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Flögel, Franz

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Distance and Modern Banks' Lending to SMEs: Decentralised versus Centralised Banking in Germany

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IAT DISCUSSION PAPER

16|01

Distance and Modern Banks' Lending to SMEs

Decentralised versus Centralised Banking in Germany

Franz Flögel

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Distance and Modern Banks' Lending to SMEs

Decentralised versus Centralised Banking in Germany

Franz Flögel*

March 2016

Abstract

By lending to SMEs at low geographical distance, banks can realise competitive advantage due to enhanced access to soft information that allows the better screening of firms. As especially regional banks lend at a low distance, the decentralised German banking system is deemed ideal for SME finance. However, as banking regulation requires the use of rating systems for screening, it can no longer be assumed that modern regional banks "naturally" conduct credit decisions at lower distances to SMEs than big banks. In fact, drawing on an ethnographic study at one German savings bank and one big bank, this paper shows that the regional savings bank does not always reach credit decisions at a lower distance. However, at the moment when soft information becomes crucial the big bank decides at a high distance, which is likely to oppress the usage of soft information.

Keywords: *soft information, geographical distance, SME finance, rating systems, SME screening, regional banks*

JEL classification: G21, D82, R51

* *Institute for Work and Technology; Munscheidstr. 14, D-45886 Gelsenkirche; +49 (0)209.1707-203; floegel@iat.eu*

1 Introduction

The theory stand on distance and small and medium-sized firm (SME) finance links geographical distance to bank-based SME lending. It basically states that actors face difficulties in transmitting soft information, i.e. information that is difficult to verify, across distance but that this information is especially relevant in SME lending (Stein, 2002; Berger et al., 2005; Agarwal and Hauswald, 2007; Alessandrini et al., 2009). Low geographical distance eases the transmission of soft information. Hence, banks that operate over short distances are likely to obtain more soft information from their SME customers and thus gain informational advantages in comparison to more distant banks. Accordingly, it is often assumed that regional banks decide SME credits at lower distances than big national/internationally operating banks as their head offices and decision-makers are located within the region (Klagge, 1995; Gärtner, 2009b; Alessandrini et al., 2009). However, as banking supervision regulates the loan approval process for all banks and prescribes the obligatory use of rating systems for risk analysis (see BaFin 2012), the common assumption that regional banks "naturally" decide on SME loans at lower distances than big banks must be questioned.

To advance understanding on the interplay of soft information, distance, rating systems and SME finance in the credit-granting processes of banks this paper focuses on the comparison of a German regional savings bank and a German big bank. In particular, it addresses the question whether the savings bank still decides on credits at a lower distance to its SME customers than the big bank, despite the obligatory use of rating systems. Therefore, the credit-granting process of both banks is compared in depth using an ethnographical methodology, especially two months of participant observation and 40 expert interviews.

The paper is structured as follows. Section 2 sets out an introduction to the German banking system in general and SME lending in particular. Referring to the Stein (2002) model, Section 3 outlines the theoretical basis and discusses distance effects on banks' processing of soft information. Section 4 conceptualises how rating systems relate to distance and soft information, briefly outlines the ethnographical approach applied to compare the credit-granting processes, and introduces the banks that have been the object of closer study. Section 5 compares the credit-granting processes of the regional and big bank studied. Finally, Section 6 discusses the conclusions.

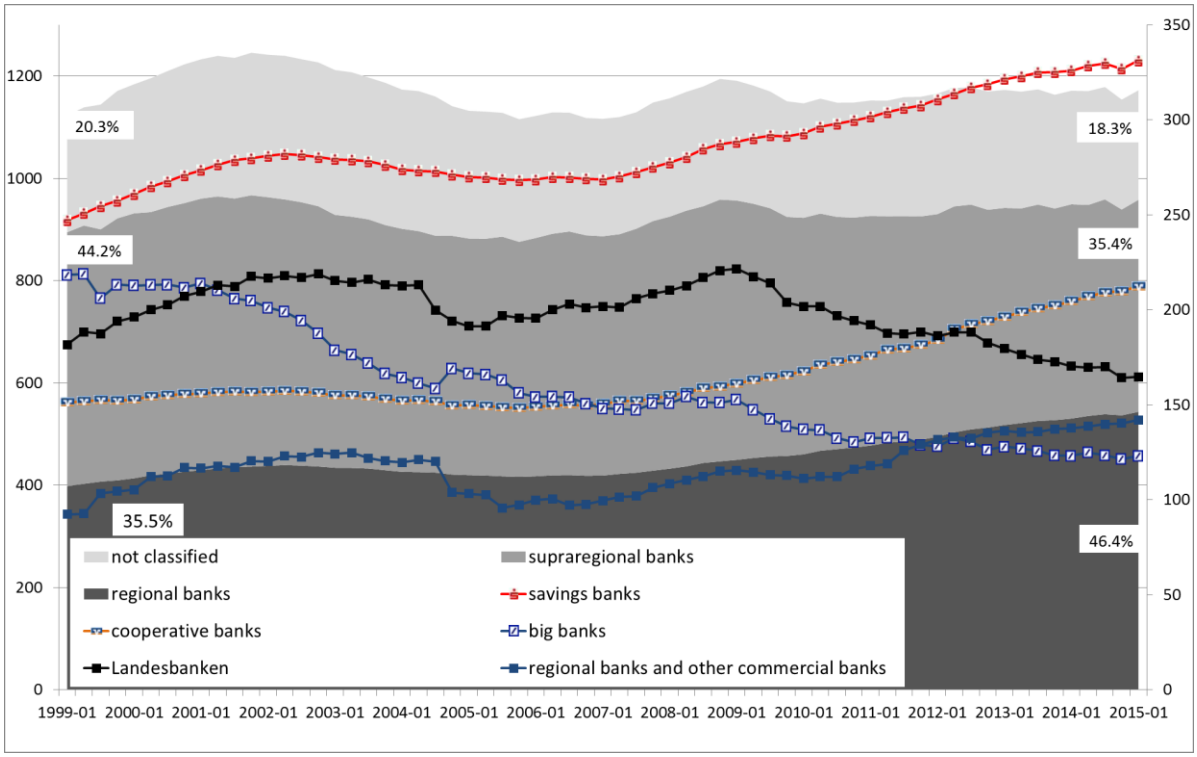
2 The German banking system and lending to SMEs

