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What happens to SMEs when local banks experience financial difficulties? Evidence from the post-crisis bank corrective programs

Abstract

We study the impact of local bank corrective programs on the access of small and medium-sized enterprises (SMEs) to bank financing. Using a comprehensive data set from an emerging economy and the post-crisis period, we find that local banks remain privileged and difficult to replace lenders for SMEs. We document that the deterioration of an SME's access to bank financing caused by local banks' corrective programs depends on the presence of other healthy local banks in the SME's vicinity. Moreover, we show that healthy local banks, when their neighboring peers experience financial difficulties, substantially increase lending.

Keywords: bank-firm relationships, SME financing, emerging economies, post-crisis experience

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1. Introduction

The traditional view in the literature on bank-firm relationships asserts that small banking organizations have a comparative advantage in catering to the financial needs of SMEs (for example, Petersen and Rajan 1994, Berger and Udell 1995, Boot 2000, Stein 2002; Agarwal and Hauswald 2010). However, since the recent crisis, the financial landscape has significantly evolved. On the one hand, the changes in lending technologies have facilitated data collection and potentially diminished the role of soft information in SME credit risk assessment (Berger and Black 2011, Berger et al. 2014). On the other hand, SMEs have more boldly used non-bank sources of debt financing, such as bond issuances, P2P lending and crowdfunding platforms (AFME 2015). Therefore, this traditional view, considering the large role of SMEs in almost all economies around the world, deserves, in our opinion, a re-examination.

We proceed with the re-examination of the claim regarding the unique role of small banks in the financing of SMEs in a specific context. First, we focus on local banks' corrective programs, which signal their financial difficulties. In the presence of a credible deposit insurance system, there are two theoretical channels through which bank problems may affect SMEs: disruption or even termination of established bank-firm relationships and an increase in the bank's overall aversion toward credit risk (Gosh 2017). As we address local banks during the post-crisis era, only the first channel may play an economically significant role. Consequently, we can test the importance of bank-firm relationships precisely. Second, we analyze data from an emerging economy. In such economies, non-bank sources of debt financing for SMEs have marginal importance (Hasan 2017a). Therefore, our investigation addresses the question of whether small, local banks still possess a competitive edge over large banks in financing SMEs.

In our study, we use data from the Polish economy, which constitutes a suitable context for studying the role of small banks and re-examining the significance of bank-firm relationships. In Poland, approximately 600 local banks compete locally with 25 large banks that have a nation-wide presence. Following the recent crisis, the banking sector as a whole remained sound, but numerous local banks faced financial difficulties. In identifying troubled local banks, we opted for corrective programs as a sign of serious financial problems for two reasons. First, the accounting practices of some troubled local banks were questionable, particularly with regard to loan-loss provisioning (PFSA 2016). Second, only two local banks went bankrupt for highly idiosyncratic reasons during this period. Therefore, the statistical

analysis of potential disruptions in bank-firm relationships based on the implementation of corrective programs was the only feasible method of analysis. To test our hypotheses, we have amalgamated several types of data: the financial statements of SMEs and local banks, detailed information on corrective programs, information on the geo-locations of SMEs and bank branches, and finally official economic and demographic statistics.

We start our investigation by noting that local banks under corrective programs exhibit large declines in their loan and assets growth ratios. However, these declines do not unconditionally translate into a deterioration of the SMEs' access to bank lending. The consequences of corrective programs depend on the presence of other local banks that are healthy within the SME's local banking market. When there are no healthy peers, or when their market share is low, the growth rate of SME bank and other long-term liabilities is significantly reduced. In contrast, when there is a troubled local bank in the firm's neighborhood, but other healthy local banks also have a relatively strong presence, the negative influence of corrective programs on SMEs is less significant or even reversed. This compensatory effect, as we document estimating additional bank-level regressions, is caused by the increases in lending by healthy local banks competing locally with peer banks under corrective programs. Interestingly, the presence of all bank competitors (local and large banks together) within a local banking market does not differentiate between SMEs suffering from a corrective program's backlash and SMEs unaffected by those programs. Therefore, our research outcomes suggest that for an SME, it is still easier to find replacement lending from a local bank than from a large banking organization, and consequently, small, local banks preserved their comparative advantage in financing opaque businesses, despite changes in lending strategies and in the economic environment. In addition, other theoretically important factors for determining the corrective program consequences, such as the firms' characteristics or the corrective program traits, were found to be insignificant.

Our study contributes to two main strands of literature. First, we supplement the relatively modest findings regarding SME financing and bank-firm relationships in emerging economies (Berger et al. 2001, Berger et al. 2008, Canales and Nanda 2012, Hasan et al. 2015, Hasan et al. 2017a). To the best of our knowledge, we are the first to directly and comprehensively assess the consequences of the distortions in bank-firm relationships caused by local bank troubles for SME financing in those economies. Second, we provide additional evidence regarding the impact of the financial difficulties of banks on the regional economy. As we have already explained, we make inferences based on data from an emerging economy in the period

following the recent crisis. Therefore, our research regards a different institutional context than previously published works exploiting the US experience from the first half of the 20th century (Calomiris and Mason 2003; Ramirez and Shively 2005) or from the last 40 years (Ashcraft 2005; Calomiris et al. 1986; Ghosh 2017).

