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BANKING & FINANCE | RESEARCH ARTICLE

Loan officers and soft information production

Loukil Sahar^{1*} and Jarbouï Anis²

Abstract: According to the current paradigm of relationship lending in small business lending, loan officers produce soft information about their small- and medium-sized enterprises borrowers. We examine this common assumption by directly measuring soft information and testing how can loan officer accumulate this type of information. We used a data-set on Tunisian small businesses via a specially designed questionnaire addressed to loan officers and a data based on lines of credit files. We find that on balance loan officers play an important role in producing soft information. In fact, the specificity of loan officer, direct contact with the manager, and regular visit to the firm contribute to more information production, while frequent loan officer turnover hinders this mission. To further pursue the validity of our empirical methodology, we test whether the production of soft information by loan officers benefits borrowers. Our results confirm that besides soft information, audited financial statements improve loan contract terms while public banks are more devoted to relax financing constraints.

Subjects: Banking; Business, Management and Accounting; Finance

Keywords: relationship lending; small- and medium-sized enterprises; soft information

1. Introduction

Practitioners and business analysts have long recognized the importance of bank relationships for firms and a slate of recent theoretical models have rekindled academic interest in the topic. For such

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PUBLIC INTEREST STATEMENT

In order to address the opacity problem for small- and medium-sized enterprises (SMEs), financial institution relies primarily on soft information gathered through contact over time with the SME, its owner, and the local community. This information is acquired in large part by the loan officer. This paper contributes to the growing literature on banking relationships by empirically examining the hypothesis suggesting that loan officers may play a critical role in relationship lending by producing soft information about SMEs. We examine this common assumption by directly measuring soft information and testing how can loan officer accumulate this type of information. We find that on balance loan officers play an important role in producing soft information. To further pursue the validity of our empirical methodology, we test whether the production of soft information benefits borrowers. Our results confirm that besides soft information, audited financial statements improve loan contract terms.

lending technology, the financial institution relies primarily on soft information gathered through contact over time with the small- and medium-sized enterprise (SME), its owner, and the local community to address the opacity problem. This information is acquired in large part by the loan officer through direct contact with the borrower and observing the SME's performance on all dimensions. This soft information may also include an assessment of the future prospects of the SME gathered from past communications with SME's suppliers, customers, or neighboring businesses (Berger & Udell, 1995, 2006; Degryse & Van Cayseele, 2000; Petersen & Rajan, 1994).

This paper contributes to the growing literature on banking relationships by empirically examining the hypothesis suggesting that loan officers may play a critical role in relationship lending by producing soft information about SMEs. We find the theoretical backdrop for pursuing this study in the literature that focuses on the impact of close bank relationship on the loan contract terms (e.g. Bartoli, Ferr, Murro, & Rotondi, 2013; Behr, Entzian, & Güttler, 2011; Berger & Udell, 1995, 2002, 2006; Bharath, Dahiya, Saunders, & Srinivasan, 2008; Boot, 2000; Boot & Thakor, 1994; Dewally & Shao, 2014; Diamond, 1991; Petersen & Rajan, 1994). Specifically, this literature has identified soft information with "relationship lending" and hard information with "transactions-based lending." According to the relationship lending theory, soft information is a non-quantified information and consist of banker's assessments of a borrower's future prospects gathered over time through contact with the firm, the firm's management/entrepreneur, the firm's suppliers and customers, and other local sources.

In the current framework, transactions lending is generally viewed as being focused on informationally transparent borrowers, while relationship lending is seen as used for opaque borrowers.¹ Consequently, relationship lending is the obvious—if not the only—way to cope with opaqueness. Relationship lending can mitigate opacity problems because it relies primarily on "soft" information gathered by the loan officer through continuous, personalized, direct contacts with SMEs, their owners and managers, and the local community in which they operate.

According to Berger and Udell (2006), it's an important oversimplification to consider that lending technologies are often categorized into two types: transactions lending, based primarily on "hard" quantitative data and relationship lending, based significantly on "soft" qualitative information. The authors consider that this characterization is fundamentally flawed because transactions lending is not a single homogeneous lending technology. They argue that, among different types of transactional lending technologies, financial statement lending is focused on transparent borrowers, while the others are all targeted to opaque borrowers. A clear identification of this dichotomy among transaction technologies is often missing from the academic literature.