The parallelism of the three banking pillars "private", "public" and "cooperative" is characteristic for Germany's banking system (Hackethal et al., 2006; Gärtner, 2009b; Klagge, 2009). The private pillar consists of about 300 private-owned commercial banks, the public pillar comprises approximately 410 public-owned savings banks as well as ca. 40 Landesbanken and special purpose banks. About 1100 cooperative banks belong to the cooperative pillar (Deutsche Bundesbank 2015). Subject to the same banking regulations, financial institutes from all three pillars compete as universal banks with one another for customers in almost all market segments (Hackethal et al., 2006). The banking pillars matter because specific regulations protect the pillars with M&A only being allowed within but not across the pillars. Furthermore, regional market delimitation (Regionalprinzip: regional principle)

restricts competition within the public and cooperative pillars (Breuer and Mark, 2004; Gärtner and Flögel, 2014).

Figure 1 illustrates the credit volumes that all banks in Germany lent to non-financial firms and the self-employed for the period from 1999 to 2015, differentiated by categories of banks. The total credit volume of all banks shows conjectural movements but no overall tendency. Since 2010, credit volumes have been rather constant. Banks lent roughly the same amount of credits in 2015 (€1176 billion) as in 1999 (€1133 billion). Striking differences become visible for the categories of banks, however. Whereas big banks have decreased lending since 1999 almost continuously, savings and cooperative banks have steadily increased credits since 2007 (Figure 1). These differences in the development of lending do not correspond with the banking pillars, as the public Landesbanken have decreased lending sharply since the financial crisis while the private regional banks increased lending after the financial crisis.

Figure 1: Credits to non-financial firms and the self-employed by selected categories of banks in billion euros



Source: author's composition, Deutsche Bundesbank 2015

A surprisingly consistent picture emerges when differentiating between regional and supraregional banking categories. Savings and cooperative banks are grouped as regional banks, as they mainly operate in regional market areas due to the regional principle. Owing to their national or international market reach, big banks, branches of foreign banks, Landesbanken, cooperative central banks

and special purpose banks are grouped as supraregional banks[2]. Since 2002, regional banks have almost continuously increased their market share at the expense of supraregional banks. Especially during the financial crisis in 2007-08, the big banks and the Landesbanken cut credits on a large scale. During the same period, regional savings and cooperative banks together actually increased credit volume by €13.7 billion and thus mitigated overall credit cut down (Figure 1).

Against this background, some authors argue that regional banks possess competitive advantages in lending to SMEs, especially during financial crisis, and stabilise the credit supply in Germany (Gärtner 2009a, The Economist 2012, Bruff and Horn, 2012, Hardie and Howarth 2013, Gärtner and Flögel 2015). Gärtner and Flögel (2013, 2014) contrast decentralised and centralised banks and argue that decentralised banks (i.e. regional banks that make credit decisions at low distances to their customers) gained competitive advantages in the crisis for two reasons. Firstly, because a regional market orientation preserves regional savings-investment cycles which secure the refinancing of these banks and make them less dependent on global money-market developments. Secondly, as decentralised banks conduct lending decisions at low distances to customers they are superior at screening and monitoring default risk, and thus did not invest in risky assets such as US supreme mortgages, for example. In this regard they were able to reliably evaluate the risk of their (firm) customers during the financial crisis, therefore avoiding the necessity of implementing credit cuts across all customers in response to the poor economic outlook and the resulting deterioration in rating scores.

However, as argued above, regional banks also depend on rating systems for credit evaluation. In fact, all the German savings banks developed their rating systems together within their banking association (Sparkassen Rating and Risikosysteme GmbH, 2010) and hence rely on the same centrally developed ratings. It thus cannot be assumed that regional savings banks always make credit decisions at lower distances to their firm customers than supraregional banks. In addition, since the financial crisis and the corresponding low-interest phase big banks have (re)discovered the SME segment as highly profitable and try to gain market shares (interview, 07.02.14; interview, 13.02.14). For example, Commerzbank, the second largest German bank, advertises its dense branch network, alluding to the fact that several savings banks are currently closing branches to cut costs[3]. This specific setting suggests that a comparison of the credit-granting processes of savings and big banks in Germany could be promising, as both categories of banks compete for SME customers but differ in spatial organisation (regional versus supraregional market reach).

3 Soft information, distance and SME finance

Financial transactions differ from most market transactions, as service and return service commonly happen non-simultaneously (Hartmann-Wendels et al., 2010). First, providers of funds (savers) deliver their funds to the users of funds (borrowers), who refund the money plus interest at a contractually appointed future time. As the future is uncertain, various factors influence the willingness and ability of borrowers to repay. In order to reduce uncertainty, savers and borrowers collect information to better predict the likelihood of repayment. Thereby, information distribution between

[2] Two banking groups which account for about 20% of loans could not be classified because they include regional and supraregional banks.