The rest of the paper is constructed as follows. In Section two, we present the institutional background of our analysis; that is, we characterize the Polish banking system and provide information on local banks and their corrective programs. Section three contains the review of the relevant literature and formulates the hypotheses. In Section four, we describe in detail our data sources and empirical strategy. Section five presents the results concerning the impact of corrective programs on SME financing, while Section six addresses the causality concerns. Section seven contains the concluding remarks and policy implications.

2. Local banks under corrective programs

Local banks in Poland are solely organized as cooperatives. According to the Polish Financial Supervision Authority (2016), such banks control almost 9% of the banking sector assets. Simultaneously, cooperative banks possess as much as 38% of all bank branches and employ 20% of the bank staff. This disproportionally high share in employment and bank branch networks is related to two factors. First, local banks rely heavily on the relationship banking model. Second, they adopted Internet banking and new communication technologies relatively late (Filip et al. 2017). The number of cooperative banks decreased only slightly during the post-crisis era from 579 in 2008 to 558 in 2016, mainly due to merger activity[2]. Cooperative banks compete within local banking markets against ca. 25 large, branching commercial banks. In comparison with commercial banks, cooperative banks are truly local entities. In fact, 75% of them service customers in less than 2.5 counties, while 75% of commercial banks are present in more than 45 counties.

Cooperative banks as a sector remain sound (Polish Financial Supervision Authority 2015a, 2016, 2017). However, as Figure 1 illustrates, the number of cooperative banks under corrective programs has soared since the recent crisis. During the sample period, according to Article 142 of the Banking law, banks were obliged to compile and implement a corrective program when they suffered financial losses or were in danger of reporting losses, being

[2] During the post-crisis era, only two bankruptcies occurred in the cooperative banking sector.

insolvent and loosing financial liquidity. In 2009, only 8 local banks realized corrective programs, but in 2016, there were 42 such banks. Therefore, the share of local banks under corrective programs increased five times from 1.4% in 2009 to 7.5% in 2016.

[Figure 1 here]

Apart from idiosyncratic reasons for putting local banks under corrective programs, three factors contributed in a systematic manner to the deterioration of the local banks' financial situation. First, from 2012 onward, banks in Poland operated in the environment of historically low interest rates. As a result, the net interest margin of cooperative banks diminished from 4.3% in 2011 to 2.8% in 2016, which is a 35% decrease. Considering that interest income usually constitutes 75% of the local banks' operating income, this loss of interest income was extremely difficult to compensate for and led to a striking reduction in the ROA of the cooperative banking sector from 1.2% to only 0.5% during the same period. Second, the number of cooperative bank members diminished by more than 8% during the 2012-2016 period. This trend limited the expansion possibilities of local banks and exerted additional pressure on their capital base. Third, as the Polish Financial Supervision Authority report (2016) suggests, several cooperative banks applied relatively lax loan-loss provisioning policies in the post-crisis years. Since 2015, supervisors have taken a more aggressive stance and have demanded that the selected banks significantly tighten their standards related to loan-loss provisioning and collateral assessment. Consequently, the current troubles of some local banks may be linked to the cumulative effects of under-provisioning in the preceding years.

Figure 2 shows the geographical distribution of the cooperative banks under corrective programs. It turns out that branches of those banks were not evenly spread. On the one hand, we can distinguish, particularly in southern and central Poland, regions relatively strongly affected by local banks' troubles. Their presence constitutes, from our research point of view, a desired feature of the Polish banking sector because it facilitates inferences about the impact of local bank distress on the firms located in these banks' vicinity. On the other hand, there are regions where no cooperative bank was put under a corrective program during the entire period under study. When evaluating the intensity of local bank problems, based on Figure 2, we have to consider that the figure disregards the time dimension of the corrective programs. Therefore, for a given year, a map of local banks under corrective programs will look less dramatic.

[Figure 2 here]

With respect to financial performance, local banks under corrective programs differ from their healthy peers. In Panel A of Table 1, we compare the means and medians of the selected ratios for both groups of banks. Because corrective programs were concentrated during the later years of the studied period, when the situation of the whole sector deteriorated, in Panel B, we deduct the country-year medians from the financial ratios. Regardless of the applied method, cooperative banks realizing corrective programs had a weaker capital base, reported lower profitability, provisioned more for loan losses, and most importantly, from the perspective of our study, registered slower paces of loan and asset growth than other cooperative banks. All the differences are significant at the 1% level and are highly relevant in the economic terms. For example, the average ratio of loan growth for banks under corrective programs in Panel B is equal to -5.22%, while the analogue average for healthy banks is positive and stands at 0.5%. We conjecture that the big differences in loan and asset growth ratios may have measurable repercussions for customers of troubled, local banks. Therefore, those differences also support the validity of our empirical strategy based on corrective programs.