According to the conventional view of relationship lending theory, the loan officer produces "soft" information ultimate type of information improving contracting efficiency and increasing borrower access to credit. More specifically, some recent works on relationship lending have placed more emphasis on the importance of loan officer–entrepreneur relationship and not the bank–entrepreneur relationship. In fact, loan officers are responsible for transferring "soft" information and monitoring the borrower through regular contact with the manager, while institutional frictions may make it difficult to quantify and communicate within banking organizations without significantly diluting its content (e.g. Alessandrini, Presbitero, & Zazzaro, 2009; Liberti & Mian, 2009; Stein, 2002). According to de la Torre et al. (2010), the conventional wisdom argues that it is difficult for large and foreign banks to engage in this type of lending because of the personalized, community-based nature of the contacts that relationship lending implies, and that this type of banks is relatively less capable to process and quantify "soft" information and transmitting it through the formal communication channels of large/complex organizations for which the headquarters are far away. So, this soft information may often remain proprietary to the loan officer because it is not easily observed, verified, or transmitted to others. This is not the case of small banks where loan officers have more flexibility to evaluate credit using techniques based primarily on "soft" qualitative information such as personal knowledge about the subjective circumstances of the firm, its owner, and its management.

The current research paradigm in small business lending emphasizes the advantages of relationship lending for opaque firms, Berger and Udell (1995), Boot (2000), Cole (1998), Petersen and Rajan (1994) etc. In this paradigm, loan officers are hypothesized to play a crucial role in producing “soft” information through direct and regular contact with the manager. This hypothesis is particularly under-researched in the literature. In this paper, we empirically test interesting implications: If the loan officer plays such an important role in relationship lending, then we would expect to see a link between loan officer attributes and loan officer underwriting/monitoring activities, and the production of soft information. Then to further pursue our methodology, we test whether the production of soft information by loan officers benefits borrowers. Doing so, we follow the methodological approach of Uchida, Udell, and Yamori’s (2012), but we proceed differently. In fact, instead of asking firm’s managers about the bank’s status as a relational lender, we directly inquire this information from loan officers. This could reduce the subjectivity of assessments causing interpretation bias.

Using a unique data-set provided by several banks in Tunisia and a questionnaire sent to loan officers, we test these causal relations. This combination between qualitative and quantitative information allows us to build a rich data base helping us to better understand “soft” information production process. We construct a knowledge index through a Principal Component Analysis applied to loan officer’s assessments of their banks’ overall knowledge about borrowing firms. Then, we regress the production of “soft” information on loan officer’s activities as measured by loan officer turnover, officer specificity assigned to the firm, loan officer’s visit to the firm, and direct contact with firm’s manager. Finding out that these attributes are significant means that “soft” information is produced by loan officers because most of the already mentioned activities are not likely to be devoted to producing hard information, Uchida et al. (2012). Our findings are in coherence with relationship lending paradigm. In fact, more soft information tends to be accumulated when loan officer turnover is less, when loan officer contact is direct, when there is a specific officer dealing with the respondent firm, and finally when he visits the firm.

Most empirical studies of relationship lending have tended to focus on borrower benefits from relationship lending without consideration of the role of the loan officer in generating those benefits (e.g. Agarwal & Hauswald, 2010; Behr et al., 2011; Berger & Udell, 1995; Cerqueiro, Degryse, & Ongena, 2010; Cole, 1998; Elsas & Krahnen, 1998; Harhoff & Korting, 1998; Petersen & Rajan, 1994). The study of Fischer (2000) measures production of soft/hard information by the number of information items that borrowers submit to the lending bank. But, his focus is on the effect of the degree of competition on information production. In a related study, García-Appendini (2007) investigates bank use of soft information vs. hard information in the loan granting decision. More directly, Uchida et al. (2012) measure “soft” information by constructing an index of a banks’ overall knowledge of its borrowing firms. But, they utilize firm’s responses rather than loan officer’s assessments.

