Trustworthiness and the Cost of Credit:

An Empirical Study of SMEs and Small Banks in Italy

Abstract

Trust is expected to reduce transaction costs and agency costs and thus influence the cost of credit for small businesses. Assessments of trustworthiness are based on the ability, benevolence and integrity of the owner manager. The study examines whether lending managers' assessments of the trustworthiness of SME owner managers are associated with the interest rate charged. Data were obtained from a survey of lending managers from small banks in North East Italy. Control variables and a vector of trustworthiness factors were collected on a random sample of customers, resulting in 365 small firms representing a 74% response rate. Multivariate regression analysis found evidence of a negative association between trustworthiness and interest rates. The study has implications for banks, owner managers and future research.

Keywords: small firms; finance; debt; trust; relationship lending; bootstrap.

JEL Classification: G21; M14

1.0 Introduction

Bank debt is the most common source of external finance for small businesses throughout the world. It is believed that the essence of successful lending is overcoming asymmetric information problems between the borrower and the lender that would otherwise create incentives for borrowers to default on their loans (Goldberg and White, 1998). This presumes that lending is premised on a lack of trustworthiness, which relies on an opportunistic assumption of human behaviour (Barney, 1990; Donaldson, 1990). However, such an approach is questioned by some authors and specifically Donaldson (1990: 398) who states *"the narrow and particular model of man in organisational economics of people as cheats and idlers is […] offensive."* An alternative set of assumptions about human nature allows for trust between individuals or organizations (Barney, 1990). Studies purport that high levels of trust encourage trustworthy behaviour (Nooteboom, 2002) and that trust can play an important role in reducing agency problems such as moral hazard and adverse selection.

Whilst studies have analysed the influence on bank lending of other risk factors, including some that could be associated with trustworthiness, for example information flows and relationships, there has been little analysis of the specific elements of trustworthiness, despite there being a strong body of literature and theories of trust. Research has shown that where relationships are based on trust, trustworthy behaviour increases and vice versa. The benefits of higher levels of trustworthiness could include lower monitoring costs and reduced defaults. Howorth and Moro (2006) present case study evidence indicating that heavy monitoring is perceived to indicate lack of trust in a borrower and can lead to lower demand for finance by small firms and less trustworthy behaviour. Harhoff and Körting (1998) found a highly significant negative relationship between a simple ordinal measure of the bank manager's level of trust and interest rate paid. They argue that trust captures information not contained in other explanatory variables such as the length of the relationship or the age of the firm. Trust is defined as: *the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor and control that other party"* (Mayer, Davies and Schoorman, 1995: 712).

This study analyses whether bank managers' perception of the trustworthiness of individual small business owner-managers is associated with the interest rate that they charge them. It tests a vector of measures of trustworthiness derived from previous studies. Our focus is on overdraft lending which, although defined as short term lending (Petersen and Rajan, 1995; Berger and Udell, 1995), is often in practice underpinned by longstanding relationships, not least because small firms may be reluctant to switch banks (Howorth, Peel and Wilson, 2003). Previous research has indicated that long term relationships improve information flows and reduce information asymmetries (Binks and Ennew, 1997). Trust is expected to increase with more frequent communication and closer relationships (Lewicki and Bunker, 1996). As small firms are more informationally opaque their lending process is more profoundly affected by relationships (Petersen and Rajan, 1994; 1995; Berger and Udell, 1995) and therefore, trust may be a more important factor in the lending decision.

The analysis is based on a survey of small firm owner-managers and their bank lending managers in North East Italy. This region is held up as a model of economic development. It is characterised by a high percentage of small firms and a banking network consisting of many small, local and regional banks. In this context, individ-

ual bank managers have a high level of autonomy and small communities lead to tight networks of relationships. The data include lending managers' perceptions of individual small firm owner managers' trustworthiness on a vector of variables capturing their ability, their benevolence and their integrity (Mayer et al., 1995).

The next section shows how trust theories and bank lending literature underpin our research question. These two streams of literature are then employed to identify control and independent (trust) variables. This is followed by a description of the survey method that was employed and a brief insight into relevant aspects of the Italian context. Principal components analysis is employed to reduce nine measures of ability, benevolence and integrity into one 'trustworthiness' component. The analysis that follows indicates a negative association between trustworthiness and the cost of credit. Bootstrapping is used to test the robustness of results. The conclusion considers the implications for entrepreneurs, banks and future research.

2.0 Bank lending

Small firms rely on bank credit as the main source of external finance since their size precludes them from accessing stock markets. However, information asymmetries are a particular issue for small firms accessing bank credit (Berger et al. 2001) and it has been shown that the higher the asymmetry, the lower the use of debt (Heyman et al., 2008). Within the Italian context, studies of the financing of small businesses have shown that firms obtain less finance through IPOs and grow at a slower pace in comparison to US firms (Carpenter and Rondi, 2006); high technology Italian firms which face greater information asymmetries make little use of external debt financing (Colombo and Grilli, 2007), and public guarantees increase the access to bank debt by mitigating information asymmetries and they also lower the cost of debt (Zecchini and Ventura, 2009).

The bank lending decision is based on one or more of four lending technologies (Berger and Udell, 2006): financial statement lending (based on the evaluation of information from the financial statement); asset based lending (based on the provision of collateral and its quality); credit scoring lending (based on statistical techniques); and relationship lending. The first three lending technologies are based on factual and publicly available information and are associated with transaction lending and non-recurrent needs. Relationship lending is based on recurrent needs and a key role is

played by private information, which goes beyond the relatively transparent data available from formal sources, to include information collected through a continuous process that is confidential to the provider of funds (Angelini et al., 1998; Berger, 1999). This soft information can be used within the organisation as the basis for taking other decisions and it has been argued that improvements in the relationships between banks and businesses help credit availability, reduce the cost of credit and the pledging of collateral.

Relationship lending is particularly relevant to small firms (Petersen and Rajan, 1994; 1995) because they are informationally opaque (Berger et al. 2001). A number of studies have therefore examined the factors that are associated with relationship lending in small firms (for instance, Binks and Ennew, 1997; Harhoff and Körting, 1998; Akhavein et al., 2004). The positive aspects of better quality relationships between banks and firms have been shown in studies in a range of countries (for example, Elsas and Krahnen, 1998; Elsas, 2005; Lehmann and Neuberger, 2001; Machauer and Weber, 2000; Hwan and Kolari, 2004).