[3] see: www.meinebankistweg.de

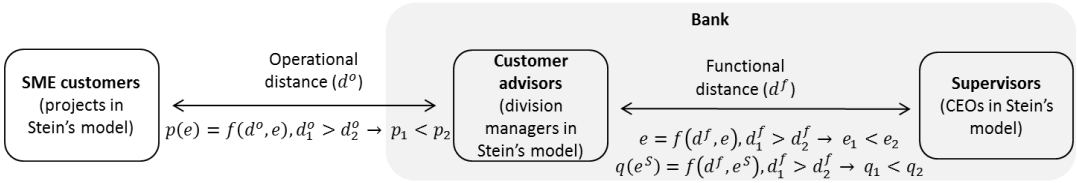
savers and borrowers is typically asymmetric, i.e. borrowers know more about their repayment ability and willingness than savers (Levine, 1997; Klagge, 2009; Beck et al., 2009; Hartmann-Wendels et al., 2010). This asymmetrical information is problematic because it can hinder financial transactions that would have been beneficial for both parties. With screening and monitoring, information asymmetries between the contract partners are reduced (Hartmann-Wendels et al., 2010). As delegated monitors, banks cost-efficiently screen and monitor borrowers on behalf of the savers (Diamond, 1984) and thus can amplify financial transactions. Nevertheless, according to Stiglitz's and Weiss's (1981) model, banks do not obliterate all information asymmetry and conduct credit rationing if information asymmetries to the borrowers become too high. From a theoretical perspective, banks' enhanced access to information lowers the risk of credit rationing, amplifies lending and reduces the financial constraints of borrowers (Petersen and Rajan, 1995).

Distance comes into play because banks face difficulties in transmitting soft information across distance (Klagge and Martin, 2005; Agarwal and Hauswald, 2007; DeYoung et al., 2008; Alessandrini et al., 2009a, 2010; Canales and Nanda, 2012). For Stein (2002: 1982) "soft information cannot be directly verified by anyone other than the agent who produces it", therefore its transmission within a hierarchical organisation or across distance (e.g. via ICT) causes difficulties. In contrast, the transmission of hard information is not subject to any restrictions. Actors unambiguously verify hard information such as financial statements, payment history or account information.

The Stein (2002) model represents the main theoretical foundation of recent studies on distance in banking, information processing and firm financing (e.g. Alessandrini et al., 2009a). Interestingly, Stein's basic model does not discuss geographical distance directly but rather contrasts investment decisions under decentralisation versus hierarchy. Stein's (2002) model shows that decentralised capital allocation can be superior despite the positive capital allocation effect in a hierarchical organisation. As employees cannot communicate their soft information up the hierarchical ladder, this information is useless if decisions (e.g. credit granting) are made by supervisors. Hence, hierarchy can offset employees' efforts to collect soft information.

According to Stein's basic model, employees cannot transmit soft information at all. Therefore, the soft information of employees can only influence credit decisions if the employees have decision-making power. Allowing soft information to "travel" between actors – whereby the difficulty of transmitting soft information increases with the distance between sender and receiver – opens up Stein's (2002) model to distance. Applying this modification to Stein's model for bank-based SME lending implies that distance matters between two actor-pairs (Alessandrini et al. 2009b): firstly, between SME customers and their customer advisors (called operational distance, Alessandrini et al., 2009b) and, secondly, between customer advisors and supervisors (called functional distance, Alessandrini et al., 2009b). With regard to operational distance, customer advisors can gain soft information more easily if distance to their SME customers is low. Translating this to the Stein model implies that low operational distance (d^0) increases the likelihood (p) that the effort (e) of customer advisors' screening is successful (see Figure 2).

Figure 2: The impact of distance on credit decisions in the Stein model



Source: author's figure

Allowing low functional distances to ease the transmission of soft information up the hierarchy implies that the impact of hierarchy on the effort of customer advisors becomes distance dependent (Alessandrini et al. 2009b). Thus, the effort (e) of customer advisors to collect soft information increases if functional distance to their supervisor decreases because it becomes easier to pass on soft information to influence the supervisor's decisions (Figure 2). In addition, by receiving soft information from the customer advisor the supervisor's information base is enhanced through low functional distance. Translating this to Stein's model language, low functional distance (d^f) increases the likelihood (q) that the supervisor's screening effort (e^S) will be successful (Figure 2).

Hereby a purely metric understanding of distance insufficiently explains information transmission, as low geographical distance is neither a necessary nor a sufficient condition to facilitate knowledge exchange between actors (Boschma, 2005; Torre and Rallet, 2005; Torre, 2008; Bathelt and Henn, 2014). Rather other forms of closeness such as social and organisational embeddedness and cognitive affinity need to be considered to fully understand distance in banking (Uzzi and Lancaster, 2003; Klagge and Martin, 2005; Alessandrini et al., 2009, 2010). Notwithstanding this, low geographical distance eases the transmission of soft information because it facilitates face-to-face interaction and supports other forms of closeness like social embeddedness. That is why several authors argue that regional banks that operate at low geographical distances carry out superior screening and monitoring of informationally opaque SMEs (Klagge, 1995; Gärtner, 2009b; Alessandrini et al., 2010).

Numerous empirical studies have analysed the impact of distance on firm finance (for an overview see Degryse et al., 2009; Alessandrini et al., 2009b). Some investigations measured operational distance with firm-level data and indicate that overall operational distance (i.e. the average metric distance of firms to their banks) has moderately increased since the 1970s (Peterson and Rajan, 2002; Degryse and Ongena, 2005, Brevoort et al., 2010). Several studies report that firms at higher distances from banks pay lower interest rates (Peterson and Rajan, 2002; Degryse and Ongena, 2005; Agarwal and Hauswald, 2007). Using data from a US bank, Agarwal and Hauswald (2007) find that the bank in question is more likely to offer a loan to customers located at a lower distance to one of its branches, but charges them a higher interest rate. They interpret this observation by suggesting that distance reduces the soft information available to the bank's customer advisors. The soft information advantages gained for firms located at lower distances are thus utilised to offer opaque firms, i.e. firms with insufficient hard information, located at low distances a credit based on soft information, but high interest rates are charged. In contrast, firms located at high distances only receive a credit offer if they are transparent but are granted low interest rates due to their transparency (Agarwal and Hauswald 2007). Other studies somewhat qualify the relevance of operational distance for informational gains (Handke, 2011; Uchida et al., 2012). In this regard, Handke's (2011) qualita-

tive research shows that close relationships between firms and banks can also develop across high operational distances.