Our paper addresses this gap by underlying mechanism that drives the production of soft information. We directly test whether loan officer relationship-building leads to more production of soft information through a data survey based on loan credit files and loan officer’s activities and knowledge about firms through a questionnaire sent to several banks in Tunisia. As we predicted loan officers produce soft information, we attempt to valid our empirical methodology by examining the impact of this type of information on loan contract terms. Doing so, we deeply explore the most fundamental hypothesis in this literature: Are loan officers central to soft information production? If it is true does this information benefits firms?

The remainder of the paper is composed as follows. In Section 2, we introduce our data and our methodology. In Section 3, we examine the relation between loan officer’s attributes and monitoring activities and soft information production. We check out the ability of this type information to improve loan contract terms and present our main results in Section 4, and the final section concludes the article.

2. Data and methodology

The data come from two different sources. First, we use data gathered across banks via a specially designed questionnaire addressed to loan officers. The survey asks about their overall knowledge about borrowing firms. Second, we analyze data based on lines of credit files considered by nature as relationship lending technology since the firm's state of the commitments is daily followed by the loan officer through a direct and repeated contact with the manager. More specifically, we consider SMEs, well-suited type of firms for relationship lending because of their high levels of information asymmetry, Fama (1985) and Diamond (1984). Our sample consists of data on credit files granted by several Tunisian banks on 100 firms in 2011.

Our empirical methodology is designed to test the ability of the loan officer to produce soft information. Consequently, we penetrate much more deeply into the most fundamental hypothesis of the current paradigm. In this section, we briefly describe the general model used in our empirical tests and how we change the specification to valid our first presumption.

Our first specification is an analysis of the impact of loan officer activities on the production of soft information associated with lines of credit assumed as a relationship lending technology. As Uchida et al. (2012), we could directly test this by running this regression:

$$\text{Production of soft information} = f(\text{Loan officer activities; Relationship strength; Controls}) \quad (1)$$

Soft information is by nature not easily observed, verified, or transmitted to others, Berger and Udell (2006). Consequently, the most major challenge we face here is the estimation of the amount of soft information produced by the loan officer for each firm. To overcome this problem, we follow Uchida et al. (2012) and estimate a more general model.

$$\begin{aligned} \text{Production of TOTAL information (soft + Hard)} = \\ f(\text{Loan officer activities; Relationship strength; Production of hard information; Controls}) \end{aligned} \quad (2)$$

In this specification, we model the production of total information. We assume that the production of soft and hard information is theoretically equivalent to the production of soft information since loan officer activities only affect the production of soft information because the production of hard information is generally quite routinized. Moreover, to pick up hard information contained in the dependent variable, we include powerful controls. Although the power of the second equation is lower than the first one, because the dependent variable is more generally defined, we interpret a significant coefficient of activity variables as relatively strong evidence that soft information is produced by loan officers.

As a proxy for the production of total information, we construct the variable KNOWLEDGE which represents a bank's knowledge of the firm, manager, activity, and its environment. This variable comes from loan officer's answers to four questions: (i) how well do you know the firm and its business, (ii) how well do you know the firm's managers and owners, (iii) how well do you know the firm's industry, and (iv) how well do you know the firm's market? They rate their client on a five-point scale from "very little" to "very much." While Uchida et al. (2012) contend that entrepreneur's assessments can be viewed as the amount of information accumulated by the bank, we assume that it is less subjective to consider loan officer's assessment. Using these ratings, we construct the KNOWLEDGE by applying a principal component analysis on these four constructed categorical variables. The resulting first principal component is our proxy for total information production, KNOWLEDGE. This variable captures 67.218% of the variance/covariance of the four variables and has a positive loading (coefficient) on all responses.

According to the empirical literature on relationship lending, more knowledge mitigates problems stemming from asymmetric information and consequently is linked to greater relationship benefits. This hypothesis is based on the implicit assumption suggesting that loan officer produce soft information. In the second part of our research, we empirically test if more knowledge leads to more benefits.

To measure loan officer's activities reflecting his effort to generate soft information, we suggest four variables activities variables. First, we include the dummy variable *TURNOVER*, which indicates whether there was at least one change in the firm's loan officer over the past three years and *SPECIFIC-OFFICER*, a dummy variable which indicates whether there was a specific officer assigned over the past three years. Rotation and lack of specificity should be associated with a lack of soft information production. The third variable is *VISIT*, a dummy variable which equals one if the officer visits the firm and 0 otherwise. To measure the existence of a direct and frequent contact with the manager of the company, we introduce the binary variable *DIRECTCONTACT*.

