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# Trust-based banking and SMEs' access to credit

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ABSTRACT

Access to credit is crucial for SMEs' survival. However, due to the opaqueness of publicly available information on SMEs, banks face information asymmetry that can cause them to ration credit. In this case, trust has been shown to facilitate credit access by bridging the information gap. We contribute to the literature on trust-based banking by using new data to add robustness to extant results, and by discussing two important and still overlooked venues requiring further research. Using two waves of original survey data on 160 Finnish SMEs, our results support findings from prior studies by showing a robust positive relationship between trust and credit access (measured one year apart). We also find support for the hitherto assumed but not explicitly tested substitutability of trust and formal information: trust matters but only when formal information for assessing the SME's creditworthiness is insufficient. We then identify a future research agenda by highlighting that we do not yet know how banks use qualitative factors such as trust to make lending decisions, nor whether the common implicit assumption of symmetric trust between borrower and lender is realistic. Finally, we discuss how these overlooked areas of research have important theoretical and practical applications.

## 1. Introduction

Access to sufficient bank credit is crucial for small and medium enterprises (SMEs) because their ability to finance investments from their own cash holdings is limited, and their access to equity finance is restricted (Ang, 1992). Within this context, prior studies have suggested that, when banks have insufficient formal information (e.g., financial statement data, credit ratings and business plans) to make a positive lending decision, trust in the borrower-lender relationship facilitates SMEs' access to credit (Hernández-Cánovas and Martínez-Solano, 2010; Moro and Fink, 2013; Palazuelos et al., 2018). Our study contributes to this stream of research by using new original data to add robustness to extant results, and by identifying two important and still overlooked venues for further research.

The first contribution of our study consists in providing robust empirical evidence confirming conclusions drawn in prior studies about the importance of trust in bridging the information gap between banks and SMEs. Three features of our empirical design distinguish it from prior research efforts. First, we overcome common method bias concerns by using a longitudinal survey design. Second, we are able to explicitly test the common but untested assumption of the substitutability of formal information and trust in

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credit provision. Third, our dependent variable captures whether the SME views the amount of credit it receives as *sufficient* for the pursuit of its business aims. This represents the essence of credit access (or the related concept of finance gap, see Parker, 2018) more accurately than measures focusing solely on the amount of credit the firm receives without considering how much it needs (e.g., Chua et al., 2011; Hernández-Cánovas and Martínez-Solano, 2010; Moro and Fink, 2013).

Our second contribution consists in proposing an agenda for future research that would add significant nuances to our understanding of why and under what conditions trust facilitates SMEs' credit access. In particular, we draw attention to two overlooked areas of research that, in addition to theoretical interest, have also important practical applications. First, our results highlight how unquantified qualitative information that results in trust can facilitate SMEs' access to credit. Yet, we do not know the mechanism that renders this possible. In other words, *how* banks use qualitative factors such as trust to make lending decisions while maintaining regulatory compliance remains unexplained. Second, our analysis highlights the need for investigating under what conditions the assumption of symmetric trust in a dyadic bank-SME relationship – implicit in our and all prior empirical designs – is realistic. In the current business landscape, where financial intermediaries are increasingly enabling SMEs with creative lending arrangements, these questions seem particularly worthy of investigation.

## 2. Theoretical background

The theoretical rationale for analysing the role of trust for credit access is typically based on the agency theory of debt financing (Diamond, 1984; Sharpe, 1990). Agency theory posits that the availability, terms and structure of credit are constrained by agency problems deriving from asymmetric information, and by conflicts of interest between borrower and lender. The agency problem for banks is exacerbated when evaluating the creditworthiness of SMEs, because the information available on them is less transparent than in the case of larger firms (Berger et al., 2001; Mason and Stark, 2004). Therefore, transaction lending based on financial statement analysis, credit ratings, and/or determining the value of the firm's assets (Altman et al., 2020; Van Caneghem and Van Campenhout, 2012) has limited applicability to SMEs.