However, findings on the impact of relationship lending on the cost of credit are inconclusive. Most studies have examined the association between the cost of credit and the length of the relationship. Berger and Udell (1995) as well as Elsas and Krahnen (1998) showed a negative relationship between the interest rate and the length of the relationship but empirical studies by Petersen and Rajan (1994) and, more recently, Baas and Schrooten (2006) did not find evidence to support this. Keasey and Watson (2000) claim a negative relationship but use the firm's age as a proxy for the length of relationship. Binks and Ennew (1997) argue that longer relationships can lead to increased cost of credit due to banks taking advantage of the firms' lock-in to the relationship.

One reason for these inconclusive results is that longer relationships provide increased information and better understanding, leading to more accurate assessments of risk, but they do not necessarily reduce risks. The length of relationship cannot therefore be expected to have a linear relationship with the cost of credit. However, high quality, close relationships might lead to lower default and reduced risk, as the discussion below shows, because they are characterised by high levels of trust. It is therefore trust which is expected to be associated with the cost of credit.

Very few studies have examined the role of trust in the small firm banking relationship. Harhoff and Körting's (1998) study considered trust incidentally amongst

their examination of bank relationships in Germany. Using a simple ordinal measure of the bank manager's level of trust, they found a highly significant negative relationship between trust and interest rate paid. They argue that trust captures information not contained in other explanatory variables such as the length of the relationship or the age of the firm. More recently, Ferrary (2003) showed that trust played a primary role for bank managers (and others) in entering the network of entrepreneurs and accessing additional informal information about the industry and the players. However, Ferrary did not examine the impact of trust on interest rate specifically. Thus, there are indications that trust is relevant to bank relationships but very little research to date. The following section therefore explains how theories of trust are employed in this study.

2.1 Trust

Interestingly, the etymological roots of credit relate to trust. The word credit derives from the Latin noun *creditum* which is translated as a thing entrusted to another; the related Latin verb *credere* means to believe, to trust and also to provide credit (Castiglioni and Mariotti, 1981). Underpinning a creditor's analysis of the risk return trade-off is an assessment of the trustworthiness of the borrower. Trustworthiness affects the reliability of the information provided for the lending decision and the potential moral hazard. In other words, the creditor's assessment is centred on whether the trustworthiness of the entrepreneur in controlling the risk, running the business competently and not defaulting on the loan.

The extensive literature on trust (for a general review see Nooteboom, 2002) emphasizes that a stronger level of trust: reduces agency problems (e.g. Ring & Van de Ven 1992); cuts transaction costs (e.g. Macaulay, 1963); reduces expenses of monitoring and control (e.g. Zand, 1972); decreases the use of legalistic remedies (e.g. Sitkin & Roth, 1993); improves relationships (e.g. Gulati, 1995); supports cooperation (e.g. Das & Teng, 1998); and aids decision taking in a situation where information is scarce (e.g. Luhmann, 2000). Clearly, these are all relevant to the small firm banking relationship and not including trust as an independent variable may reduce the explanatory capability of models of bank lending (Bromiley & Harris, 2006).

Different forms or strengths of trust are based *inter alia* on the *"willingness of a party to be vulnerable…"* (*op cit*). The weakest form of trust is calculus trust, which is based on a continuing, economic calculation of costs versus benefits (Lewicki and

Bunker, 1996) and is easily broken. Where trust is weaker, governance devices will be more prevalent and may include detailed contracts, particularly where risks are high (Barney and Hansen, 1994). Where relationships are established (Ring and Van de Ven, 1994) trust may take the form of knowledge based trust (Lewicki and Bunker, 1996), i.e. trust in predictable behaviour based on prior knowledge of the trustee. This form of trust is based on relationships and reciprocal testing and is increased with regular communication (Lewicki and Bunker, 1996). Broken knowledge-based trust is unsettling to the trustor because it raises questions about their perceptual capability and it can diminish their willingness to trust others. At the same time, if the event is perceived to be a single episode (in this context for example, a missed payment) it might be disregarded. The strongest form of trust is unconditional or identification based trust. This implies identification with others' ideas, desires and intentions and a strong reciprocal understanding in terms of values and standards of behaviour, which may allow psychological contracts to substitute for formal contractual safeguards. This form of trust is strongly independent of any specific situation (Barney and Hansen, 1994) and less likely to break down if a breach occurs (Ring and Van de Ven, 1994). Stronger forms of trust may therefore be associated with lower transaction and monitoring costs, which could be reflected in lower costs of credit.

Interestingly, research has identified a spiralling of trust, in that bestowing trust increases trustworthy behaviour which strengthens trust *et cetera*. Trust is thus underpinned by the perception of another's trustworthiness. Mayer, Davies and Schoorman (1995) suggest that trustworthiness is based on three factors: ability, benevolence and integrity. *Ability* considers aspects such as skills and competence, it is domain specific and it cannot necessarily be generalised to other situations. In this context, it would include the ability of the entrepreneur to run the business competently. *Benevolence* is the extent to which a trustee is voluntarily believed to act in the interests of another. Often, benevolence is viewed as relationship specific but, in line with Nooteboom et al.'s (1997) habitualization, benevolence can be viewed as a general tendency to act in the interests of others. Higher levels of benevolence may predispose entrepreneurs to comply with the bank's requirements and reduce moral hazard. *Integrity* is adherence to principles considered important to the trustor e.g. honesty. Integrity (i.e. morality and ethics) is not linked to skills or competences nor any specific relationship but is person specific. Higher levels of integrity may be perceived to reduce moral hazard and probability of default.

The three elements contribute to an assessment of trustworthiness that is context, relationship and person specific. Earlier research has found it difficult to distinguish empirically between components of trust, particularly benevolence and integrity (Nooteboom, et al., 1997) and it has been suggested that perceptions of trustworthiness draw on all these factors with varying degrees of emphasis depending on the situation. Assessments of trustworthiness will also be influenced by the trustor's propensity to trust and contextual factors. The trustor's perception and interpretation of the context of the relationship affects both the need for trust and the evaluation of trustworthiness. Nevertheless, higher levels of trustworthiness are expected to reduce moral hazard, and trust may be associated with a reduction in agency control mechanisms.