Especially Alessandrini et al. (2009a, 2009b, 2010) indicate the importance of functional distance. The authors set the functional distance of the branches to the banks' head offices as the explanatory variable for SMEs' access to finance and innovation behaviour. They calculate functional distance as metric distance as well as cultural distance (measured in voting differences in the national election), and show that both variables influence the innovativeness of firms. The authors show that firms innovate less in Italian regions where the functional distance of the bank branches is high and conclude that banks need soft information to screen innovation investments. Consequently, firms in high functional distance regions face severe financial constraints that suppress investments in innovations. Whereas Alessandrini et al. (2009a, 2009b) utilise a very macro-econometric approach, Liberti and Main (2009) examine a set of 424 firm records from one big Argentinian bank to analyse the impact of functional distance on access to information. Generally, they show that soft information collected locally loses relevance as it travels higher up the hierarchy. Interestingly, if the customer advisors (who produce and codify the soft information) and the supervisors are located in the same bank branch then the supervisors are more likely to consider soft information than is the case for supervisors (at the same hierarchal level) who are not co-located (Liberti and Main 2009). Thus, low functional distance appears to support the reliable transmission of soft information up the hierarchy, as suggested in the modification of the Stein model outlined above.

To sum up, Stein's model suggests that distance between two actor-pairs (i.e. SME <–> customer advisor and customer advisor <–> supervisor) affects three mechanisms in lending (i.e. customer advisors' and supervisors' screening success and customer advisors' screening effort). Empirical studies somewhat confirm the model's considerations. However, most studies only use very coarse operationalisations of distances and rather macro-econometric approaches. It is questionable whether such coarse operationalisations of distance sufficiently capture the ability of banks to process soft information. Considering the fact that rating systems profoundly shape credit decisions in SME lending and that low geographical distance is neither necessary nor sufficient to facilitate information exchange, qualitative research is needed to gain detailed insights into how banks conduct credit decisions in space.

4 Approach, methods and bank cases

Measuring distance in accordance with the Stein (2002) model implies that the decision-making power of and distance between all actors of the credit decision-making process must be determined. This causes profound empirical difficulties because several actors with varying/changing decision-making power are involved in the SME credit decisions of modern banks. Furthermore, these decision makers are not only human, e.g. customer advisors, credit officers and supervisors, but also non-human actors, especially computer-based rating systems. To account for these facts, studies on modern banking must trace the complex geography of credit decision making by considering human and non-human actors and their interactions.

To grasp this complexity conceptually, the extended actor concept of Actor-Network Theory (ANT) is used to explain how non-human entities become actors (Callon, [1987]1999; Latour, 2005). The power to act is not an individual capacity of actors but is relationally assigned in actor-networks, i.e. banks assign decision-making power to rating systems in their credit-granting actor-networks. To conceptually approach the "behaviour" of rating systems the theory on the performativity of economic models proves useful[4] (MacKenzie and Millo, 2003; MacKenzie, 2006). Several geographers have applied the theory (e.g. Berndt, 2011; Christophers, 2013; Bitterer and Heeg, 2015) which distinguishes different ways in which the use of economic models and formulas by practitioners influences the actual economy. Following the performativity argumentation, rating systems are perceived as non-human actors that – although differing from human actors – influence credit decisions in a powerful way. Thus, the geography of credit-granting processes is traced using two variables:

1. The (percentage of) decision-making power of all actors involved in the credit-granting process to identify all actors to whom the (soft) information of the SME must be transmitted. As banks' actor-networks relationally assign decision-making power this variable can also be easily determined for rating systems.

2. The distance between all actors involved captures the difficulty of soft information transmission as determined by non-geographical factors (e.g. social embeddedness) and geographical distance between actors. As metric considerations obviously do not influence distance to the rating system, this study defines the influenceability of the rating scores by humans' soft information as distance to the rating systems.

Applying an ethnographical methodology, these two variables were determined for the regional savings bank and the supraregional big bank in Germany. In particular, detailed information on the credit-granting processes were gained through 40 expert interviews with bankers from several savings and commercial banks and related professionals in combination with two months of participant observation in the savings bank. As banks apply different credit-granting processes depending on the customer segment, it is crucially important to specify the banks' customer segments precisely to avoid comparing apples with oranges. Hence, this paper reports the results for small SMEs that have revenues from €500,000 to €10 million and total business credits of between €100,000 and €5 million.

The two-month internship was conducted in different departments (SME customer advisor team, back office department and bank controlling department) of one of Germany's larger savings banks. The bank operates in a fairly urban market area with a rather weak economy. At the big bank six interviews yielded extensive information about the bank's lending process and about one of its SME customer branches in particular. The big bank is one of the four German big banks and operates branches countrywide as well as abroad. The SME customer branch in question has about ten employees and is located in a fairly similar market area in terms of population and economic structure as the savings bank under consideration.

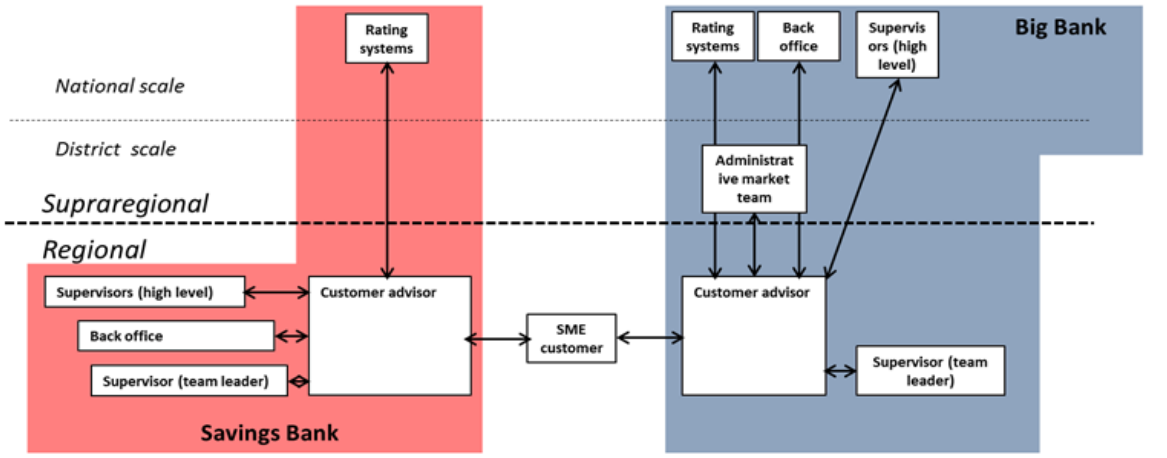
[4] Analysing human and non-human actors with different theories contradicts ANT's postulate of generalised symmetry, but can be justified from an ontological point of view (see Flögel 2015).