The relationship lending literature, however, suggests that banks can augment insufficient formal information by leveraging informal information accumulated over the course of the bank-SME relationship (Berger and Udell, 1995; Uchida et al., 2012). Relationship lending assumes the bank to collect private information through contact with the firm, its management and the local community, and to use this information to evaluate the level of risk in a lending decision (Berger and Udell, 2006; Petersen and Rajan, 1995). In turn, private information accumulates over time when the bank observes the firm's behaviour and has multiple interactions with its management. In support of this learning effect, previous studies show that the length and closeness of the bank-firm relationship reduce information asymmetry (Berger and Udell, 1995; Cole, 1998; Elyasiani and Goldberg, 2004).

Importantly, scholars have found that a high level of trust between bank and SME can allow credit transactions to take place, even if the bank faces an information gap (Hernández-Cánovas and Martínez-Solano, 2010; Moro and Fink, 2013; Palazuelos et al., 2018). This is the case because trust, regardless of the length and closeness of the relationship, may cover the residual uncertainty left when the bank has processed all formal information useful for assessing the SME's quality as a borrower (Moro and Fink, 2013). Furthermore, trust creates a positive expectation of the SME's behaviour, even if it could take advantage of the bank's vulnerability (Mayer et al., 1995; Rousseau et al., 1998). In other words, trust allows the bank to act 'as if' the doubts and dangers inherent in the residual uncertainty did not matter (Möllering, 2006), and its lending posture towards the SME to be more benevolent.

Building trust with the bank is, therefore, in the SME's interest. An important mechanism for initiating trust-building for SMEs is to voluntarily disclose information to the bank over and above minimal requirements (Moro et al., 2014). However, and contrary to the belief that a good borrower has always an incentive to disclose all information, SMEs may be hesitant about disclosing sensitive information because they cannot be sure how the bank will store the information, whether sensitive information can accidently leak to third parties (Lowry et al., 2014), and how it will be used in evaluating the current and future credit applications (Puri et al., 2017). Thus, trust is not only relevant from the bank's but also from the SME's perspective.

Following social exchange theory (Blau, 1964), a positive norm of reciprocity in the relationship will emerge if the bank reciprocates the SME's voluntary disclosure of additional information by using the information to support the firm's lending applications, and not against them (Puri et al., 2017). Further positive interactions foster the development of trust in the relationship, which in turn leads to positive behavioural responses (Cropanzano and Mitchell, 2005). Accordingly, through repeated interactions, even though the bank's and SME's perceptions of each other's trustworthiness can differ initially, social exchange theory predicts that perceptions will converge as shared experience accumulates (Masterson et al., 2000) and as a result, mutual trust on the relationship level emerges (Korsgaard et al., 2015).

Within this context, our analysis investigates the presence of a substitution effect between formal information and trust in predicting an SME's access to credit. Specifically, we examine the hypothesis that trust is relevant in predicting an SME's perception of having received a sufficient amount of credit when the bank does not otherwise have sufficient formal information to warrant a positive credit decision.

## 3. Data and methods

### 3.1. Data

The dataset comprises two waves of original survey data, with a one-year gap between the measurement of the independent and dependent variables, as well as financial data obtained from a secondary source on 160 SMEs in Finland. We used Bureau van Dijk's

Orbis database to identify firms for inclusion in the study. We chose firms with 10–249 employees from all sectors (excluding financial and insurance activities) that met the European Union financial criteria for SME and had a positive level of either loans or long-term debt. The Boolean search resulted in the identification of 2790 eligible firms. We downloaded financial data on those 2790 firms from the Orbis database so that we could combine subjective and objective variables in the analysis.

In order to ensure that the survey respondents are managers responsible for the firms' bank matters, we contacted firms by phone. Given our research budget, we could contact 1541 firms randomly selected from the list of 2790 eligible firms. If we reached a suitable respondent (CEO, CFO, or equivalent), and they agreed to participate in the study, we sent them a link to an online questionnaire by email, directly after the phone call. 834 firms agreed to participate, and 433 of them responded by the deadline (response rate: 52%). We controlled for nonresponse bias by comparing the mean number of employees, and the means of the six financial indicators drawn from the Orbis database used in our analysis (Table 1), between the 433 firms that responded to the survey and those remaining 2356 that were eligible but did not participate (Rogelberg and Stanton, 2007). Differences in the means were marginal, and the highest *t*-value for the test of equality of means was $t = 1.38$ ($p = 0.17$). Therefore, nonresponse does not appear to constitute a major bias in our study.