2.2 Focus of this Study

More trustworthy owner managers may be expected to present a lower risk of default, *ceteris paribus*. Therefore, where levels of trust are high, transaction and monitoring costs may also be lower (Gambetta, 2000). Cost savings generated by trust may be passed on to the firms through a lower cost of the provision (lower interest rate). This study examines the cost of overdraft lending which, as discussed above, is often based on a long term relationship and therefore more affected by trust. The context for the study is small banks in North East Italy. The following section explains that in this context lending managers are quite autonomous and interest rates are negotiable. The study aims to address the following research question:

RQ: Is the cost of short term lending for small firms negatively associated with the lending manager's perception of the trustworthiness of the owner manager?

2.3 Context: Italian Co-operative Banks

The Italian financial system relies on bank financing for small and medium firms and financing options are more limited than in the Anglo Saxon countries, (Kashyap, 1998). The area in which the bank operates is an important factor as some regions have a highly concentrated banking sector and the most remote regions have very little choice of banks (Usai and Vannini, 2005). There are numerous small banks and a lim-

ited number of large banks. Small banks may have greater profitability of lending (Carter and McNulty, 2005) and do business in more personal ways, relying less on accounting records (Berger, et al. 2005).

This study focuses on two sub-regions of North East Italy and the lending relationship between small firms and small co-operative banks. The regions of Friuli Venezia Giulia and South Tyrol (with Veneto) contribute substantially to the national GDP and have a large number of very small, usually family-run firms, and in both areas there is strong government support for small firms. Both areas are on the Italian border. South Tyrol lies on the Austrian border and is strongly influenced by German culture. Friuli Venezia Giulia is on the Austrian and Slovenian border and has a Slovenian and Croatian speaking minority and a small German speaking community. Both regions have a special legal status that gives autonomy to the regional government.

Whilst the regions are similar economically and culturally, they have different banking systems. South Tyrol has a very concentrated banking system: two local banks (Sparkasse and Volksbank) cover the whole area together with the Raiffeisenkassen, i.e. the system which consists of 52[1] strongly localised very small cooperative banks (Raiffeisenverband Südtirols, 2003). Sparkasse, Volksbank and the Raiffeisen system cover around 80% of the banking activity and there is very little competition among banks. In some localities there is only one choice of bank. Large national banks operate only in the urban areas and target larger firms. The cultural peculiarities and a dual language requirement can create an entrance barrier for firms and banks from outside the region. In contrast, Friuli Venezia Giulia has a competitive banking system with 16 small cooperative banks called Banche di Credito Cooperativo (Federazione Banche di Credito Cooperativo Friuli Venezia Giulia, 2002), all the major national banks and many large regional banks. Usually two or more local cooperative banks will compete in the same area in addition to the larger banks that operate throughout the region. Regional data are reported in Table 1.

Small banks, close communities and few opportunities to switch banks suggest that relationship lending will be important and lending managers' assessments of

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[1] Now reduced to 51 after Cassa Raiffeisen di Rifiano went bankrupt in 2006

trustworthiness will be based on a broad range of influences from within and outside the banking relationship.

Table 1 here

3.0 Operationalisation

This section illustrates how dependent, independent and control variables are operationalised.

3.1 Dependent variable: the cost of credit

The dependent variable (INTEREST) is the interest rate paid by each SME on their overdraft as reported by the bank lending manager filling in the survey questionnaire. The actual interest rate paid was adjusted according to the 3 months EURIBOR rate to provide the interest rate premium, and to allow a reliable comparison between data collected at different points in time.

3.2 Independent variables: trust

The bank lending manager's assessment of an owner manager's trustworthiness will consider their ability, benevolence and integrity. Higher levels of trust are expected to be associated with lower costs of credit due to reduction in perceived risk and lower monitoring and transaction costs. Table 4 provides the specification of trust variables, translated from Italian. Trust in the owner manager's business ability will reduce the bank manager's concerns about the likelihood of failure. Four questions required an assessment of the ability of the owner manager to manage their business (AB1; AB2; AB3; AB4). In the bank – firm relationship benevolence can play an important role since it can increase the expectation of the bank manager that the entrepreneur will act to meet all the obligations because of the personal ties between bank manager and entrepreneur. Three questions required the lending manager to assess the benevolence of the owner manager (BEN1; BEN2; BEN3). In lending relationships integrity can help to reduce the moral hazard, as well as increasing the perceived reliability of information supplied by the entrepreneur. Three questions required the lending manager to assess the integrity of the entrepreneur (INT1; INT2; INT3). The analysis section details how the ten trustworthiness factors were reduced into one component (TRUST)

through principal components analysis. A negative relationship between TRUST and the cost of credit is expected.

3.3 Control variables

The cost of credit is influenced by factors associated with the bank, the firm, the lending contract and the information available. The market power of the bank influences the price that can be charged. Theoretical models (e.g. Boot & Thakor, 2000) and empirical research (DeYoung, Goldberg & White, 1999) indicate that concentration of markets affects access and cost of finance. Theoretically more competitive markets should be associated with lower interest rates. However, previous studies find that low competition is linked to lower interest rates, because in concentrated markets the firms are less prone to move from one bank to another and therefore lower interest rates are used to attract clients at the start-up stage. In addition, increased stability leads to lower information asymmetries in the long term and thus lower costs which can be passed onto the customer. It has also been argued that in concentrated markets such a transfer of cost savings is inefficient and the savings are additional revenues of the banks (Boot and Thakor, 2000). De Young et al. (1999) argue that in more concentrated markets getting credit is easier and less costly because lenders have better information about borrowers and creditors can easily earn future gains from strong relationships with a firm as it has fewer possibilities of switching. In competitive environments, higher interest rates result from increased information asymmetries since the firms tend to change bank more frequently. A variable is included to measure the number of banks in the local area (NBANKS). This study focuses on co-operative banks and it is expected that where they face increased costs due to more competition and greater information asymmetries, interest rates will be higher. Therefore, although there is some ambiguity about the general relationship, in this context a positive relationship between number of banks and interest rate is expected.