5 The organisation of credit decisions at savings versus big banks in Germany

Banks conduct credit decisions collaboratively. Usually firms send credit requests to their customer advisors, who then create a credit application and execute the rating together with the back offices. Depending on the riskiness of credits (e.g. the rating score), supervisors and back offices have to approve the credit applications. The interview results (interview, 09.09.13; interview, 11.02.14) indicate that soft information becomes especially relevant for credit decisions where hard information is inconclusive. Thus, if hard information identifies a very riskless borrower then soft information does not usually matter, as the borrower will receive a credit offer anyway. If hard information identifies a risky borrower, e.g. borrower with little cash flow and low equity capital, then soft information gains importance, as in such cases the bankers have to estimate whether the management can achieve the firm's turnaround, for example.

Figure 3 illustrates the actors involved in the credit-granting processes and summarises the key empirical findings concerning distance. In particular, it specifies the geographical location and distance between the actors involved in credit decisions for the savings and big bank studied. It further specifies how, i.e. by which criteria, the distance classification has been compiled. Whereas operational distance does not fundamentally differ between the two banks (see also Flögel, 2015), strong differences become visible for functional distance (Figure 3).

Figure 3: Relevant actors and the distance between them in the credit-granting process to small SMEs



Distance	Dimension	Classification Criteria
High	Low social embeddedness	No fixed contact persons; persons not personally known; little/no verbal communication
	Low organisational embeddedness	Different firms/departments; little/no mutual dependency
⟷	High geographical distance	supraregional scale (especially national); little/ no face-to-face interactions
Medium	Medium social embeddedness	Several fixed contact persons; persons personally known; Occasional verbal communication
	Medium organisational embeddedness	Different firms/departments; mutual dependency
⟷	Medium geographical distance	Regional or district scale; occasional face-to-face interactions
Low	High social embeddedness	Few/one fixed contact persons;•persons personally well known; frequent and colloquial communication
	High organisational embeddedness	Same firm/department; high mutual dependency
↔	Low geographical distance	Regional scale; frequent face-to-face interactions
Very low	Very high social embeddedness	One fixed contact person; persons personally very well known; frequent and colloquial communication; frequent private chats
	Very high organisational embeddedness	Same department/team; very high mutual dependency
◆	Very low geographical distance	Regional scale; micro-geographical proximity (e.g. next door office); daily face-to-face interactions

Source: author's figure

To illustrate the distance classification, the subsequent section looks at functional distance between the customer advisors and their credit officers in the back offices. Following this, the rating systems and their influenceability by soft information is discussed. Building on this distance classification, the final subsection compares total distance to SMEs between the savings and big banks investigated.

5.1 Cooperation between the customer advisors and credit officers

Banks' back offices influence SME credit decisions for two reasons. Firstly, banking regulation requires that a department independent from the market division, i.e. the back office, approve risk-relevant credits with a second vote (BaFin, 2012: BTO 1.1). Secondly, back-office departments con-

duct numerous administrative and checking jobs that influence the screening and monitoring of banks, although the departments' credit officers execute no formal second vote.

From an organisational perspective, the division of back-office work is rather low in the savings bank under consideration. The back-office department is located in the head office of the savings bank. Beside the annual financial statement disclosure team, only one working group processes all SME credit applications. Working in paired teams, each of the customer advisors has their own credit officer in the back-office team (protocol, 14.11.13). Geographical distance (approx. 10 km) between the back-office team and the customer advisors (located in a major branch of the savings bank) inhibits ad-hoc meetings. Accordingly, customer advisors use the telephone for most communication with their credit officers. Communication is furthermore based on written documents such as work instructions, calculations and forms that the internal post team delivers twice a day (protocol, 18.11.13). Bankers often communicate indirectly via ICT, e.g. credit officers approve customer advisors' rating execution with a simple button click in the rating software (protocol, 11.12.13). Some documents are also e-mailed.

Customer advisors verbally communicate with their credit officers on a daily basis in an informal manner (e.g. they use the informal "du"). Most calls last a few minutes and are simply to clarify certain details or coordinate action. Many occasions for communication between the back office and customer-advisor team initiate a series of interactions using different means of communication. Thereby, communication often relates to deviating/unclear calculations, interpretations and disagreements on action, and is usually very cooperative.

The participant observation not only identified smooth cooperation but also conflicts and disagreements between the teams, for instance with respect to credit terms (protocol, 09.12.13) or lending decisions to risky firms (protocol, 19.11.13). The varying availability of soft information partly explains differences in customer evaluations. Credit officers usually neither have nor want personal contact to customers (protocol, 11.12.13; protocol, 12.11.13), leading to deviating customer evaluation results. A credit officer of the savings bank studied nicely expressed this:

> *"Flögel: When it comes to evaluation, what does the back office do differently?*
>
> *Answer: Well, I think, the back office doesn't know the clients personally from the talks, and so, I'd say, it interprets them differently. A person's creditworthiness is different, is interpreted differently, if, say, I've known you as a customer for 10 years from talks and cooperation than if I only know your files, and that is simply a different kind of evaluation that can play a role. The back office is traditionally more dispassionate, somewhat more number-oriented [...]."*
>
> (interview, 09.09.13, author's translation).