[Table 1 here]

3. Literature and hypotheses

The large declines in the loan-granting activities of local banks under corrective programs engender an interesting and consequential question regarding who incurs the economic costs of those reductions. The literature unambiguously points at SMEs as a primary victim. On the one hand, SMEs are more financially constrained than larger companies and rely relatively more strongly on bank financing (Beck et al. 2008; Riding et al. 2012). Second, SMEs are informationally opaque, exhibit vulnerability to macroeconomic shocks, possess limited collateral and cannot afford the services of the most reputable auditing firms. As a consequence, lending to SMEs involves, to a large degree, the use of soft information in acquisition and processing of which local banks with flat organizational structures excel (DeYoung 2002, Stein 2002, Liberti and Mian 2009, Ferrando et al. 2017). Moreover, small banks, usually heavily engaged in relationship banking, are more capable of assisting their troubled clients from the SME sector, thanks to improved exchange of information, easier re-negotiability of contracts and the ability to intertemporally smooth lending income (Boot 2000, Hoshi et al. 1990, Shimizu 2012).

The existing evidence in the vast majority of cases supports the theoretical predictions concerning small bank superiority over large organizations in catering to SME financing needs. In the case of developed markets, the empirical observations in line with the aforementioned theoretical prediction are presented, for example, by Petersen and Rajan (1994), Berger and Udell (1995), Berger and Udell (2002), Berger et al. (2017a) and Höwer (2016). However, considering the geographical scope of our investigation, works based on data from emerging economies are of particular interest. They can be divided into two groups containing either direct or indirect evidence on small banks' special role in lending to SMEs. In the first group, Canales and Nanda (2012) show that SMEs obtain larger loans from decentralized banks in Mexico, Hasan et al. (2015) demonstrate that rural banks promote regional entrepreneurial activity in China, and Hasan et al. (2017a) find that local banks improve SME access to bank financing and performance in Poland. In the second group, Berger et al. (2001) notice that SMEs tend to receive less credit from large banks in Argentina, and Berger et al. (2008) establish that foreign banks in India prefer to cooperate with larger, mature and less opaque firms.

Some relatively rare studies that cast doubts on the advantage of local banks in serving SMEs either underscore the methodological problems or define the conditions under which this advantage exists. Berger et al. (2007) note that after controlling for market size structure, the support for the notion that relationship lending is a superior strategy for providing credit to informationally opaque companies disappears. Zhang et al. (2016) show in turn that small banks are better capital providers only through pre-existing relationships.

The literature also suggests that the advantage of local banks in lending to SMEs based on soft information is not constant over time. First, this competitive edge seems to be influenced by the macroeconomic situation. Berger et al. (2015) show that the superiority of local banks in serving US start-ups vanished during the recent crisis, which is probably due to their lower diversification and lack of implicit government guarantees. Second, the changes in lending strategies and particularly the widespread use of increasingly reliable credit scoring models, facilitate, for large banks, successful expansion into SME lending markets (Berger and Black 2011, Berger et al. 2014).

Considering the prevailing view on the special role of small, local banks in financing SMEs, the latter seems to be the most likely victim of the lending reductions linked to corrective programs. Therefore, we verify the following H1. In this hypothesis, we assume that SMEs contract debt locally (Presbitero et al. 2014).

H1: SMEs located in the vicinity of cooperative banks under corrective programs witness a deterioration in their access to bank financing.

The second potentially vulnerable group is households. However, we disregard this group for two reasons. First, the recent work by Berger et al. (2017b) documents that the comparative advantage of local banks in reducing the financial constraints of SMEs does not necessarily translates into advantages in serving households despite *prima facie* similar informational problems. The authors even report that small banks have a significant relative disadvantage in alleviating households' financial constraints due to better pricing offered by large banks and their superior safety linked to intense regulation and supervision, greater diversification and benefits of implicit government guarantees. Second, the goal of our paper is to re-examine the firm-bank relationships in the post-crisis era. Therefore, we leave the quantification of the impact of corrective programs on households for future investigations.

As we have already mentioned, strong and lasting bank relationships stimulate soft information acquisition and reduce information asymmetry. This phenomenon is traditionally seen as favorable because it should normally limit the financial constraints faced by firms. However, banking relationships influence information asymmetry not only between a lender and its client but also between a relationship bank and other financial intermediaries, putting the former in a privileged situation (Prilmeier 2017). In this context, the bank's acquisition of private information over the course of a relationship could effectively "lock in" firms in the existing relationships, permit their banks to extract monopoly rents and force firms to incur the so-called holdup costs (Ongena and Smith 2001).

The evidence on the "hold-up" problem is mixed. The studies by Hale and Santos (2009) and Farinha and Santos (2002) support the existence of the lock-in effect in bank-firm relationships. Hale and Santos (2009) find that firms pay lower spreads on bank loans after bond IPOs, which reveals new information about a firm. The cost reduction is particularly substantial when firms are identified to be safe during the bond IPO period. Farinha and Santos (2002) establish, in turn, that the probability of switching from a single bank relationship to a multi-bank relationship increases with the duration of the relationship and is greater for firms with more growth opportunities. In contrast, Ongena and Smith (2001) show that small, young, and highly leveraged firms, which are especially vulnerable to becoming locked-in, maintain the shortest bank relationships. Similarly, Bonini et al. (2016) show that only market concentration, and not lending relationships, is associated with higher financial costs for firms.