For wave 2 of the survey, 12 months later, we chose firms that self-reported having positive bank debt in wave 1, were not foreign owned, and did not have an excessive number of missing values ($n = 344$). The response rate in wave 2 was 59% ($n = 203$). We excluded from the final sample eight firms that had changed their primary bank; those whose primary loan officer had changed ($n = 27$) between waves 1 and 2; and firms whose responses contained too many missing values ($n = 8$). In this way, we could run analyses where the independent variables from wave 1 pertain to the same banking and loan officer relationship in existence in wave 2. We analysed attrition bias by comparing the 160 respondents who participated in both waves with those 184 who would have been eligible for wave 2 but opted out or were screened out. We did not find statistically significant group differences on any variables of interest. Hence, non-random attrition bias does not seem to be an issue in our study.

Furthermore, in order to ensure that our theoretical arguments and empirical findings are realistic and reflect a real problem, we conducted short telephone interviews with 15 SME managers that participated in the survey and 10 loan officers from commercial and cooperative banks. We asked the interviewees to describe the process of credit application and what kind of information and criteria are used. The interview data support the importance of trust and informal information in bank-SME lending relationships. Appendices A and B provide tables of quotes from the interviews with SME managers and loan officers, respectively.

**Table 1**
Descriptive statistics.

| Variable | Additional information | Min | Max | Mean | SD |
|---|---|---|---|---|---|
| *Dependent variable* | | | | | |
| Credit access | Subjective perception of the firm's situation concerning bank credit (wave 2) | | | | |
| Insufficient credit causes problems | | 0 | 1 | .14 | |
| Insufficient credit but manages nonetheless | | 0 | 1 | .10 | |
| Receives all credit needed | | 0 | 1 | .76 | |
| *Independent and moderating variables* | | | | | |
| Perceived trustworthiness | Index of nine items adapted from Mayer and Davis (1999) (wave 1) | 1.78 | 4 | 3.31 | .50 |
| Information accuracy | How realistic a picture the primary bank had of the firm's future objectives and development prospects in the latest loan application (1 = very realistic) (wave 1) | 0 | 1 | 0.39 | |
| Firm age | Age of the firm in years; logarithmic transformation used in analysis (wave 1) | 2 | 89 | 31.94 | 19.59 |
| Firm size | Number of employees; logarithmic transformation used in the analysis (Orbis) | 10 | 213 | 52.21 | 40.52 |
| Relationship with loan officer | Length of relationship with the loan officer responsible for the firm's business in their primary bank (wave 1) | | | | |
| 2 years or less | | 0 | 1 | .26 | |
| 3–5 years | | 0 | 1 | .36 | |
| 5 years or more | | 0 | 1 | .38 | |
| Relationship with bank | Length of relationship with the primary bank (wave 1) | | | | |
| 5 years or less | | 0 | 1 | .16 | |
| 6–10 years | | 0 | 1 | .16 | |
| More than 10 years | | 0 | 1 | .68 | |
| *Control variables* | | | | | |
| 75–100% of loans from primary bank | More than 75% of the firm's current loans are from their primary bank (wave 2) | | | .58 | |
| Debt to total assets | (Orbis) | .18 | 1.31 | .66 | .21 |
| Current ratio | Logarithmic transformation (Orbis) | .08 | 11.93 | 1.67 | 1.41 |
| Total assets to turnover | Logarithmic transformation (Orbis) | .11 | 6.46 | 1.85 | 1.13 |
| Profit margin | (Orbis) | −12.91 | 22.41 | 4.02 | 6.37 |
| Sales per worker | Logarithmic transformation (Orbis) | 54.68 | 1959.67 | 292.25 | 270.55 |
| K2 | K2 index: (EBIT – net income)/total sales (Orbis) | -.09 | .24 | .03 | .04 |
| Personal collateral | Loans from the main bank collateralized with personal assets (1 = yes) (wave 2) | 0 | 1 | .26 | |
| Covenant | Performance-related covenant attached to the loans from the main bank (1 = yes) (wave 2) | 0 | 1 | .24 | |

*Notes:* $n = 160$. The source of the data for a variable is indicated in parenthesis: wave 1 refers to the survey wave 1; wave 2 to survey wave 2; and Orbis to the Orbis database.