In addition, we analyze the effect of experience and investigation skills of loan officer since it is expected that a less experienced (i.e. younger) officer should be associated with less soft information production. But, the expected sign of *OFFICER23_33* is thus indeterminate for two reasons. On one hand, a more senior officer could have a lower incentive to collect information, or possibly even lower ability (on average). On the other hand, we could expect that young officers are motivated to accumulate and communicate pertinent information.

We also control for relationship intensity. To do so, we introduce the two most common proxy recognized in the empirical literature. The first variable *LENGTH* is the duration of the bank-borrower relationship since it reflects information accumulation across time through multiple and repetitive contacts. Second, we introduce the variable *SCOPE* measured by the number of lines of credit. The more lines of credit the firm gets the strengthener relationship is built.

Finding significant and positive coefficient for *SPECIFIC-OFFICER*, *VISIT*, and *DIRECTCONTACT*, and a negative coefficient for *TURNOVER* provide evidence for loan officer's activities relevance in soft information production.

We finally introduce a set of variables to control for different factors. The key control variables are proxies for hard information. To control the existence of hard information, we introduce the dummy variable *AUDIT* that indicates whether the financial statements were produced via a certified audit. Berger and Udell (2006) argue that to get financial statement lending, the borrower must have informative financial statements, such as audited statements. So, this is a powerful control variable in that hard information is routinely gathered. We also control for the size and the age of the firm as most commonly used proxy for asymmetric information. The link between the size and opacity is clear. The more big the firm, the more its actions are easy to observe due to legal obligation. Banks benefit from the knowledge embodied in large corporations, as this knowledge can help reduce substantially the problem of asymmetric information that banks face when approaching new SMEs, de la Torre et al. (2010).² It is therefore inversely related to informational opacity. Besides, the firm age represents the possibility to refer to an historical business allowing the bank to assess credit risk.

We include additional firm-level variables control for firm's industry, ownership, and financial performance. We look particularly for firm's results in the past two years. These variables may also be important to control for the subjectivity of the variable *KNOWLEDGE* because the dependent variable is constructed from a subjective evaluation. For example, a firm which was denied a loan application due to its poor performance might devalue the bank's knowledge of the firm. These control variables address this bias. We also control for the bank's ownership. The labels and definitions for all of these control variables, together with dependent and independent variables are shown in Table 1.

Table 1. Definition of variables

Variable	Definition
KNOWLEDGE	Information production index constructed by principal component analysis over the respondent loan officer's ratings about their main banks' knowledge of the firm
KNOWLEDGE_S	Information production index constructed by summing up the respondent loan officer's ratings
TURNOVER	A dummy variable indicating if there were one or more officer turnovers in the past 3 years
SPECIFIC-OFFICER	A dummy variable indicating if there is a specific officer assigned to the firm in the past 3 years
VISIT	A dummy variable indicating if the loan officer visits the firm
OFFICER23_33	A dummy variable indicating if the age of the loan officer is between 23 and 33 years
DIRECTCONTACT	A dummy variable indicating if there is a direct contact between the loan officer and the firm manager
LENGTH	The year of the bank-borrower relationship
SCOPE	The number of lines of credit
AUDIT	A dummy variable indicating if the firm has audited financial statements
SIZE	The natural logarithm of annual turnover
AGE	The age of the firm
OWNERSHIP	A dummy variable indicating if the manager of the firm owns more than 50% of total equity
PERFORMANCE_SS	A dummy variable indicating if the performance of the firm in the past 2 years was surplus followed by surplus
PERFORMANCE_SD	A dummy variable indicating if the performance of the firm in the past 2 years was surplus followed by deficit
PERFORMANCE_DS	A dummy variable indicating if the performance of the firm in the past 2 years was deficit followed by surplus
PERFORMANCE_DD	A dummy variable indicating if the performance of the firm in the past 2 years was deficit followed by deficit
INDUSTRY	An industry dummy variable for manufactory and construction
RENT	Net income/turnover
PUB	A dummy variable indicating if the bank is public
	Benefit from relationship
FAVOR	A dummy variable indicating if the firm gets credit at lower rates