Assuming, despite inconclusive empirical evidence, that the lock-in effect constitutes a real threat for SMEs, we expect that local bank financial troubles leading to the implementation of corrective programs should affect informationally opaque firms and firms that, for reasons other than information asymmetry, are unattractive potential clients for non-relationship banks the most strongly. We express our conjectures concerning firms—good candidates to be victims of the hold-up problem—in H2.

H2: The deterioration in SMEs' access to bank financing is particularly acute in the case of firms prone to the hold-up problem and unattractive for non-relationship lenders.

As we demonstrated in Section two, local banks in Poland implemented corrective programs for various reasons. Accordingly, the gravity of the banks' problems and their ability to maintain lending activity differed. For example, the difference between the 10^{th} and the 90^{th} percentile in the distribution of the equity-to-assets ratio was equal to as much as 10 percentage points in the group of local banks under corrective programs. Moreover, the literature on banking failures suggests that there is a negative correlation between the intensity of the banking crisis phenomena and regional economic activity (Calomiris and Mason 2003; Ramirez and Shively 2005, Ashcraft 2005; Calomiris et al. 1986; Gosh 2017). Therefore, in the context of our investigation, it is reasonable to expect that the impact of a corrective program should be more pronounced when the program is linked with the deep financial troubles of a local bank. This line of reasoning leads us to H3.

H3: The impact of banks' corrective programs on SME financing is larger when such programs signal serious bank difficulties.

Finally, the impact of bank corrective programs on SMEs' financing may be dependent on competition-related factors. First, the situation of SMEs located in the vicinity of troubled cooperative banks should be better when local competition is strong. Degryse and Ongena (2007) find that bank branches in this context engage considerably more in relationship-based lending. Hasan et al. (2017b), in turn, document that the appearance of new, more aggressive owners of large, branching banks is favorable for new firm creation. Second, SMEs should find alternative bank financing more easily when local markets are populated by many small relationship banks. Indeed, Berger et al. (1998) find that while mergers of banks (and consequently increases in the scale of operation) lower the propensity of banks to finance small businesses, this negative effect trend is offset by a positive reaction of other banks functioning within the same local market. Hasan et al. (2017a) add that local banking markets characterized

by a strong presence of small banking entities are especially suitable for SME flourishing. For these reasons, we test the following H4.

H4: The influence of banks' corrective programs on SMEs is conditional upon competition-wise features of a local banking market.

4. Data and methodology

To verify our predictions regarding the impact of local banks' corrective programs on SMEs, we employ four data sources. First, we obtained information on all corrective programs of local banks in Poland between 2007 and 2016 from the National Bank of Poland. We cross-checked these data with a publicly available document issued by the Polish Financial Supervision Authority (PFSA, 2015), revealing partial information about corrective programs, various articles from national and local press, and news agency reports. For each local bank, we marked the years in which it was under a corrective program. The data shows that 61 out of 576 local banks were in a corrective program for at least one year between 2007 and 2016.

Second, Bureau van Dijk's Amadeus database provides us with firm-level information on Polish SMEs between 2006 and 2015, including their financial indicators (from balance sheets and profit and loss accounts) and the addresses of their head offices. While identifying SMEs, we followed Eurostat's definition. Nevertheless, we additionally restricted our sample to companies from sections A-C and F-I of the NACE Rev. 2 industry classification; that is, we excluded financial institutions and non-financial firms with financial statements incomparable to the rest of the sample and companies, which, due to their specificity, do not rely on bank loans as an important source of financing[3]. We end up with a final sample of approximately 280 thousand yearly observations for approximately 50 thousand firms.

Third, we gathered a dataset on the addresses of all bank branches (local and with nation-wide presence) in Poland between 2008 and 2015[4]. We then geo-located the abovementioned bank branches and SME head offices from the Amadeus database (our second data source) to describe the local banking markets around each SME from our sample. We counted the number of banks and bank branches, local banks and local bank branches, and finally banks under

[3] The excluded industries are financial institutions; utilities; industries dominated by the public sector; and professional, scientific, technical, and administrative activities.

[4] We would like to thank an independent consulting company, Inteliace Research, for providing us with the dataset on bank branches.

corrective programs and their branches, respectively, within 2.5 km, 5 km and 7.5 km radiuses from an SME's head office. In our sample, the number of firms neighboring a troubled local bank within those three radiuses for at least one year equals ca. 14 thousand, 21 thousand and 25 thousand, respectively.

Finally, we augmented our data sets with county-level information provided by the Polish Central Statistical Office. The data describe the local economic and demographic conditions of 380 Polish counties; thus, they also reflect the local environment in which SMEs operate.