**Table 2**
Correlations.

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Credit access | 1 | | | | | | | | | | | | | | |
| 2. Perceived trustworthiness | .20* | 1 | | | | | | | | | | | | | |
| 3. Information accuracy | .18* | .43* | 1 | | | | | | | | | | | | |
| 4. Firm age (log) | .02 | .11 | .04 | 1 | | | | | | | | | | | |
| 5. Firm size (log) | .06 | -.12 | -.15 | .15 | 1 | | | | | | | | | | |
| 6. Relationship length with loan officer | .10 | .28* | .17* | -.03 | -.07 | 1 | | | | | | | | | |
| 7. Relationship length with bank | .13 | .27* | .17* | .35* | .02 | .20* | 1 | | | | | | | | |
| 8.75–100% of loans from primary bank | .03 | .19* | .13 | .05 | .09 | -.10 | .03 | 1 | | | | | | | |
| 9. Debt to total assets | -.27* | -.02 | -.12 | -.04 | -.13 | .07 | -.12 | -.08 | 1 | | | | | | |
| 10. Current ratio (log) | .17* | .01 | -.01 | -.04 | .10 | .03 | .03 | .07 | -.61* | 1 | | | | | |
| 11. Total assets to turnover (log) | -.04 | -.14 | -.14 | -.07 | .23* | -.19* | -.19* | .21* | .04 | .03 | 1 | | | | |
| 12. Profit margin | .35* | .01 | .03 | -.13 | -.11 | .11 | -.12 | .00 | -.31* | .15 | -.24* | 1 | | | |
| 13. Sales per worker (log) | .01 | .07 | .02 | .01 | -.54* | .08 | -.04 | -.08 | .13 | .06 | .03 | .02 | 1 | | |
| 14. K2 | .26* | .02 | -.02 | -.07 | -.19* | .08 | -.08 | -.05 | .02 | -.01 | -.52* | .68* | .07 | 1 | |
| 15. Personal collateral | -.31* | .01 | .02 | -.13 | -.19* | .01 | -.15 | .02 | .31* | -.14 | .11 | -.20* | .05 | -.09 | 1 |
| 16. Covenant | -.03 | -.05 | -.18* | .01 | -.18* | -.12 | -.16* | .04 | .14 | .04 | .05 | -.05 | .10 | .08 | .09 |

*Notes:* $n = 160$. Spearman's rhos. *$p < 0.05$.

### 3.2. Variables

The dependent variable captures the *firm's subjective experience of credit access*. We asked our respondents to assess their firm's current bank debt situation ('How would you describe your firm's current situation related to bank credit?') with the following response options: (1) 'We do not receive enough bank credit and insufficient financing causes problems'; (2) 'We do not receive enough bank credit but we manage nonetheless'; and (3) 'We receive all the bank credit we need'. The variable used in the regression analysis is therefore ordinal, comprising the above three categories in that order.

We followed prior literature in operationalising trust as *perceived trustworthiness* at the interpersonal level (Moro and Fink, 2013). Our measure targets the SME manager's (responsible for the firm's bank matters) perception of the loan officer's (responsible for the firm's business with the bank) trustworthiness using three items for each of the three dimensions of trustworthiness (ability, benevolence, integrity) adapted from Mayer and Davies (1999). We ran a confirmatory factor analysis with all nine items loading on a single factor, and compared it with a model specification in which the three dimensions are separated. Because the one-factor solution provided a better fit with the data than the three-factor one, we computed an index for perceived trustworthiness by averaging the nine item scores (Cronbach's alpha: 0.92). For robustness, we also used an alternative 8-item measure of trust adapted from Doney and Cannon (1997) that pertains to the bank as an organisation (Cronbach's alpha: 0.83). Regression results with this variable are substantively equivalent to the ones with perceived trustworthiness. Hence, for parsimony, we only report the results with perceived trustworthiness.