The study focuses on two different regions. A dummy variable (REGION) is included where 1 represents Friuli Venezia Giulia. Firms in Friuli Venezia Giulia have less access to grants and public sources of finance and are less protected than those in South Tyrol. They are more dependent on bank funding and may be viewed as higher risk and therefore interest rates are expected to be higher in Friuli Venezia Giulia.

Firms with more debt can be considered riskier from the financial point of view and consequently charged a higher interest rate. At the same time, greater debt provides increased profit potential for the bank and therefore the firm may command a lower interest rate (Boot, 2000). The natural logarithm of the total amount of short term debt is included (LNSHDEBT).

Larger firms are perceived to be lower risk and they will have greater negotiation power and therefore potentially lower interest rates. The natural logarithm of the firm's turnover is used to control the impact of bigger firms and heteroskedasticity (LNTURNOVER).

Collateral can also affect credit access and act as a signalling device (Bester, 1985) as well as reducing the risk and controlling moral hazard. It could be expected that collateral would be associated with lower interest rates. However, in Italy it is extremely unusual not to provide personal collateral in the form of personal guarantees for all types of bank lending. The firms that do not provide collateral are likely to have been assessed as particularly low risk and therefore a positive association with interest rates could be expected. A dummy variable is included to indicate that private assets or a personal guarantee is provided as security on the overdraft (COLLATERAL).

Long term relationships allow banks to build an inside knowledge to reduce information asymmetries. Monitoring the use of the overdraft facility can provide a good assessment of risk and an early warning signal. Firms that use a greater percentage of the facility may be seen as higher risk and therefore pay a higher interest rate. A variable is included to measure the percentage of overdraft facility used on average (OVDUSE).

A long relationship provides banks with greater information availability, reduced costs of monitoring (Blackwell & Winters, 1997) and allows them to more accurately assess moral hazard and reduce adverse selection risks (Keasey & Watson, 2000). Interest rates might be expected to be more variable and closely aligned to perceived risk, but overall negatively associated with length of relationship. Empirical research finds that the length of the relationship is more important for smaller banks since larger banks tend to leverage hard facts (Berger, et al., 2005). However, empirical research in the USA and Europe discovered no empirical support for the reduction of the cost of the provision (Lehmann & Neuberger, 2001). This is possibly because it is not transferred to small businesses because of monopoly relationships (Angelini, Di Salvo & Ferri, 1998) or because the pricing of the loan is very idiosyncratic since the

reputation and the accounts of the firm and of the owner are not economically separable (Berger & Udell, 1995). Binks and Ennew (1997) argue that the price increases with length of relationship due to lock-in. In addition, it could be related to the need to compensate for the support banks provide in distress periods (Elsas & Krahnen, 1998). The natural logarithm of a variable that measures the length of relationship with the bank providing the overdraft is included (LNLENGTH). The direction of the relationship is ambiguous.

Variables are included to measure the perceived quality (INFOQUAL), quantity (INFOQUAN), completeness (INFOCOMP) and timeliness (INFOTIME) of information provided by the SME. It should not be assumed that lower information asymmetry is associated with lower interest rates. Agency theory indicates that improved information flows will be associated with better assessment of risk, greater availability of credit and more accurate pricing. Small firms which are perceived to be higher risk may be subjected to higher levels of monitoring and increased demand for information. Furthermore, where trust is high, monitoring may be reduced. Therefore, a positive association between information variables and interest rate is expected. Table 3 and the analysis section explain how four information variables are reduced into one factor (INFO) through principal components analysis.

Meetings between the bank manager and the firm provide access to private information and therefore play an important role in reducing information asymmetries (Berger et al., 2001). A variable is included to measure how often meetings are held (FREQMEET) and is expected to have a negative relationship with interest rate. Similarly, accounts that are reviewed more frequently will provide greater frequency of information. However, high risk or problem accounts will be reviewed more frequently. A variable is included to measure the frequency an account is reviewed (FREQREV). It is expected to have a positive association with interest rate.

Firms that buy other products and conduct most of their transactions with the bank will provide increased information and greater opportunities for bank revenue. However, this can create a situation of information monopoly for the bank (Sharpe, 1990): the difficulties in conveying an accurate picture of firm performance, the time required to look for and evaluate potential new banks and the administrative effort involved in switching, is expected to represent a very high cost for smaller firms and they could be locked into a relationship with one bank (Howorth et al., 2003). Relationship lending partially insulates the bank from pure price competition (Boot and

Thakor, 2000). Firms with less diversification of supply may pay higher rates. A dummy variable is included to denote a relationship with the bank that includes multiple products (MULTI).

Relationship lending means the bank has to delegate more lending authority to the local loan officer (Stein, 2002) who becomes the repository of the information about the firm, its statute and the evaluation. Where relationships are concentrated information is more complete, and agency problems, such as risks of moral hazard, are reduced. The lending managers' assessments of trustworthiness might also be more informed where they are the only person dealing with the client. A variable is included to measure the number of bank managers dealing with the firm (BANKMAN) and it is expected to be positively associated with interest rate.

Interest rates are affected by the economy and in particular expectations of the future of the economy. A variable is included (ECON) based on the Bank of Italy 'expectations' survey[2]. This controls for data collected at different points in time. It is the aggregate score for the date that each observation was collected. The direction of this variable is that positive values represent a tightening of credit.

4.0 Method

The study is based on a survey of bank lending managers who reported *inter alia* on the perceived trustworthiness of specified small business customers. This was part of a larger dyadic survey which also collected data from the small business owners. Interviews were held with six bank managers and twenty small business owner managers *ex ante* and *ex post* to examine the validity of the conceptual framework and interpretation of findings, as well as to pilot test the survey and specific measures. Qualitative data were collected using field notes as bank managers and owner managers requested that interviews were not recorded.

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[2] The variable measures bank managers' expectations about the reduction or increase in credit to firms in the short term i.e. over three months. The bank managers are asked to choose from five grades: -1 large increase in credit expected, -0.5 a small increase in credit, 0 no change, 0.5 small tightening of credit, 1 large tightening of credit. The survey is carried out quarterly at European level; in Italy it is administered by the Bank of Italy. It is a measure of expectations that is less affected by fiscal policy than the base rate.