Despite the general different perceptions, the high social embeddedness at which the customer advisors and credit officers cooperate explains why communication remains very solution oriented. The cooperation is socially embedded insofar as the credit officers and customer advisors have gained experience in working with each other and know what they can expect and also what they cannot expect from one another. The fixed pairwise cooperation, the long-term character of the cooperation,

and the mutual dependency of customer advisors and credit officers resulting from these organisational features cause social embeddedness. In addition, the fact that the two teams used to be one unit until 2004 and still celebrate their Christmas party together reinforces social ties between the two departments.

The outlined causes of social embeddedness are not related to low geographical distance per se. In light of the relatively high distance between the locations of the observed teams it could be argued as well that low geographical distance is unimportant for close cooperation between the customer advisors and credit officers. However, it is revealing that observation showed that face-to-face meetings – quarterly risk-monitoring meetings and ad hoc meetings for difficult urgent decisions – between customer advisors, back office and supervisors are used to discuss credit engagements where future actions remain unclear. It can be argued that these formal and ad hoc face-to-face interactions (protocol, 02.12.13) – together with extensive telephone discussions – are important to exchange and validate soft information. Thus, overall, participant observation indicates that customer advisors transmit reliable soft information to their credit officers and supervisors, using personal talks on the telephone and face-to-face to do so.

The **big bank** in question splits its back office function and applies a high (spatial) division of labour. A market administration team conducts administrative tasks for assigned customers, no pairwise cooperation with the customer advisors is applied, however. A separate department facilitates the financial statements analysis and starts the rating process (interview, 25.09.13). A third back-office department conducts the second vote and processes the numerous customer cases of the big bank randomly, according to the workload. The department operates at national scale in a big German city. This difference in the division of labour means that whereas the credit officers of the savings bank accumulate customer knowledge, the big bank's credit officers usually do not know customers from prior processing.

Cooperation between the big bank's customer advisors and the credit officers (in the centralised back-office department) is not only restricted by the geographical distance but especially by the lack of organisational and consequently social embeddedness. One customer advisor highlighted this disadvantage in interview:

> *"So my job is to convince the back office. And we in the smaller [SME] business find it a bit harder because we don't have a permanently assigned credit officer. I have in [large German city], there is a whole team. You know many, but not all of them, and I don't know what this one or that one pays attention to. These are questions of wording, and one likes this better and another that. So I have to try and phrase it so everyone will like it eventually [laughs] […]"*
>
> (interview, 11.02.14, author's translation).

Due to the organisation and the location of the back-office team, cooperation is difficult and communication is constrained, e.g. face-to-face interactions do not take place. The customer advisors pointed out that the big bank actually does not desire intensive communication, nevertheless, communication occurs and credit officers are usually open to compromise:

> *"Flögel: When you don't agree with the back office, do you talk to each other on the phone or is that unwanted?*
>
> *Answer: Of course, well, I'd say that in small-scale [SME] business it's not really appreciated but nevertheless we are all just human. So we talk on the phone or communicate via e-mail and try to find a compromise. In some situations they remain unyielding and say no, but then we have the option of declaring a dissent although that's quite difficult in small-scale [SME] business.[…]"*
>
> (interview, 11.02.14, author's translation).

Despite the compromise-oriented nature of the big bank's credit-granting process in practice, the situation of negotiation between customer advisors and credit officers strikingly differs from that in the savings bank studied. This is because the relationship is hardly socially embedded at all, no mutual dependency exists and the credit officers do not know the customers, their regions or customer advisors from their daily routine work (interview, 11.02.14). The head of the market division at the big bank nicely summarised the disadvantages of the impersonal organisation of big banks in comparison to savings banks:

> *"In savings banks the one who executes the rating knows the case very well, normally as they also conduct the processing. That means he can ask questions relatively quickly, he can clear up minor details with the market department, whereas in private banks everything is rather incognito, so everyone has his own stuff to do and it gets difficult when the market department wants to resort to the back office.[…]"*
>
> (interview, 13.02.14, author's translation)

5.2 Rating system and its influenceability by soft information

Modern banking heavily depends on connected ICT systems, as one customer advisor pointedly stated: *"Without, i.e. if the pc is offline, you can go to breakfast [laugh], yes it is just like that, you need the current loan values, you need the current account balances"* (interview, 24.09.13, author's translation). The "Finanz Informatik GmbH & Co. KG", a daughter company of the savings banks association, develops and maintains the ICT systems for all German savings banks; these systems are viewed as very competitive in the industry (interview, 11.02.14; interview, 25.09.13; interview, 01.03.13). Rating systems are one of the key ICT systems that banks use for credit decisions because they evaluate multiple pieces of information and systematise it to a single rating score that triggers action. Banks develop their internal rating systems for SMEs empirically. The rating systems classify the rated firm in a default class according to its probability of default (PD) within one year.

This study approaches functional distance to the rating systems as the influenceability of rating scores by soft information. The SME rating systems of the savings banks and the big bank studied consist of two central modules, one for the financial statements and another for qualitative data and several additional modules. In the financial-statements model both banks consider a few financial

ratios such as cash flow and equity ratio (Ahnert et al., 2009). The qualitative data module influences the overall rating score about as strongly as the financial module (interview, 30.05.13; interview, 11.02.14). In this module, the customer advisors must fill in a form that collects information about the firm, its management and market (e.g. Sparkassen-Rating und Risikosysteme GmbH, 2006).

By providing the abovementioned soft information, i.e. answering the questions, the bankers can influence the rating scores. However, the impact of soft information on the rating scores remains limited, because the qualitative rating model not only asks for soft information but also considers hard information like account behaviour or the age of the firm. Especially account behaviour (e.g. overdraft) strongly influences rating scores. Furthermore, bankers only have to answer a handful of questions about proper soft information in the rating process for small SMEs. This is certainly insufficient to integrate the deep knowledge of close and longstanding customer relationships into the rating results. Hence, functional distance to the rating system, i.e. the extent to which rating systems can be influenced by soft information, remains high for the savings and the big bank. Furthermore, despite minor differences in the rating systems, the rating results are unlikely to differ greatly as banking regulations accredit both rating systems for use in the internal rating-based approach to determining the regulatory minimum of equity capital.