We operationalised the availability and accuracy of formal information at the bank's disposal in survey wave 1 with the following question: 'In your opinion, when the bank decided on the latest loan, how realistic a picture did they have on your firm's future objectives and development prospects?' The respondent could choose between very realistic, somewhat realistic, not really realistic, and not at all realistic. In order to achieve sufficient cell counts for a reliable interaction analysis, we reduced the four categories into a dummy which was coded as 1 if the response was 'very realistic', and 0 otherwise.

Finally, we used a number of control variables to capture features of the banking relationship, firm size and six financial ratios that banks would typically use to evaluate credit applications by relying on factual and public information (Mramor and Valentincic, 2003). The variables, their operationalisations and descriptive statistics are presented in Table 1, while Table 2 displays the correlation matrix.

## 4. Results

Because we have an ordinal dependent variable, we use ordinal logit regressions to test our hypotheses. Tests of multicollinearity and influential observations did not indicate problems for our analysis: the highest variance inflation factor score was 3.02 (well below the common threshold of 10 for serious multicollinearity) and the highest Cook's distance value 0.11 (clearly below the threshold of 1 for identifying influential observations).

Table 3 reports two ordinal logit regression models. Model 1 presents the unconditional effects of all variables, whereas Model 2 adds

**Table 3**
Ordinal logit estimates.

| Dependent variable: credit access | (1) | | (2) | |
|---|---|---|---|---|
| | $\beta$ (SE) | OR | $\beta$ (SE) | OR |
| Perceived trustworthiness (PTW) | .55** (.23) | 1.73 | .87*** (.32) | 2.38 |
| Information accuracy | 1.05* (.55) | 1.67 | 1.65*** (.57) | 2.24 |
| PTW * information accuracy | | | −1.67*** (.59) | .41 |
| *Control variables* | | | | |
| Firm age (log) | -.34 (.32) | .78 | -.36 (.34) | .77 |
| Firm size (log) | .25 (.40) | 1.20 | .32 (.39) | 1.27 |
| Relationship length with loan officer (base: 3–5 years) | | | | |
| 2 years or less | -.14 (.62) | .94 | -.31 (.67) | .87 |
| 5 years or more | .31 (.67) | 1.17 | .35 (.70) | 1.18 |
| Relationship length with bank (base: 6–10 years) | | | | |
| 5 years or less | .75 (.92) | 1.32 | 1.00 (1.03) | 1.45 |
| More than 10 years | 1.19** (.60) | 1.75 | 1.12* (.62) | 1.69 |
| 75–100% of loans from primary bank | .09 (.48) | 1.05 | .27 (.48) | 1.14 |
| Debt to total assets | −1.29 (1.45) | .77 | −1.16 (1.62) | .79 |
| Current ratio (log) | .19 (.83) | 1.14 | .17 (.88) | 1.13 |
| Total assets to turnover (log) | .85** (.40) | 1.97 | .82** (.40) | 1.93 |
| Profit margin | .13* (.07) | 2.33 | .13* (.08) | 2.36 |
| Sales per worker (log) | .24 (.51) | 1.18 | .26 (.50) | 1.19 |
| K2 | 23.25*** (8.71) | 2.80 | 21.72** (8.64) | 2.62 |
| Personal collateral | −1.45** (.62) | .53 | −1.58** (.67) | .50 |
| Covenant | .37 (.58) | 1.17 | .26 (.61) | 1.12 |
| McKelvey & Zavoina pseudo $R^2$ | .56 | | .57 | |
| Wald $chi^2$ (df) | 41.38*** (17) | | 64.61*** (18) | |

*Notes:* $n = 160$. Threshold estimates not reported. $\beta$ = logit coefficient; SE = robust standard error; OR = standardised odds ratio. df = degrees of freedom. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels (two-tailed). Perceived trustworthiness is *z*-standardised (mean = 0, standard deviation = 1); firm age is mean-centred.