To test our hypotheses related to the impact of local banks' corrective programs on SMEs, we apply the fixed effects estimator to our panel data of Polish firms. We investigate SMEs' access to bank loans and other long-term debt; thus, we regress a firm's yearly bank and long-term debt growth (DEBT.GR) against a set of different explanatory variables describing a firm, its local economic and demographic environment and the corrective programs of local banks in a firm's neighborhood, defined as the area within a 2.5 km, 5 km, and 7.5 km radius from a firm's head office. We include time dummies in our models and, naturally, do not incorporate any county or industry dummies, as the firm fixed effects cover all time invariable characteristics of companies and their local environment. The general construction of our panel models is illustrated by Eq. (1).

$$\text{DEBT.GR}_{it} = \text{f}\begin{pmatrix} \text{FIRM}_{it-1}; \\ \text{LOCAL}_{it}; \\ \text{CP.AROUND}_{it}; \\ \text{firm fixed effects}; \\ \text{year dummies} \end{pmatrix} \tag{1}$$

where DEBT.GR_{it} is the yearly increase in bank and long-term debt to total assets at the beginning of a year in constant prices, calculated for company *i* in period *t*. Further, FIRM_{it-1} denotes a set of one-year lagged firm-level control variables designed to illustrate a firm's creditworthiness in the eyes of bank risk managers and other changing-in-time firm characteristics. The firm-level controls describe the return on sales (PROFIT), role of the equity capital in the funding structure (EQUITY), asset turnover (ASSET.TURN), structure of assets (FIXA), and a firm's size (FIRM.SIZE). Additionally, to reflect the *i*-th company's local environment in year *t* (LOCAL_{it}), we employ three variables that illustrate the unemployment rate (UNEMPL), average salaries (SALARIES), and population migrations (MIGRATIONS) of a firm's county. In Eq. (1), we abstract from various interaction terms that we use throughout

the paper, due to their significant number. We gradually introduce, justify and discuss these interaction terms in Section five. In this section, we only signal their links with hypotheses testing. Panels A and B in Table 2 define the variables characterizing the financial situation of firms (the dependent variable and the variables from the group FIRM) and the variables describing the local economic environment, respectively.

[Table 2 here]

From the perspective of our investigation goals, the most important role is played by the set of $CP.AROUND_{it}$ variables, which capture the potential impact of local banks' corrective programs in year *t* around the *i*-th firm's head office. For H1 verification, we use two types of CP.AROUND variables. First, we binary-code the sheer presence of corrective programs ($CP^{2.5KM}$, $CP^{5.0KM}$, $CP^{7.5KM}$). Second, we calculate the share of bank branches affected by a corrective program ($CP\%^{2.5KM}$, $CP\%^{5.0KM}$, $CP\%^{7.5KM}$). For both types of variables, we use, as indicated by superscripts, different radiuses to circumscribe the local banking market a given firm faces.

After verifying H1, we augment our analysis by testing how local banks' corrective programs affect SMEs' access to bank loans and other long-term debt in the case of (a) firms prone to the hold-up problem and unattractive for non-relationship lenders (H2), (b) corrective programs signaling serious bank difficulties (H3), and (c) different competition contextures of local banking markets (H4). To test H2, we introduce the interaction terms of the CP.AROUND variables (used to test H1) and the selected variables from the FIRM group. With regard to H3, we regress the dependent variable against three additional types of variables from the CP.AROUND group. They describe the year number of a local bank's corrective program ($YEARS.CP^{2.5KM}$, $YEARS.CP^{5.0KM}$, $YEARS.CP^{7.5KM}$), the presence of a deep corrective program ($DEEP.CP^{2.5KM}$, $DEEP.CP^{2.5KM}$, $DEEP.CP^{2.5KM}$), and the share of bank branches affected by a deep corrective program ($DEEP.CP\%^{2.5KM}$, $DEEP.CP\%^{5.0KM}$, $DEEP.CP\%^{7.5KM}$).

Finally, to verify H4, we introduce variables reflecting the local banking market structures and local competition contexture (BANK.STR) and interact them with the previously defined variables from the CP.AROUND group[5]. The BANK.STR variables illustrate the number of banks ($BANKS^{2.5KM}$, $BANKS^{5.0KM}$, $BANKS^{7.5KM}$) or bank branches ($BRANCHES^{2.5KM}$, $BRANCHES^{5.0KM}$, $BRANCHES^{7.5KM}$) operating in a firm's neighborhood, as well as the share

[5] The BANK.STR is absent in Eq. (1), presenting the general construction of our models, since this group of variables is used only for H4 verification.

of healthy local banks in all banks (LOC.BANK%$^{2.5.KM}$, LOC.BANK%$^{5.0.KM}$, LOC.BANK%$^{7.5.KM}$) and healthy local bank branches in all bank branches (LOC.BRANCH%$^{2.5.KM}$, LOC.BRANCH%$^{5.0.KM}$, LOC.BRANCH%$^{7.5.KM}$) around a firm's head office. Panel C in Table 2 presents the definitions of all variables from the CP.AROUND group, while Panel D defines the variables from the BANK.STR group. Finally, Table 3 provides the descriptive statistics for all variables employed in our firm-year panel models.

