanzania
Sales to Private Customers	28.2	13.2	27.9
Sales to Government Agencies	14.4	16.7	48.8

Source: World Bank (2002/03), Investment Climate Surveys

Table 9: Explaining Trade Credit Supply

	Uganda	Tanzania
Confidence in the Judiciary	0.601*** (2.91)	-0.326 (-1.03)
Bank Loan	0.017 (0.07)	0.684* (1.67)
Log Firm Age	0.062 (0.46)	-0.008 (-0.06)
Log Employment	0.094 (0.11)	0.174 (1.56)
Local Ownership	-0.545* (-1.68)	0.383 (0.76)
African Owner	0.015 (0.05)	0.063 (0.23)
Education level of Manager	0.420* (1.66)	-0.072 (-0.26)
Region	-0.057 (-0.27)	-0.059 (-0.24)
Constant	0.803 (1.16)	0.000 (0.00)
Industry Effects Included	Yes	Yes
Number of Observations	209	159
Log-Likelihood	-118.94	-78.91
Wald – χ^2	39.10***	19.98*
Pseudo R ²	0.14	0.10

Note: *, ** and *** indicate significance at 10, 5 percent and 1 percent respectively. Numbers in parentheses are z statistics. Our reference industry is textiles.

Table 10: Marginal Effects of Significant Variables (Trade Credit Supply)

	Uganda	Tanzania
Confidence in Judiciary	0.212*	-0.102
Bank Loan	0.006	0.160*
Local Ownership	-0.184*	0.096
Education Level of Manager	0.15*	-0.021
Agro	-0.382*	0.076
Construction	-0.44*	0.035
Metal	-0.127	0.184*

Note: Marginal effect is the change in the dependent variable associated with a discrete change in a dummy variable from 0 to 1. * indicates that the variable was significant in the probit estimation.

Table 11: Explaining Confidence in the Judiciary

	Kenya	Uganda	Tanzania
Log Employment	0.115 (1.11)	0.018 (0.18)	0.001 (0.01)
Log Firm Age	0.009 (0.07)	-0.005 (-0.04)	0.013 (0.09)
Bank Loan	-0.620** (-2.44)	-0.094 (-0.37)	0.694** (2.25)
Local Ownership	-0.061 (-0.21)	-0.047 (-0.16)	1.038*** (2.68)
African Owner	0.517* (1.83)	-0.393 (-1.49)	0.237 (0.94)
Education level of Manager	-0.554** (-2.25)	-0.365 (-1.60)	-0.291 (-1.05)
Region	0.224 (0.90)	0.270 (1.31)	0.167 (0.64)
Constant	-0.881 (-1.16)	-0.256 (-0.43)	-1.271** (-2.08)
Industry Effects Included	Yes	Yes	Yes
Number of Observations	148	223	175
Log-Likelihood	-76.45	-138.67	-66.54
Wald – χ^2	22.72**	9.22	21.34*
Pseudo R ²	0.10	0.03	0.12

Note: *, ** and *** indicate significance at 10, 5 percent and 1 percent respectively. Numbers in parentheses are z statistics. Our reference industry is textiles.

Table 12: Marginal Effects of Significant Variables (Confidence in the Judiciary)

	Kenya	Tanzania
Bank Loan	-0.180*	0.187*
Local Ownership	-0.019	0.321*
Education level of Manager	-0.169*	-0.061

Note: Marginal effect is the change in the dependent variable associated with a discrete change in a dummy variable from 0 to 1. * indicates that the variable was significant in the probit estimation.