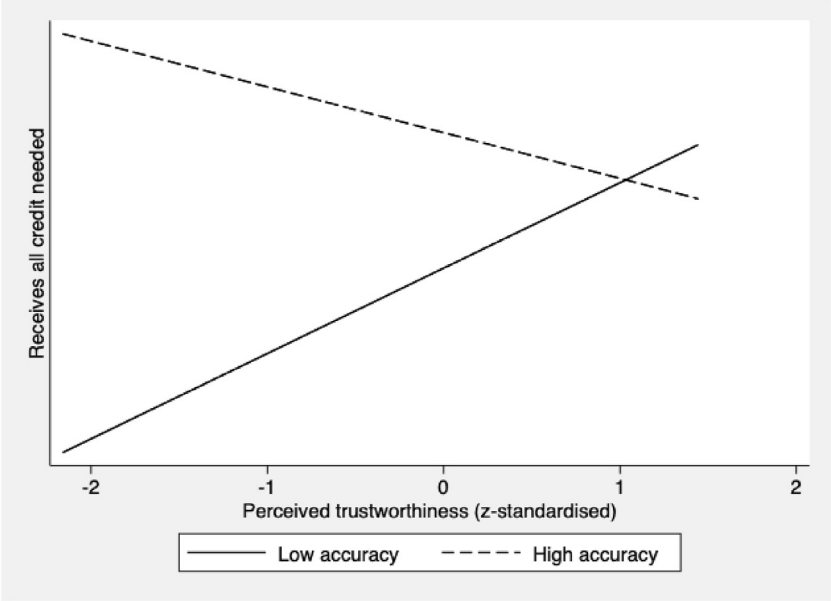
the interaction term to test whether the effect of perceived trustworthiness on credit access is contingent on the availability and accuracy of information at the bank's disposal. For each model, Table 3 reports the logit coefficients, their standard errors, and standardised odds ratios as unitless effect size measures (Breaugh, 2003).

Model 1 shows that perceived trustworthiness and information accuracy, measured in wave 1 of the survey, are significantly associated with credit access, measured in wave 2. Their effect sizes measured with odds ratios are very close to each other too. Interestingly, personal collateral has a negative coefficient instead of the expected positive one. This is likely a feature of our sample, which comprises mostly of mature firms. Almost all firms had to provide firm collateral to secure their loans but only a quarter of them needed personal collateral too. Our interpretation is that banks require personal collateral from established firms only when they deem them particularly risky (Blazy and Weill, 2013). Hence, even if such firms provide personal collateral, they still do not get the full amount of credit desired because banks consider them too risky. In other words, personal collateral in our case appears to be an indicator of a weak business performance. Table 2 supports this interpretation by showing a significant negative correlation between personal collateral and profit margin.

Model 2 adds the interaction between the information accuracy dummy and perceived trustworthiness to the equation. The interaction term is negative and significant. We followed the advice of Ai and Norton (2003) for a more nuanced interpretation of the interaction effect by computing the average marginal effect (AME) of perceived trustworthiness on the firm receiving all the credit it needs at both levels of information accuracy (Fig. 1). The findings point to a substitution effect such that perceived trustworthiness has a stronger effect on credit access when information accuracy is low (AME = 0.10, $p = 0.009$) than when it is high (AME = −0.05, $p = 0.109$).

## 5. Discussion and future research

Our study contributes to the literature on entrepreneurial finance and on trust-based banking by adding empirical robustness to prior research findings on the role of trust in facilitating SMEs' access to credit. In particular, we demonstrate the theorised but previously untested substitution effect between trust and formal information: When the bank does not have sufficient formal information to assess creditworthiness accurately, trust serves to bridge the information gap and, therefore, facilitates an SME's access to credit. The comparative advantage of our study consists in having three data sources (two waves of original survey and financial statement data), and in measuring credit access as the SME's perception of having received an amount of credit sufficient for the pursuit of its business




*Notes:* The average marginal effect of perceived trustworthiness on the probability of the firm receiving all credit needed is .10 ($p$=.009) when information accuracy is low; it is -.05 ($p$=.109) when information accuracy is high.