[Table 3 here]

5. Results concerning the impact of local banks' corrective programs on SMEs' access to lending

In Table 4, we verify H1; that is, we check whether SMEs located near local banks implementing corrective programs suffer from deteriorated access to bank lending. Contrary to our expectations based on the literature regarding SME financing specificity and the fact that banks under corrective programs had significantly diminished ratios of loan portfolio growth, we fail to find any support for H1. Regardless of the radius used to define a local banking market, the coefficients estimated for binary variables encoding the presence of cooperative banks implementing corrective programs (CP$^{2.5KM}$, CP$^{5.0KM}$, CP$^{7.5KM}$) or continuous variables illustrating the share of bank branches belonging to troubled cooperative banks in all bank branches (CP%$^{2.5KM}$, CP%$^{5.0KM}$, CP%$^{7.5KM}$) are statistically insignificant. Therefore, it seems that the local banks' problems do not unconditionally translate into the worsening of SMEs' access to bank financing. From a local economic perspective, this is a comforting conclusion. However, this conclusion is simultaneously somewhat puzzling considering the scale of differences in Table 1 between healthy local banks and their peers under corrective programs.

With regard to firm-control variables, they enter regressions in Table 4 with the expected signs. The improvement in the SMEs' capital base (EQUITY) and management quality, as approximated by asset turnover (TAT), results in significantly higher growth ratios of bank and other long-term liabilities. In contrast, the increases in the scale of operation (FIRM.SIZE) and fixed asset share in total assets (FIXA) are negatively and significantly correlated with the dependent variable. The coefficients for the return on sales measure (PROFIT) are positive, as anticipated, but insignificant with the exception of specification (5). The variables characterizing the local economic environment (UNEMPL, SALARIES and MIGRATIONS) are insignificant, probably due to the presence of firm fixed effects in our models, controlling

for a stable-in-time component of the local environment's impact on SMEs' financial constraints.

[Table 4 here]

The lack of unconditional influence (and the influence concerning the entire sample) of the corrective programs on SMEs' access to bank financing does not rule out that such an impact exists for certain firms (H2), selected banks under corrective programs (H3) or in a specific local banking market contexture (H4). In H2, we conjecture that SMEs potentially prone to be locked in bank relationships and SMEs that are unattractive for other lenders should be more affected than other firms by the corrective programs of local banks. For this reason, in Table 5, we add to our CP.AROUND variables already used in Table 4, their interactions with the variable FIRM.SIZE (Panel A) and the variable PROFIT (Panel B). We assume that smaller firms should be, due to larger informational opacity and a shortage of alternative non-bank funding sources, more vulnerable to the hold-up problems described in the literature. We also believe that firms with low profitability should find it more difficult to establish new bank relationships when previous ones are disrupted by banks' corrective programs. For the sake of brevity, in Table 5 and the following tables, we do not report the control variables. The full results are, however, available from the authors upon request.

Panel A of Table 5 shows no evidence that smaller firms are more affected than other SMEs by local banks' corrective programs. All the interaction terms between the different variables from the CP.AROUND group and the variable FIRM.SIZE are insignificant. Similarly, the research outcomes in Panel B show that, in general, the consequences of local bank problems are not more serious for SMEs with low profitability. The coefficients estimated for five out of six interaction terms between the variables from the CP.AROUND group and the PROFIT variable do not differ from zero. Specification (9) constitutes the only exception to this rule. The coefficient for the interaction term $CP^{7.5KM}$ x PROFIT is negative and is significant at the 5% level. This piece of evidence suggests that for less profitable companies, the sheer presence of a local bank under corrective programs within a 7.5 km range from a firm's headquarters is linked to the slower pace of growth of the bank and other long-term liabilities. However, considering all of the results in Table 5, we conclude that informational opacity, vulnerability to the hold-up problems and attractiveness for non-relationship capital providers do not differentiate in a systematic manner between firms more and less affected by local banks' corrective programs. Therefore, our results do not support H2.

[Table 5 here]

As noted in Section two, the situation of local banks under corrective programs was varied. We believe that it is reasonable to expect that corrective programs signaling serious bank problems should have more far-reaching consequences for bank-firm relationships. Although the details of the corrective programs are not revealed to the general public, we posit that programs designed for banks in the worst situation should involve the particularly deep restructuring of activities and significant tightening of lending standards. To test our predictions—expressed in H3—we employ two methods to measure the seriousness of the problems encountered by banks implementing corrective programs. First, we assume that the financial condition of local banks under corrective programs is negatively related to the length of those programs. For this reason, we introduce the variables $YEARS.CP^{2.5KM}$, $YEARS.CP^{5KM}$, and $YEARS.CP^{7.5KM}$ in Panel A of Table 6, which reflect the highest year number of corrective program realization of local banks within the three different radiuses from a firm's headquarters. Second, we suspect that the equity-to-assets ratios of banks entering corrective programs are negatively correlated with the subsequent profoundness of those programs. Therefore, in Panel B, we include in our regressions binary variables ($DEEP.CP^{2.5KM}$, $DEEP.CP^{2.5KM}$, and $DEEP.CP^{2.5KM}$) identifying firms in the vicinity of deeply troubled local banks, while in Panel C, we add to our regressions the variables illustrating the share of local banks with serious difficulties within the different radiuses from a firm's location ($DEEP.CP\%^{2.5KM}$, $DEEP.CP\%^{2.5KM}$, and $DEEP.CP\%^{2.5KM}$). We classify a bank as deeply troubled when its equity-to-assets ratio is among 50% of the lowest ratios at the beginning of a corrective program period. We opted for two approaches to assure the robustness of the results in the situation when some of the troubled local banks applied questionable accounting standards (PFSA, 2016).