To confirm our methodology, we also test whether the production of soft information by loan officers benefits borrowers. As we argued above, the production of soft information will likely lead to a culling out of low-quality borrowers which will be reflected in better terms for the borrowers in our sample. Thus, we can test whether soft information benefits borrowers (i.e. better credit terms) consistent with the prior literature (e.g. Berger & Udell, 1995; Boot, 2000; Boot & Thakor, 1994; Diamond, 1991; Petersen & Rajan, 1994). We conduct this validation by running the following equation:

$$\text{Relationship benefit} = f(\text{Production of soft information; Controls}) \quad (3)$$

If our approach is valid, then based on our estimates of Equation (2), we can use the sum of fitted values for our key independent variables (officer activities and relationship strength) multiplied by their estimated coefficients as a measure of soft information production. Specifically, we create the variable `SOFT_FIT` by interacting the four officer variables (`TURNOVER`, `SPECIFIC-OFFICER`, `DIRECTCONTACT`, and `VISIT`) and the two relationship strength variables (`LENGTH` and `SCOPE`) with their estimated coefficients that are obtained from the estimation of Equation (2). A larger value of

SOFT_FIT should represent more production of soft information and should thus be associated with more material benefits. For the dependent variables, we use the variable FAVOR to measure relationship benefits. It indicates if the firm gets credit with lower rates than regulatory.

3. Results for the role of loan officers

The results for the estimation of Equation (2) are shown in Table 2. To check the robustness of the results, we also construct KNOWLEDGE_S, which is the simple sum of the four categorical (1–4) variables and log (KNOWLEDGE_S), the natural logarithm of KNOWLEDGE_S. However, the main results are unchanged among these variables, so we will mostly focus on the results using KNOWLEDGE. We find evidence that key proxies of loan officer's activities have significant impact on KNOWLEDGE. Indeed, we get a positive and significant coefficient for SPECIFIC-OFFICER, DIRECTCONTACT, and VISIT. These results highlight the importance of loan officer continuity while tight relationship is relevant for knowledge improvement through direct contact and regular visit to the firm. On the other hand, we find a negative and significant coefficient for TUNOVER. This result implies that less

Table 2. Information production and officer activities

		KNOWLEDGE regression			KNOWLEDGE_S regression			log(KNOWLEDGE_S) regression		
		Coefficient	Std. error	Prob.	Coefficient	Std. error	Prob.	Coefficient	Std. error	Prob.
Loan officer activities	TUNOVER	-.5687306*	.2528179	0.027	-1.840978*	.7335602	0.014	-.0416254*	.0165607	0.014
	SPECIFIC-OFFICER	.7477668**	.2287218	0.002	2.197918**	.6636447	0.001	.0458632**	.0149823	0.003
	OFFICER23_33	-.1796038	.2226732	0.422	-.3727792	.6460944	0.566	-.0082311	.0145861	0.574
	DIRECTCONTACT	.4376014*	.2369568	0.068	1.556562*	.6875387	0.026	.0339791*	.0155217	0.031
	VISIT	.6232941**	.2212141	0.006	1.660965*	.6418606	0.011	.0363071*	.0144905	0.014
Relationship strength	LENGTH	.0649116	.2308243	0.779	.1587263	.669745	0.813	.0039952	.01512	0.792
	SCOPE	-.0478363	.2342218	0.839	-.0426221	.6796031	0.950	.0032612	.0153426	0.832
Access to hard information	AUDIT	.0736125	.2502441	0.769	.4923027	.7260923	0.500	.013343	.0163921	0.418
Firm and entrepreneur control variables	AGE	.1235745	.2303421	0.593	.4895314	.6683459	0.466	.007524	.0150885	0.619
	SIZE	-1.01e-06	6.73e-06	0.881	-9.85e-06	.0000195	0.615	-2.45e-07	4.41e-07	0.580
	PERFORMANCE_dd	.1565973	.3752472	0.678	.160249	1.088793	0.883	-.000279	.0245804	0.991
	PERFORMANCE_SD	-.2137745	.4477926	0.634	-.076	1.299286	0.953	.0027388	.0293324	0.926
	PERFORMANCE_DS	-.1819623	.555144	0.744	.536639	1.61077	0.740	.012057	.0363645	0.741
	INDUSTRY	.1012591	.1867403	0.589	.1568547	.5418338	0.773	.0030579	.0122323	0.803
	OWNERSHIP	.2214957	.2268515	0.332	.3733073	.6582178	0.572	.0040689	.0148598	0.785
	PUB	.4262209	.3191787	0.185	1.608386	.9261086	0.086	.0363289	.0209077	0.086
	RENT	.0138799	.0201579	0.493	.0594895	.0584888	0.312	.0011899	.0013204	0.370
Cons.		-1.347.344*	.5693866	0.020	15.47112**	1.652096	0.000	1.201767**	.0372974	0.000
R ²		0.3539			0.3854			0.3756		