The sample was drawn from 6 Raiffeisenkassen and 2 Banca di Credito Cooperativo. The banks were selected through the local associations of the cooperative banks (Raiffesenverband Südtirol in South Tyrol and Federazione delle Banche di Credito Cooperativo in Friuli Venezia Giulia) in order to cover the area geographically and economically. A random sample of non-agricultural SME firms was created for each bank. Each sample represents between 10% and 20% of the total number of firms that had a line of credit facility (overdraft) with the bank. The survey was completed by lending managers for specified pre-selected small firms with whom they had a relationship. As the banks were all small, the lending manager was usually the manager of the branch. On average, each lending manager provided information on 13 firms. The sample frame consisted of 492 small firms randomly selected from the banks' databases. Survey responses were received for 372 small firms, of which 365 were fully completed and included in the sample for analysis, representing a valid response rate of 74.1%.

Lending managers were contacted personally and the method was explained and clarified. Questionnaires were left for each firm within the branch's sample and the manager completed them and returned them by post. The survey was administered mainly between September 2004 and February 2005. One additional bank provided data in September 2007. A variable was included in the analysis to control for date of data collection (ECON). No significant associations were detected between the date of data collection and key variables measuring interest rate, size of firm, measures of trustworthiness or control variables, except the additional bank had larger customers (turnover and debt) and there were fewer banks operating in the locality (4:5.91).

The survey collected detailed information on a range of control variables as well as the items measuring trustworthiness. Table 2 presents descriptive statistics on all the variables included. Trustworthiness was measured using 10 items derived from previous trust inventories (Cummings & Bromiley, 1996; Currall & Judge, 1995; Mayer & Davies, 1999) to increase reliability. Each item was translated into Italian and tested for validity in the Italian context as part of the interview phase. Each of the 10 items representing trustworthiness was measured on a 5 point Likert-type scale representing "I totally disagree" (1) to "I totally agree" (5).

Analysis employed STATA version 9. Regressions were estimated using ordinary least squares. Data is not available on the population of SMEs and small banks at the regional (north-east Italy) or country level. Robustness of the results was tested by

re-estimating the standard errors using Bootstrap techniques. This technique provides estimated standard errors (and significance level as well as confidence intervals) irrespective of the underlying population distribution. Bootstrapping showed little variation in estimators, which increases confidence that the results from our study are not sample specific (Efron & Tibshirani, 1998).

Descriptive statistics and regression results are followed by discussion of the findings, which includes qualitative data from the interviews with bank managers and owner-managers that provide further insight and increase validity of the interpretation.

5.0 Descriptive Statistics

Table 2 presents descriptive statistics for all the variables included in the analysis. Mean turnover is € 4,036,105, ranging from € 13,000 to € 41.8million. One outlier with turnover of € 450million was excluded from the analysis. The mean length of the relationship was 12 years, with a median of 9 years and the longest one was 35 years. South Tyrol banks represented 308 relationships while Friuli Venezia Giulia was represented by 57. The mean interest rate was 5.17% with range 1.00% to 9.5%. The lowest interest rate of 1.00% was charged to a cooperative company involved in giving job opportunities to handicapped people (a social enterprise linked to an "ethical banking contract"). The mean size of credit facility was € 346,100 and on average 61% of the facility was used by the sample firms. This result is in line with the findings of Agarwal et al., (2006). Lending facilities were mostly collateralised: 290 out of 365 firms provided some form of private collateral. A meeting was held with the bank manager more than once a year in 77% of cases and the bank manager reviewed the firm's account more than once a year in over 90% of cases. The sample firms tend to have long term relationships, and frequent contact with the bank.

Table 2 here

Four items measured information flows, specifically the quantity, quality, completeness and timeliness of information provided. The mode for all the four items is 4 (good) and the mean is between 3.475 (timeliness) and 3.672 (completeness of information). The items show high positive correlations from 0.6523 (completeness and timeliness) to 0.7541 (quality and completeness). Cronbach's Alpha for the four items was 0.8928. Table 3 presents the results of principal components analysis (PCA)

which was employed to reduce the four items into one component (INFO). Positive values of this factor represent good information flows (i.e. lower potential for information asymmetry between the small business and the bank).

Table 3 here

Ten items measured different aspects of trustworthiness. Principal components analysis was employed to reduce the items into a smaller number of components of trustworthiness. Conceptually, three components denoting ability, benevolence and integrity might be expected, with 'ability' dominating. However, empirically, the (forced) two and three component models were always sub-optimal with Eigen values well below 1.0 for all components except the first one (although the items did load as expected on components representing ability, benevolence and integrity). The one component model was superior and had very high reliability. BEN3 (involvement in community) had a low communality and was dropped from the PCA which improved the reliability analysis. PCA was run on nine items with Varimax rotation (Cronbach Alpha 0.8805). Table 4 presents the results of the one component PCA. All variables loaded at 0.6 or more on the single component. Factor scores were saved for inclusion in regression analysis. This variable (TRUST) is expected to be negatively associated with the cost of credit.

The PCA results indicate that perceived trustworthiness in this context appears to be a single complex entity that draws on a range of aspects of ability, benevolence and integrity. This is in line with previous research (Nooteboom et al., 1997) that found it difficult to distinguish empirically between components of trust, particularly benevolence and integrity.

Table 4 here

5.1 Regression Results

The results of four regression models are presented in Table 5a. Model 1 includes traditional hard variables; Model 2 adds relationship variables while Model 3 adds the trustworthiness component. Model 4 presents the parsimonious model including only the significant covariates. Table 5b presents results of the bootstrap analysis where

standard errors were re-estimated using a 2,000 replications bootstrap technique. The stability of results provides confidence in the robustness of the findings.

Tables 5a and 5b here

All the specifications provide adjusted R² in excess of 0.33. F-test and Wald tests are all highly significant. Tests for multicollinearity were all very satisfactory and the highest mean VIF was 1.97. Missing data affect the number of observations in each model. A t-test on LNTURNOVER was run on included and missing groups to test for differences between the used datasets but no significant difference was found at 99% level. The adjusted R² is improved in each model as relationship and trust variables are added and it is maintained in the parsimonious model. Signs are consistent, except NBANKS, which is very close to zero, switches from negative to positive in Model 2. Levels of significance are fairly consistent with the exceptions that INFO becomes significant when TRUST is added and TRUST increases in significance in the parsimonious model.