**Fig. 1.** Effect of perceived trustworthiness on credit access at high and low levels of information accuracy.*Notes:* The average marginal effect of perceived trustworthiness on the probability of the firm receiving all credit needed is 0.10 ($p = 0.009$) when information accuracy is low; it is −0.05 ($p = 0.109$) when information accuracy is high.

goals. This departs from previous studies which have used cross-section data, and proxied credit access with the amount of credit the SME received, whether or not it was deemed adequate. The robustness of our results, and the logic underlying them, lead organically to two potential extensions of this study.

First, while we show a positive relationship between trust and credit access, how trust influences the bank's decision to extend or withhold credit remains a black box. Future research should seek to understand how unquantified qualitative information that results in trust actually facilitates SMEs' access to credit. Prior empirical evidence (Moro and Fink, 2013; Palazuelos et al., 2018) and our findings on the substitution effect of formal information and trust, all support the idea that trust works by eliminating the residual uncertainty left when the bank has processed all formal information useful for assessing the SME as a borrower. However, we do not know how this happens in real life, and how banks can justify positive credit decisions when objective risk factors would not warrant them while maintaining regulatory compliance.

Extant literature has documented that banks complement transaction lending (Altman et al., 2020; Van Caneghem and Van Campenhout, 2012) with relationship lending (Berger and Udell, 1995; Uchida et al., 2012). Still, we have only scant knowledge of the mechanisms that translate qualitative information into quantified risk factors included in lending decisions. Given the difficulties associated with measuring trust in a financing context, and the preliminary nature of studies in this area, our study calls for future research using qualitative approaches to open this black box. While privacy laws may make these studies challenging, inductive research is particularly well suited for investigating complex interactions and largely untapped mechanisms (Eisenhardt, 1989). A qualitative approach would also allow unravelling the entanglement among stakeholders' decision-making processes, rather than simply identifying the outcomes of those decisions (Pettigrew, 1990).

Second, our results rest on the implicit assumption of symmetric trust in the bank-SME relationships. Although this (often implicit) assumption derived from social exchange theory (Blau, 1964) is common in trust research, recent studies suggest that repeated interactions in relationships do not always lead to symmetric trust levels, and that the (a)symmetry of trust in dyadic relationships matters (Koorsgaard et al., 2015). For example, it has been shown that symmetric trust is associated with positive effects, and asymmetric trust with negative effects on organisational outcomes such as team performance (De Jong and Dirks, 2012) and organisational citizenship behaviour (Brower et al., 2009; Carter and Mossholder, 2015). Thus, we propose that an important avenue for future research concerns whether, and under what conditions, the assumption of symmetric trust in bank-SME relationships is realistic and, if it is not, what the consequences of trust asymmetry for SMEs' credit access might be.

Trust asymmetry in bank-SME relationships can have adverse consequences that vary depending on the direction of asymmetry. If the bank trusts more than the SME, the bank risks giving the SME the benefit of doubt even in situations where this is unwarranted, thereby taking on excessive credit risks. If the SME trusts more than the bank, it might be inclined to disclose sensitive information thinking the bank would only use it to support a lending application, not decline it (Moro et al., 2014). The bank, however, might underestimate the truthfulness and accuracy of the information received, fail to reciprocate the SME's trust, and use the information to withhold credit. In general, trust asymmetry leads to misinterpretation of information. Thus, rigorous studies of the consequences of trust asymmetry in bank-SME relationships are required to illuminate the true implications of trust for credit access.

Noticeably, in addition to their theoretical relevance, these two areas for further research have significant practical importance. Puri et al. (2017) have shown that banks with relationship-specific information act differently in terms of their assessment of the short-term borrowing profile of SMEs and their subsequent monitoring behaviour compared to banks that do not have such information. This confirms that, far from being secondary or farfetched, these concerns are very real and worthy of further investigation.