[Table 6 here]

As in the case of the previously tested hypotheses, the empirical evidence in Table 6 lends no support for H3. In all specifications, the variables related to the seriousness of the financial difficulties faced by banks under corrective programs are not statistically significant. Thus, we infer that neither the length of the corrective programs nor the bank initial equity-to-assets ratios decide the corrective programs' consequences for SMEs. Before we ultimately validate the conclusion on the general irrelevance of corrective programs and, stemming from them, the

potential disruptions in the bank-firm relationships for SMEs' access to bank financing, we should check the influence of local banking market structures and the traits of local competition.

We hypothesize that SMEs in relationships with troubled local banks implementing corrective programs should more easily find new lenders when the competition within local banking markets is strong, particularly the competition between banks specialized in financing informationally opaque firms. Consequently, in Panel A of Table 7, we concentrate on competition from all banks, and in Panel B, we focus on competition from healthy local banks. In Panel A, we use two types of variables characterizing local banking market structures (BANK.STR group). The variables $BANKS^{2.5KM}$, $BANKS^{5KM}$, and $BANKS^{7.5KM}$ describe the number of banks operating within different radiuses from a firm's headquarters, while the variables $BRANCHES^{2.5KM}$, $BRANCHES^{5KM}$, and $BRANCHES^{7.5KM}$ provide the analogue information regarding bank branches. In Panel B, we introduce the variables showing the share of healthy local banks ($LOC.BANK^{2.5KM}$, $LOC.BANK^{5KM}$, and $LOC.BANK^{7.5KM}$) or the share of branches belonging to healthy local banks ($LOC.BRANCH^{2.5KM}$, $LOC.BRANCH^{5KM}$, and $LOC.BRANCH^{7.5KM}$) in the total number of banks or bank branches operating within local banking markets[6], respectively. To test H4 regarding the role of competition-related factors in shaping the impact of corrective programs on SMEs, we interact the variables from the BANK.STR group with the variables from the CP.AROUND group used previously to test H1 and H2.

Panel A shows that the influence of corrective programs on SMEs' financing does not depend on the number of competitors or their branches within local banking markets. The interaction terms between variables from the CP.AROUND and BANK.STR groups are insignificant in specifications (1) to (6). If we assume that the number of competing banks and their branches are positively related to the general competition intensity, we may further infer that the latter is also irrelevant for determining SMEs' outcomes in markets affected by local banks' troubles. Panel A provides some evidence, in line with the previous findings by Jayaratne and Strahan (1997) and Rice and Strahan (2010), that strong local competition alleviates the financial constraints of SMEs, regardless of the presence of banks under corrective programs within local banking markets. The coefficients estimated for variables $BRANCHES^{5.0KM}$ and $BRANCHES^{7.5KM}$ are positive and significant at the 5% level, which

[6] We exclude local banks under corrective programs and the branches of those banks.

means that a higher number of bank branches within 5 and 7.5 km radiuses from a firm's location accelerates the growth of bank and other long-term liabilities for SMEs.

The analysis of competition from peer local banks, executed in Panel B of Table 7, brings interesting findings. For the first time, the variables from the CP.AROUND group gain statistical significance (in four out of six specifications) and enter the regressions with the expected negative signs of the coefficients, based on H1. Simultaneously, all interaction terms between the variables from the CP.AROUND and BANK.STR groups are significant at the 1% level and influence the dependent variable positively. These research outcomes engender three conclusions. First, when there is a local bank under a corrective program (that is, when CP- and CP%-type variables take non-zero values) in the vicinity of an SME, and no other healthy local bank operates (that is, when LOC.BANK- and LOC.BRANCH-type variables are equal to zero), the SME faces deterioration in its access to bank lending. Moreover, specifications (11) and (12) show that this deterioration is deepening with the rising market share of the bank under the corrective program. Second, when both healthy and troubled local banks operate (that is, when LOC.BANK-, LOC.BRANCH-, CP- and CP%-type variables take non-zero values) near an SME, the deterioration of access to bank financing caused by the corrective programs of local banks is compensated for by the positive reaction of the healthy peers. Third, SMEs surrounded by only healthy local banks do not benefit from the competition among them because all variables from the BANK.STR group in Panel B are insignificant. In summary, the research outcomes in Table 7 support H4.