The number of banks is not significant in the model. REGION is significant at the 99% level and attracts the expected positive sign. The total short term debt (LNSHDEBT) is significant at the 99% level and attracts a negative sign which supports the bank profitability argument. COLLATERAL is significant and positive as expected but loses significance as relationship and TRUST variables are added, indicating that the models that include relationship and TRUST variables provide a more complete explanation of interest rates. Size of firm (TURNOVER) is significant and negative indicating that larger firms may be able to negotiate lower interest rates, due to lower perceived risk and market power. Use of overdraft facility (OVDUSED) is not significant. The control variable measuring economic expectations (ECON) is highly significant and negative. The reason is that as banks reduce credit (increase in the "Expectation" value) they select only better customers, i.e. those that are charged with a lower interest rate.

Relationship variables attract the predicted signs but, in Model 2, only length of relationship is significant. LNLENGTH attracts a positive sign and is significant at 95% supporting a 'lock-in' argument. INFO becomes significant in Model 3 when TRUST is added. Its positive sign indicates selected monitoring of higher risk clients.

The addition of TRUST improves the model's adjusted R²; the variable is significant at the 95% level and attracts the expected negative sign. This supports our

conjecture that a lending manager's perception of the client's trustworthiness is negatively associated with the interest rate. Additional models tested interaction effects between TRUST and the firm specific variables but none of the interaction effects were significant at the 90% level of significance. This is support for a direct effect of TRUST on cost of credit.

The parsimonious model was included in a specification using bootstrap estimation of standard errors. Results are reported in Table 5b. No changes in signs or levels of significance were detected. This indicates robustness of the results.

4.2 Extension of findings

The results indicate that lending managers' assessments of the trustworthiness of the owner manager may influence the cost of credit. The analysis suggests that trust goes beyond the entrepreneur's ability to run the firm and also includes considerations of their benevolence and integrity. Benevolence and integrity represent the most intangible components of trust. This study employed variables that have been developed and tested in previous trust inventories for increased reliability. Validity of the variables and interpretation of findings were tested in interviews with owner managers and lending managers *ex ante* and *ex post*. Sample quotes of recurring themes are included in Table 6. Interview data suggest that the lending decision and the cost of credit appear to be directly influenced by an overall assessment of the owner manager's trustworthiness.

In interviews, lending managers of the small banks stated that they manage a very heterogeneous set of firms and that they rarely have sector or industry specialisation. Furthermore, they stated that balance sheets provide a very poor representation of the actual value of assets (Line 1, Table 6). Interviews with owner managers confirmed that some of them do not disclose an accurate picture of the firm's position (Line 2, Table 6). Lending managers also stated that the credit rating of the firm has little influence on the cost of credit. The actual interest rate is a matter of negotiation between the bank manager and the firm and the managers have authority to decide margins.

The regression results and interview data indicate that trustworthiness of the individual owner manager is an important factor in the lending manager's assessment. The ability and integrity of the owner manager were important factors in the assess-

ment of risk (Lines 3 and 4, Table 6). Individual's roles in the community were high-lighted as important in assessing their trustworthiness. Idiosyncratically, in this region, membership of the volunteer fire brigade, emergency services or local band were all positively associated with perceptions of an individual's trustworthiness (i.e. examples of benevolence). Information used to assess an individual's trustworthiness was tacit and captured through networks (Lines 5 and 6, Table 6). The assessment was influenced by an individual's reputation in the community. This highlights that information about their reputation and trustworthiness is beyond the control of the trustee (entre-preneur). Moreover, there was evidence of the trust spiral in operation (Lines 7 and 8, Table 6).

Further tests examined whether trustworthiness was distinct from the quality of the firm. Tests of correlations between TRUST and traditional financial variables (profitability, net assets and COGS) were not significant and correlations were all less than 0.1. Additional regressions between the cost of credit and financial indicators, profitability and book value of assets were run. Neither the regression nor the covari-ates were significant. This supports the interview evidence in indicating that the cost of credit is not related to figures in the firm's financial statements. This evidence indi-cates that the trustworthiness elements of benevolence, integrity and ability appear to be distinct from the quality of the firm.

Interest rates appear to be higher for firms with longer relationships and multi-ple product relationships, supporting the argument that small firms in Italy may be locked into bank relationships. The lock-in situation may be amplified by the reduced opportunity to switch because of the limited competition among banks (particularly in South Tyrol). In interviews, owner managers did not complain about lock in situations but tended to take it for granted that they would not switch banks. Their comments suggested that they expected longer relationships to give greater potential for support if their firm faced difficulties in the future.

The interview data support and extend the findings from the analysis of the survey data. In the concluding section, the contribution of this study is presented, alongside the implications for owner managers, banks and policy makers, and the limitations of this study that provide opportunities for further research.

5.0 Conclusions

The study aimed to examine the role of trust in the bank lending relationship. The analysis shows that small bank lending managers' assessments of the trustworthiness of the SME owner manager appear to be associated with the interest rate charged on their overdraft facility. Interestingly, interviews with SME owner managers also supported previous studies which suggest that bestowing trust leads to more trustworthy behaviour and vice versa. Where firms were heavily monitored the relationship with the bank was characterised by low trust on both sides and the SME owner managers felt less obligated towards the bank.

The study contributes to the discussion on credit to SMEs by highlighting some of the complexities of the lending decision, and showing that it appears to go beyond a simple agency relationship. Despite the literature on trust arguing for its relevance in reducing transaction costs and agency costs, studies have not examined the impact of trust on the lending decision. It is suggested that trust theories can usefully complement agency theory, particularly where the agency theory assumption of self interest does not hold. Interestingly, this study showed that the owner manager's tendency to act in the interests of others (i.e. benevolence) appeared to be factored into the lending decision through the lending manager's assessment of trustworthiness. The study also showed that lending managers appear to take account of the owner manager's integrity, a characteristic that is manifest outside of self interest and is based on the individual's moral and ethical principles.

Previous studies have suggested a positive association between the length of the relationship and the cost of credit. The discussion highlighted that longer and closer relationships may allow a more accurate assessment of risk but a direct relationship with the cost (or availability) of credit cannot be assumed. The analysis indicated that it is the outcomes of longer relationships, e.g. increased trust, rather than the length of relationships themselves which are associated with the lending decision.