## Trust-based banking and SMEs' access to credit

By Teemu Kautonen, Antti Fredriksson, Maria Minniti and Andrea Moro.
We confirm that we do not have any competing interests to declare.

## CRediT authorship contribution statement

**Teemu Kautonen:** Conceptualization, Methodology, Formal analysis, Investigation, Resources, Writing - original draft. **Antti Fredriksson:** Conceptualization, Methodology, Investigation, Resources, Writing - original draft. **Maria Minniti:** Conceptualization, Writing - original draft. **Andrea Moro:** Conceptualization, Methodology, Writing - review & editing.

## Appendix A

Examples of comments by SME managers about the loan application process (translated from Finnish).

| SME manager | Comments |
|---|---|
| Finance manager, female, wood manufacturing, western Finland | 'Here we trust the bank so much it doesn't matter what they ask, we answer them all, starting from the shoe size.' |
| CFO, male, electronic manufacturing, southern Finland | 'We answer all the questions the banks ask and give all needed information. It needs to be open for both parties.' |
| CFO, male, mechanical engineering, eastern Finland | 'Everything has been discussed quite openly and the bank knows well how things are going.' |
| | 'I believe the informal conversations have significance. Everything is not based on key ratios and the banks have other indicators that come from the experience of the contact person.' |

(*continued on next page*)

(*continued*)

| | |
|---|---|
| CEO, male, mechanical engineering, southern Finland | 'Voluntarily given information has a big role on the decision making, they [banks] do not make the decision just with the [written] material.' |
| Finance manager, male, real estate, central Finland | 'The discussions in the lending process and the voluntarily given information related to them make the process smoother.' |
| Deputy director, female, waste management, western Finland | 'In the lending process, we meet with the contact person and share additional information, which has a big effect on the whole process.' |
| Finance manager, female, food processing, western Finland | 'We have a lot of discussions during the lending process and I think they have about a 50% weight in the whole process.' |
| CEO, male, wood processing, central Finland | 'We trust the banks and we proactively send to the banks a description of our investment, and a budget and a financing plan for it.'<br>'We have free-form discussions in the lending process in which we talk about things that cannot be explained on paper and they have a really big role.' |

## Appendix B

Examples of comments by loan officers about the loan application process for SMEs (translated from Finnish).

| Loan officer | Comments |
|---|---|
| Corporate relationship manager, male, cooperative bank, southern Finland | 'In addition to hard data, of course the softer data that helps to understand the business model, the clients, where the money comes from and where it flows, what the risks are and so on helps.'<br>'SMEs rarely have so sophisticated systems that could give so credible information that it would replace all the softer additional information in decision making.'<br>'In my opinion, trust influences extremely much on what the companies are sharing with us. Especially when they have the chance to select between multiple banks, if they feel they trust the bank and the bank's decision makers and me, as long as the additional information is not too hard to produce, it will come.' |
| Banking advisor, male, commercial bank, western Finland | 'The voluntarily given information has an important role in the lending process. The financial statement tells the situation for only one day, but many other pieces of information are needed.'<br>'The quality of the relationship is in the centre of the lending process. If the relationship is long and good and we trust each other, everything related to the bank-SME relationship becomes much easier.' |
| Banking advisor, female, commercial bank, western Finland | 'The most important information is the information that we gather from the discussions. The general state of the company and the full image of what is happening is best acquired by having discussions. These discussions often include information that cannot always be communicated on paper.'<br>'Mutual trust has a very significant role in the lending process.' |
| Account director, male, cooperative bank, western Finland | 'Whether chemistry between the bank and our client works affects mutual trust. If we do not have mutual trust, nothing usually happens.'<br>'When firms face harsh times, the mutual trust will be tested.' |
| Corporate relationship manager, female, cooperative bank, western Finland | 'Beyond the internal rating of the client we can take into account additional information that is not easily quantified.'<br>'The larger the requested loan amount, the bigger the role of our discretionary assessment that requires more voluntary information disclosure.' |

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