In contrast, the integration of the rating systems in the credit-granting process fundamentally differs between the two banks. Whereas the savings bank defines no cut-off limit with the explicit aim of maintaining flexibility in credit decisions, the big bank defines a strict threshold. Firms below this threshold, i.e. firms that have rating scores of PD 3.6% or worse, are not granted a regular credit. For firms with sound rating scores (PD < 2.1%) the customer advisors of the big bank execute full decision-making power of up to €1 million (interview, 25.09.13; interview, 11.02.14). Normally in these cases, no credit officer checks the credit application and rating execution. In contrast, the customer advisors at the savings bank possess much lower credit granting power and have to interact with several actors for credit decisions. Thus, the back-office department always checks the rating execution for formal errors and so gets involved in almost all SME credit decisions. In sharp contrast to the savings bank, more than half of all regular SME credit decisions at the big bank are conducted by the customer advisors and the rating systems alone (interview, 25.06.13). Accordingly, the distance of the credit decisions between customer and bank very much depend on the properties, i.e. riskiness, of the credit engagement.

5.3 Total distance of credit decisions of the savings and big bank

Table 1 summarises the classification criteria of decision-making power. The criteria are deductively determined with the aim of achieving a useful distinction between levels of actors' decision-making power. In addition to the formal credit voting rules, the criteria also consider different informal and indirect means of influencing credit decisions in practice. For example, notwithstanding bankers' formally unrestricted decision-making power, the rating scores may importantly direct credit decisions as the bankers take orientation from the rating scores (i.e. effective performativity, MacKenzie, 2006; Flögel, 2015).

Table 1: Credit decision-making power classes

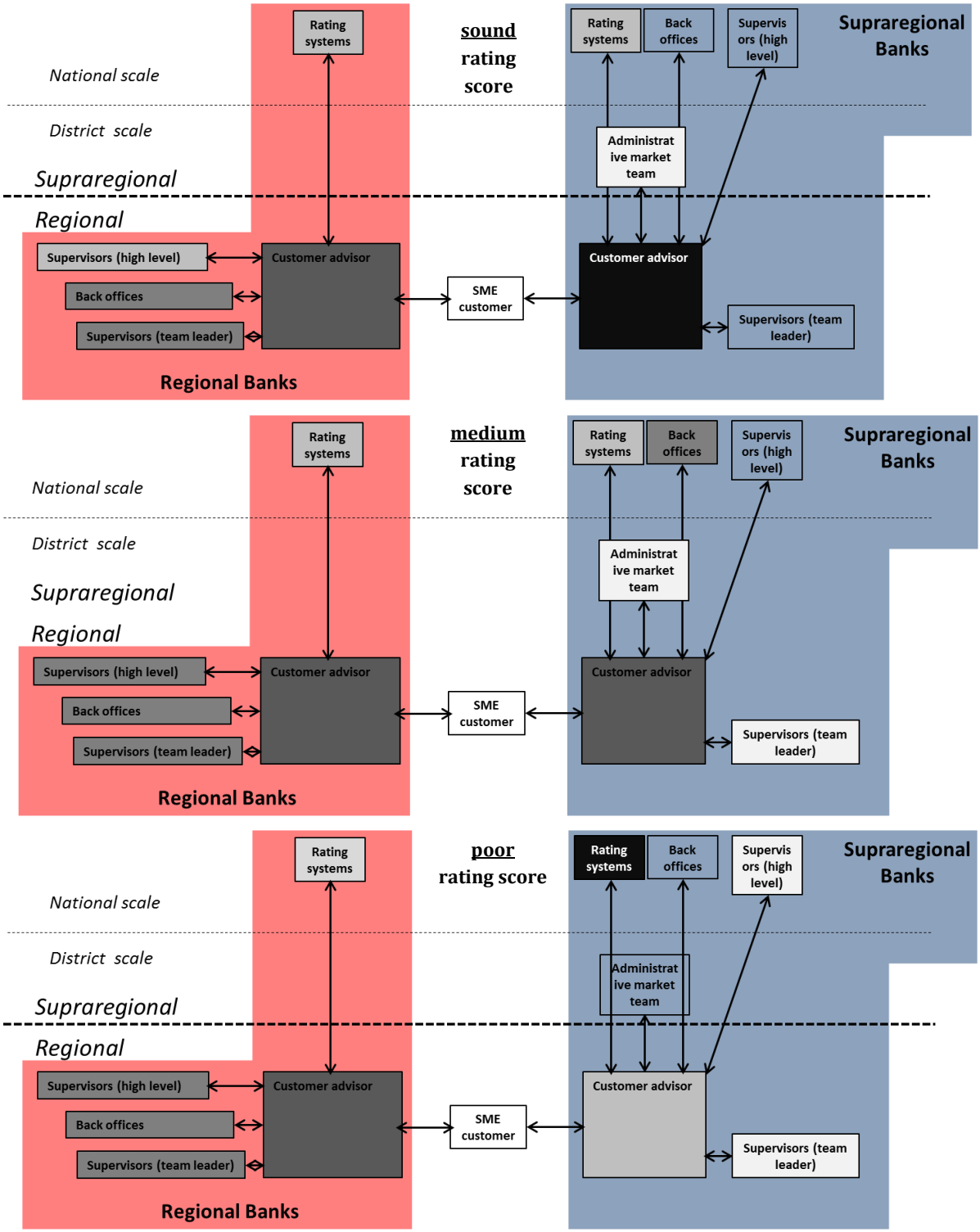
Symbol	Name	Classification criteria
■	Almost exclusive decision-making power	Only official vote or (almost) non-negotiable credit refusal power
■	High decision-making power	First of more than one vote and high responsibility for the credit-granting process
■	Medium decision-making power	Official (non-first) vote or first vote with medium responsibility for the credit-granting process
■	Relevant informal influencing power	No formal vote but relevant means of influence: - Compiling and checking of credit applications - Relevant power on official credit voters (e.g. boss) - Very relevant information in the credit-granting process (e.g. rating score)
■	Indirect or very occasional decision-making power	No formal vote and indirect or very occasional means of influence: - Minor compiling and checking tasks - Relevant power on official credit voters that is very occasionally used - Important indirect influence (e.g. auditing)
■	(Almost) no influencing power	All other actors

Source: author's table

At the big bank credit-granting power only depends on the rating score and credit volume, whereas at the savings bank the blank credit volume (i.e. non-collateralised credits) counts too. In the following, the distances of the credit decisions for a €500,000 blank credit are compared by way of example.