Notes: (Information production) = $f(\text{Loan officer activities, Relationship strength, Access to hard information, Control variables})$.

This table shows the OLS estimation results for the determination of information production. The dependent variable is alternative proxies for information accumulation: In columns (i) KNOWLEDGE is the first principal component from the principal component analysis over the four dummy variables representing the main banks' knowledge about the borrower; in columns (ii) KNOWLEDGE_S is the simple sum of the four dummies; and in columns (iii) log (KNOWLEDGE_S) is the natural logarithm of KNOWLEDGE_S. The main independent variables are those described in Table 1, which represent the activities of loan officers and the strength of the bank-firm relationships. The control variables are firm and entrepreneur attributes. The Breusch-Pagan test allows us to pronounce on homoscedasticity of residues at a 5% level of significance.

*The coefficient is statistically significant at a 5% level.

**The coefficient is statistically significant at a 1% level.

information is produced when there is a loan officer turnover. These results are consistent with the underlying hypothesis of relationship lending suggesting the importance of the loan officer in producing soft information and delivering relationship lending.

Another noticeable result is that the coefficient of OFFICER23_33 is never significant at a conventional level of significance. If a loan officer's age reflects expertise, it does not seem to be important in producing soft information. However, as discussed above, no clear relationship between officers' expertise and officer age was expected ex-ante.

The results for the other key variables support the hypothesis that loan officers produce soft information. But, the relationship intensity measures are not statistically significant, which is inconsistent with some empirical findings in existing studies. Indeed, empirical literature review offers mixed results (Angelini, Di Salvo, & Ferri, 1998; Berger & Udell, 1995; Blackwell & Winters, 1997; Degryse & Van Cayseele, 2000; Harhoff & Korting, 1998).

In general, our empirical findings are in coherence with the principal and implicitly accepted hypothesis of the relationship lending theory which supposes that loan officers produce soft information. Most variables, that proxy for loan officer activities, are significant with the expected signs. In particular, low officer turnover, the existence of a specific loan officer, visit, and direct officer-entrepreneur contact are important.

4. Validation test

According to the relationship lending theory, loan officer acquire soft information due to frequent and regular contact with the manager. This type of information is supposed to improve loan contract terms. To validate our methodology, we test whether the production of soft information by loan officers benefits borrowers. Proceeding like that, our empirical research is consistent with the prior literature (e.g. Berger & Udell, 1995; Boot, 2000; Boot & Thakor, 1994; Diamond, 1991; Petersen & Rajan, 1994).

To measure the benefits of soft information, we test if the firm gets a loan credit at a lower rate than regulatory rates through the dummy variable FAVOR. We use the sum of fitted values for our key independent variables (officer activities and relationship strength) multiplied by their estimated coefficients as a measure of soft information production. Specifically, we create a variable SOFT_FIT by interacting the six officer variables (TURNOVER, SPECIFIC-OFFICER, OFFICER23_33, VISIT, and DIRECTCONTACT) and the two relationship strength variables (LENGTH and SCOPE) with their estimated coefficients that are obtained from the estimation of Equation (2). We expect to a larger value of SOFT_FIT and thus we would conclude that soft information is associated with material benefits.

The results for the PROBIT regression are represented in the following Table 3.

Table 3. Benefit from soft information production

FAVOR	dF/dx St	Ecart type	z	P > z
SOFT_INFO	.5987948**	.1377114	4.30	0.000
AUDIT	.5063059**	.1077649	3.79	0.000
PERFORMANCE_DD	.1934757	.2508813	0.56	0.574
PERFORMANCE_SD	-.0010083	.264562	-0.00	0.997
INDUSTRY	-.0759141	.1317589	-0.57	0.566
OWNERSHIP	-.1136851	.1364784	-0.79	0.430
PUB	-.2967555*	.1412888	-1.97	0.049
R ²	0.5094			
Good classification rate	86.00%			

*The coefficient is statistically significant at a 5% level.