The findings in this study suggest some implications for banks, small firms and policy makers. Banks should recognise the importance of trust in the lending relationship. They might consider whether their actions increase or decrease the likelihood of trustworthy behaviour. For example, heavy monitoring may have an opposite to the desired effect and lead to less trustworthy behaviour. In moves to standardise and formalise the lending decision process, tacit knowledge such as perceptions of trustworthiness might be ignored. And yet, the evidence here suggests that lending manag-

ers take trustworthiness into account. Banks may consider how to capture a balance of hard and soft indicators in their lending decisions.

The implications for small firms owner managers is in recognising that their behaviour outside and inside the firm may influence lending decisions. For owner managers it would appear that acting in a (noticeably) trustworthy manner pays off in terms of a reduced cost of credit. Owner managers should also recognise that their role and actions in the community will affect their reputation and that this may filter through to decisions that affect their business. Owner managers may find it useful to develop strong relationships with their bank and build trust since it could lead to a lower cost of credit. This is in contrast to the views of some entrepreneurs, who believe that it does not pay to be open with their bank (Howorth and Moro, 2006).

For policy makers, the results of this study highlight that there are, potentially, finance gaps for owner managers, or nascent owner managers, without a prior relationship with the bank or who have not built a reputation in the community and for whom there is no information on their trustworthiness. Such owner managers may be offered credit at higher rates or indeed not be able to obtain credit.

However, the study does have limitations which indicate that the results should not be generalised but, rather, they are indications of a fruitful avenue for future research. One of the limitations of our data is their cross sectional nature. To address this, the findings were supplemented by qualitative interview data collected *ex ante* and *ex post*, which support and extend the findings of the survey data. Future research could employ longitudinal studies to examine the relationship between the assessment of the owner manager's trustworthiness at the time of lending and the behaviour ex post. A further limitation is that, if the logic of the argument is followed, the sample might be expected to exclude firms who are perceived to be least trustworthy, i.e. those who are offered credit at the highest interest rates and choose not to take it up and/or those who are refused credit. Future research should consider research designs that capture data on this group of firms.

This study was based on small co-operative banks in North East Italy which could be a context where lending decisions might be influenced by trust and relationships to a greater extent than, for example, in Anglo Saxon countries and/or large banks. It is important to test assumptions in a variety of contexts and to have a thorough understanding of culture and context. For example, theoretically, collateral is assumed to reduce moral hazard and reduce risk and may therefore be expected to lead

to lower interest rates. In the Italian context, the majority of firms are required to provide collateral and only the lowest risk firms do not, therefore a positive association between collateral and interest rate was predicted. Similarly, an understanding of regional variations was shown to be important.

Clearly, this study is based in a particular geographical, business and banking context, and trust may have a stronger influence for the smaller banks in this study. Nevertheless, the results indicate that future research should further examine the role of trust and bank lending relationships, as well as test the assumptions of agency theory approaches to SME finance. Studies have shown that trust is also important in venture capital and business angels' relationships, in getting support from customers and suppliers when starting up or a spinning off a firm but there is very limited research on trust in the SME context. Further research could examine trust in other relationships of SME owner managers.

Notwithstanding the limitations of the dataset and context, the study indicates that trust (and soft information in general) might play a more important role in lending relationships than has heretofore been acknowledged.

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Table 1 Comparison of Regions

	South Tyrol	Friuli Venezia Giulia
Number of firms	39,927	86,650
Population	467,000	1,185,000
Working population rate	44.41%	42.45%
Unemployment rate	2.00%	3.90%
Number of Cooperative Banks	52	18
Number of non Cooperative banks	15	40
Number of branches of Cooperative Banks	191	158
Overall loans provided by local bank system	€ 4,886,181,000	€ 2,001,082,000

Table 2 Descriptive Statistics

	Variable Description	Variable	Mean	Std. Dev.	Min	Max
Hard Variables	Interest rate charged on the line of credit (overdraft)	INTEREST	5.1182 *N 364*	1.2260	1	9.5
	Number of banks in the area	NBANKS	5.7335 *N 364*	3.5525	1	12
	Region (0=Alto Adige; 1=Friuli)	REGION $_1$	15.66% *N 364*			
	Short Term debt: actual overdraft at the time of the survey	LNSHDEBT	342,930 *N 364*	702,829	5,000	7,500,000
	Turnover of the firm for the most recent complete financial year	LNTURNOVR	2,307,563 *N 364*	5,377,948	13,000	41,800,000
	Collateral (0=no collateral; 1=collateral)	COLLATERAL$_1$	19.23% *N 364*			
	Use of the overdraft facility: percentage of the credit facility used	OVDUSE	60.7108 *N 346*	35.7814	0	132
	Bank of Italy expectations for increasing (positive) or reducing (negative) tightening of credit	ECON	.0558 *N 364*	.0488	.0000	.1700
Relationship Variables	Length of the relationship in years	LNLENGTH	12 *N 364*	8.6039	0	35
	Information Symmetry: standardised PCA	INFO	.0042 *N 362*	.9309	-3.2412	1.7435
	Frequency of meetings per year	FREQMEET	2.3079 *N 328*	1.3181	1	4
	Frequency of reviewing per year	FREQREV	1.0607 *N 362*	0.4955	1	4
	Multiple relationship with this bank (0=no other bank products, 1=other bank products)	MULTI $_1$	40.98% *N 364*			
	Number of bank managers involved in the relationship with this firm	BANKMAN	1.7298 *N359*	1.2516	1	7
	Trust (Factor) - standardised PCA	TRUST	.0025 *N 364*	.8119	-2.8173	1.6085

$_1$: Dummy variable report the percentage of value 1

Table 3 Information variables: Principal Component Analysis

				INFO	
Var.	**Name**	**Mean**	**St.Dev.**	**Factor1**	**Uniqueness**
infoquan	Quantity of information	3.5274 N 364	.8277	<u>**0.8000**</u>	0.3601
infoqual	Quality of information	3.6621 N 364	.8122	<u>**0.8470**</u>	0.2826
infocomp	Completeness of information	3.6722 N 364	.8636	<u>**0.8418**</u>	0.2914
infotime	Timeliness of information	3.4753 N 364	.9489	<u>**0.7605**</u>	0.4216