At the savings bank an SME with a blank credit volume of €500,000 and a sound (PD ≤ 2.0%) rating score has to be approved by the team leaders and requires the second vote from the back office department, while at the big bank the customer advisors solely approve such credits. In fact, at the big bank credit volumes of up to €1 million count as non-risk relevant and need no second vote if the rating score is sound. Accordingly, the distance of credit decisions is significantly higher at the savings bank than at the big bank.

Figure 4: Distance of credit decisions – €500,000 blank credit volume



Source: author's figure

Total credit decision-making distance to SMEs with medium rating scores (PD 2.1% < 3.6%) is higher at the big bank than the savings bank (Figure 4), simply because the back office conducts the second vote at a high distance. A high-level supervisor (in this case the department head) must approve the credit applications with his formal vote at the savings bank too, as the team leader's decision-making power is insufficient. However, the high-level supervisors of the savings bank are much closer to their customer advisors than the credit officers of the big bank.

In cases of poor customer rating scores (PD ≥ 3.6%) the credit-granting power allocation of the savings bank does not change in comparison to credit decisions related to firms with medium rating scores, as the scores do not restrict the power of the high-level supervisors. In contrast, the rating system almost exclusively rejects credit for firms with poor rating scores at the big bank, due to the strict cut-off limit.

6 Conclusion

The paper has presented an in-depth comparison of the credit-granting process of one regional savings bank and one big bank in Germany, focusing on (functional) distance. Empirical findings indicate that despite the homogenising effects of banking regulation and the general mandatory use of rating systems by all German banks in the SME credit business, dissimilarities between the banks exist. Thus the ethnographical study unveiled pronounced differences in the integration of the rating systems, the functional distance and the decision-making power of customer advisors, resulting in varying distances of credit decisions to SMEs.

In cases of sound rating scores in particular, the big bank in question actually decides credits below €1 million at a slightly lower distance to SMEs as customer advisors execute unrestricted decision-making power. In all other cases, the savings bank decides at a lower distance. Hence, the bank also decides on the credit applications of firms with poor rating scores regionally, as a poor rating score does not inhibit lending, i.e. no strict cut-off limit exists and CEOs execute unrestricted credit-granting power. In contrast, the big bank makes credit decisions at a high functional distance in case of medium rating scores. In the SME segment, new ordinary credit applications from firms with poor rating scores are always rejected. This varying organisational design seems to hamper the creation and use of soft information at the big bank in the case of medium and poor rating scores, as deduced by consideration of the Stein model (Section 3).

Empirical findings illustrate that soft information becomes relevant for credit decisions if hard information identifies risky firms. The big bank has designed its credit-decision process in the small SME segment in such a way that functional distance increases strongly if hard information identifies risky firms, as the rating scores depend heavily on hard information. Therefore, at the very moment when soft information gains relevance for credit decisions, the big bank increases functional distance and, hence, hampers the use of soft information. Such organisational design is expected to adversely affect SME finance because it increases the likelihood of credit rationing, i.e. refusals of the credit requests of firms that would successfully pay back credit and interest. As the credit-granting process of the savings bank allows the case-related and flexible consideration of soft information at a rather low functional distance this should lower the credit constraints of SMEs.

Overall, the generalisability of this study remains limited due to the qualitative research design. For example, profound differences between different savings banks exist with respect to rating system integration. Nevertheless, the study demonstrates that the distance of SME credit decisions can differ between regional and big banks despite banking regulations and the obligatory use of rating systems. Furthermore, the study indicates that these differences may influence SMEs' access to finance. Of course, more research is needed to understand the impact of distance on SME finance. Therefore, the qualitatively deduced distance classification can be used to measure distance of credit decisions quantitatively by surveying the complex geography of modern banks' credit-decision processes. Current econometric studies have to rely on simplistic (metric) operationalisations of distance. Surveying distance would overcome this crude operationalisation and allow consideration of the rating system as one of the significant actors involved in the credit decisions of modern banks.

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Empirical sources

Interview	**Organisation**	**Function**
Interview 25.06.13	Big bank	Team leader
Interview 25.09.13	Big bank	Team leader
Interview 11.02.2014	Big bank	Customer advisor
Interview 13.02.14	Big bank	Market area manager
Interview 01.03.13	Savings banks association	Department head
Interview 30.05.13	Rating system provider of the savings banks association	Team leader
Interview 09.09.13	Savings bank	Credit officer
Interview 24.09.13	Savings bank	Customer advisor
Interview 07.02.14	Business consultant	Partner
Protocol 12.11.13	Savings bank	Back office team
Protocol 14.11.13	Savings bank	Back office team
Protocol 18.11.13	Savings bank	Back office team
Protocol 19.11.13	Savings bank	Customer advisor team
Protocol 02.12.13	Savings bank	Customer advisor team
Protocol 11.12.13	Savings bank	Customer advisor team
Protocol 09.12.13	Savings bank	Customer advisor team

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Institut Arbeit und Technik

Westphalian University
Institute for Work and Technology
Munscheidstr. 14
D-45886 Gelsenkirchen

Fon +49 (0) 209.17 07
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