**The coefficient is statistically significant at a 1% level.

Since as we predicted officer activities capture soft information production, we now turn to our test on the validity of our methodology. The regression results for Equation (3) report that the coefficient on SOFT_FIT is statistically significant at 1% level. Given a standard deviation of SOFT_FIT, a one standard deviation increase in SOFT_FIT increases the likelihood of getting a loan at a lower rate than regulatory by almost 60% (dummy variable). This is consistent with findings elsewhere that loan rates decline with relationship strength (e.g. Berger & Udell, 1995). However, unlike other analyses, we use a direct measure of the production of soft information rather than an indirect measure (e.g. the length of the relationship, scope, number of lines of credit). Berger and Udell (1995) report a negative impact of longer relationships on loan interest rates, but Blackwell and Winters (1997), Harhoff and Korting (1998), Lehmann and Neuberger (2001), and Petersen and Rajan (1994) report no impact. This result is consistent with the “hold-up” theory.³ While, Angelini et al. (1998), Degryse and Van Cayseele (2000) report a positive impact. In terms of the impact on the likelihood of pledging collateral, longer relationships reduce the likelihood in some studies (Berger & Udell, 1995; Harhoff & Korting, 1998) but an increase in the likelihood is reported in others studies (Degryse & Van Cayseele, 2000; Ono & Uesugi, 2009).

Nevertheless, the results emphasize the importance of the audited financial statements in lowering credit cost. Indeed, the coefficient on AUDIT is statistically significant at 1% level. Possessing audited financial statements increases the likelihood of getting a loan at a lower rate than regulatory by 50%. While Uchida et al. (2012) find a barely impact for AUDIT and no impact for poorly performing firms. Moreover, we find that the bank’s ownership matters. In fact, public banks seem to be more flexible while granting credit to SMEs at lower cost. Our validation test generally demonstrates that soft and hard information accumulation have significant benefits on loan contract terms for SMEs and on balance provides justification for our approach.

5. Conclusion

The current paradigm of relationship lending in small business lending implicitly suggests that commercial loan officers may play a critical role in relationship lending by producing soft information about their SME borrowers. This paper particularly questions this common assumption which is based on an under-researched hypothesis in the empirical literature. Uchida et al. (2012) are among the rare authors to directly measure soft information and test how loan officer can accumulate this pertinent type of information. Doing so, we penetrate much more deeply into the most fundamental hypothesis of the current paradigm.

Using a data-set on Tunisian small businesses, we examine the impact of loan officer’s activities on soft information production. We find that on balance loan officers play an important role in producing soft information. The specificity of loan officer, direct contact with the manager, and regular visit to the firm contribute to more information production. While frequent loan officer turnover result in less soft information production. Thus, on balance we find empirical evidence for the critical role of the loan officer in producing soft information and so to the underlying assumption of the paradigm of relationship lending.

According to the empirical literature on relationship lending, more knowledge mitigates problems stemming from asymmetric information and consequently is linked to greater relationship benefits. To further pursue the validity of our empirical methodology and check out the ability of this type information to improve loan contract terms, we test whether the production of soft information by loan officers benefits borrowers. Our results confirm that besides soft information, audited financial statements improve loan contract terms enabling the firm to be financed at a lower rate. Finally, our results indicate that public banks are more devoted to relax financing constraints. Although this paper advances our understanding of the relationship between banks and SMEs, much work remains for future research.

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Notes

1. By opaquesness the literature means that it is difficult to ascertain if firms have the capacity to pay (have viable projects) and/or the willingness to pay (due to moral hazard). This opaquesness particularly undermines lending from institutions that engage in more impersonal or arms-length financing that requires hard, objective, and transparent information, de la Torre, Martínez Peria, and Schmukler (2010).
2. The large corporations might gain in ensuring that the SMEs with which they work are offered more financial products and services and, thus, operate more efficiently.
3. See Greenbaum, Kanatas, and Venezia (1989), Sharpe (1990).

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