Cronbach Alpha: 0.8928

Kaiser-Meyer-Olkin measure of sampling adequacy: 0.8414

Table 4 Trustworthiness variables: Principal Component Analysis

				TRUST	
Var.	**Description** **The entrepreneur…**	**Mean**	**St.Dev.**	**Factor1**	**Uniqueness**
ab1	has very good knowledge of the market in which they operate	4.1178 N 365	.7261	**0.6880**	0.5267
ab2	is able in identifying the needed resources	3.6932 N 365	.8412	**0.6697**	0.5515
ab3	is able in managing the resources	3.8082 N 365	.8130	**0.7587**	0.4244
ab4	understands the changing market conditions	3.8137 N 365	.8109	**0.7030**	0.5058
ben1	adapts their interests to fit those of commercial partners	3.7890 N 365	.7163	**0.7117**	0.4935
ben2	pays attention to the needs of the employees	3.5041 N 365	.7582	**0.6020**	0.6376
ben3	is very involved in the community	2.9918 N 365	1.1986		
int1	is totally honest in negotiations with commercial partners	3.9096 N 365	.7413	**0.5990**	0.6412
int2	is consistent in his decisions and behaviour	3.8219 N 365	.7290	**0.6828**	0.5337
int3	you would be happy to recommend the firm to a female friend to work there	3.3835 N 365	.9921	**0.6625**	0.5611

Cronbach Alpha: 0.8805

Kaiser-Meyer-Olkin measure of sampling adequacy: 0.8914

Table 5a Regression results

Dependent variable: cost of credit (% interest rate)

		Coef.	Std. Err.	Sig.	Coef.	Std. Err.	Sig.	Coef.	Std. Err.	Sig.	Coef.	Std. Err.	Sig.
Hard Variables	NBANKS	-.0189	0.0221		0.0094	0.0276		0.0083	0.0274				
	REGION	1.9176	0.2526	***	1.8615	0.2876	***	1.8076	0.2869	***	1.7029	0.1962	***
	LNSHDEBT	-0.4065	0.0463	***	-0.4445	0.0528	***	-0.4273	0.0531	***	-0.3958	0.0442	***
	COLLATERAL	0.3138	0.1412	**	0.2651	0.1560	*	0.2242	0.1562		0.2043	0.1353	
	LNTURNOVR	-0.1082	0.0524	**	-0.1213	0.0565	**	-0.1207	0.0562	**	-0.1298	0.0495	**
	OVDUSE	0.0019	0.0016		0.0025	0.0019		0.0021	0.0020				
	ECON	-8.3789	2.0876	***	-71193	2.5923	***	-6.7224	2.5824	***	-6.5796	1.4681	***
Relationship variables	LNLENGTH				0.1790	0.0848	**	0.1980	0.0847	**	0.1668	0.0684	**
	INFO				0.0672	0.0714		0.1759	0.0867	**	0.1577	0.0716	**
	FREQMEET				-0.4770	0.0544		-0.0511	0.0541				
	FREQREV				0.0293	0.1248		0.1268	0.1633				
	MULTI				0.0293	0.1247		0.2019	0.1240				
	BANKMAN				0.0929	0.1067		0.1262	0.1070				
	TRUST							-0.1805	0.0827	**	-0.1787	0.0722	***
	Constant	11.3498	0.6918	***	11.0288	0.8106	***	10.8224	0.8110	***	11.2003	0.6720	***

Number of obs		346	Number of obs		309	Number of obs		309	Number of obs		362
F (7,338)		25.81	F (13,295)		14.63	F (14,294)		14.10	F (8,353)		26.25
Prob>F		***	Prob>F		***	Prob>F		***	Prob>F		***
R-squared		0.3483	R-squared		0.3921	R-squared		0.4018	R-squared		0.3730
Adj R-squared		0.3348	Adj R-squared		0.3653	Adj R-squared		0.3733	Adj R-squared		0.3588

* Significant at 90% ** Significant at 95%, *** Significant at 99%

Table5b:Bootstrap regression results

INTEREST	Coef.	Std.Err.	Sig.
REGION	1.7029	0.2347	***
LNSHDEBT	-0.3958	0.0472	***
COLLATERAL	0.2043	0.1159	
LNTURNOVR	-0.1298	0.0549	**
ECON	-6.5796	1.6179	***
LNLENGTH	0.1668	0.0656	**
INFO	0.1577	0.0726	**
TRUST	-0.1787	0.07812	***
Constant	11.2003	0.7310	***
	Number of obs		362
	Replications		2000
	Waldchi2(8)		160.24
	Prob>chi2		***
	R-squared		0.3730
	AdjR-squared		0.3588

*Significant at 90%
**Significant at 95%
***Significant at 99%

Table 6: Trustworthiness: Interview data

	Concept illustrated	Quote	Type of Interviewee
1	Lack of trust in financial data	"I do not rely on official facts and figures. You know they are affected by the tax strategy. Asset value, work in progress, inventory – all rubbish. They are always adjusted. You know there are costs and revenues that are not recorded in the books. Entrepreneurs disclose them if you exert some pressure but you have no proof."	Bank manager
2	Unreliability of firm data; lack of integrity; lack of trust of bank.	"I don't want to give all the information about my firm, my strategy, new products and plans because I suspect that the bank manager can transfer this to my competitors."	Entrepreneur
3	Trustworthiness factor: ability	"When one is good at his job, why should he not repay all his debts?"	Bank manager
4	Trustworthiness factor: integrity and ability	"You gain information about your client from other customers. They inform you whether he is honest in his business relationships, his capability etc, all information that I cannot access directly."	Bank manager
5	Assessment based on individual; tacit information from network	"When the entrepreneur opened the account at the bank and asked for credit, I already knew he was a good entrepreneur because I had heard about him from other customers."	Bank manager
6	Assessment based on individual; tacit information from network	"In small towns like this one, reputation is one of the most important assets: if you have a bad one nobody gives you credit."	Bank manager
7	Trust spiral	"I will always do my best to avoid any default. I think, it would be something like a stab in the back for those who help me and trust me"	Entrepreneur
8	Trust spiral	"When I know that an entrepreneur is very good at doing his job, I do my best to help him"	Bank manager