The deterioration of SMEs' access to bank lending in the case of the absence of healthy peers within the local banking market is not only statistically significant but also relevant in economic terms. For example, specification (8) indicates that a corrective program of the only local bank in the firm's neighborhood ($LOC.BANK\%^{5.0KM}$ equal to zero) reduces a firm's DEBT.GR by 23.2% of the dependent variable's interquartile range in the sample.

[Table 7 here]

The results contained in Table 7 suggest that the consequences of the local banks' corrective programs for SMEs depend on the presence of peer local banks. In other words, when healthy local banks are absent in an SME's neighborhood, the SME's access to bank lending deteriorates. However, when healthy local banks operate in the SME's vicinity, this negative effect is counteracted. The similar compensatory effect in the case of all banks was undetectable. Consequently, the empirical patterns in Table 7 are consistent with the view,

shared by the majority of studies reviewed in Section 3, that local banks still possess a comparative advantage in serving the financial needs of SMEs and remain as their privileged, difficult to replace, lenders.

Our conclusions on the very special role of local banks in SMEs' financing rely, therefore, on the assumption that local banks have unique capabilities to take over lending to SMEs from their troubled peers. While the firm-level evidence in Table 7 supports the last notion, it does not directly prove the existence of such a compensatory mechanism animated by healthy local banks. Fortunately, to address this important causality concern, we are able to offer an appropriate robustness check. Namely, if local banks indeed play such an important role in SME financing and replacing lending from local banks under corrective programs, we should be able to observe, during the corrective program implementation phase, abnormal increases in lending from healthy local banks, which compete with the troubled peers. We proceed with this check in the next section.

6. On the other side of the looking glass—results regarding lending from healthy local banks during the corrective programs of neighboring banks

To address the causality concerns and further substantiate our conclusions and interpretations, we analyze the impact of the local banks' corrective programs on their healthy peers, that is, other local banks that operating in the same neighborhood but are unaffected by a corrective program. As we have already mentioned, we hypothesize that the customers of a local bank under corrective programs are taken over by its local peers. To analyze healthy local bank behavior, we have constructed a bank-year panel data set. We have collected the financial statements of all Polish local banks for the period 2007-2015. Additionally, we have used all data sources employed in our firm-year estimations, that is, (a) detailed data on local banks' corrective programs, i.e., their start and end dates; (b) data on Polish SMEs (we apply them to reflect the average situation of SMEs domiciled in a bank's county); (c) addresses of all bank branches in Poland (we geo-locate branches and find branches of peer trouble banks within the 2.5 km, 5 km, and 7.5 km radiuses from each healthy local bank); and (d) data describing the economic and demographic environments in all the counties of Poland. Finally, our data set consists of approximately 2.5 thousand observations for 400 healthy local banks that have some

peers (healthy or experiencing difficulties) in their nearest neighborhoods[7]. As in the case of firm-level regressions, we apply the fixed effects estimator enriched with year dummies to our panel data on healthy local banks. Eq. (2) illustrates the general construction of our models:

$$\text{LOANS.GR}_{it} = f\begin{pmatrix} \text{BANK}_{it-1}; \\ \text{LOCAL.SME}_{it-1}; \\ \text{LOCAL}_{it}; \\ \text{CP.AROUND}_{it}; \\ \text{bank fixed effects}; \\ \text{year dummies} \end{pmatrix} \quad (2)$$

where LOANS.GR_{it} is the yearly growth rate of loans in constant prices, calculated for healthy local bank *i* in period *t*. The first group of explanatory variables, BANK_{it-1}, includes one-year lagged bank-level controls designed to reflect a bank's scale of operations (BANK.SIZE), its asset structure (LOANS), capital base (EQUITY), cost level (OVERHEADS), and income creation structure (NII.SHARE). Further, LOCAL.SME_{it-1} is a group of two variables describing the one-year lagged profitability (SME.ROS) and growth (SALES.GR) of SMEs operating in the *i*-th bank's county. The third set of explanatory variables (LOCAL_{it}) reflects the *i*-th bank's competitive position and its local economic environment in year *t*. This set consists of variables illustrating a bank's local market share (MARKET.SHARE), the number of its competitors (COMPETITORS), the unemployment rate (UNEMPL), average salaries (SALARIES), and population migrations (MIGRATIONS) in a bank's county. Panels A and B of Table 8 present detailed definitions of the aforementioned variables.

[Table 8 here]

To test our predictions related to the reaction of healthy local banks to the implementation of a corrective program by their neighboring peers, we employ six more CP.AROUND variables. The first three represent the share of local banks under corrective programs in all local banks, within the 2.5 km, 5.0 km, and 7.5 km radiuses from a healthy bank ($\text{CP.BANK\%}^{2.5KM}$, $\text{CP.BANK\%}^{5.0KM}$, and $\text{CP.BANK\%}^{7.5KM}$, respectively). The remaining three CP.AROUND variables ($\text{CP.BRANCH\%}^{2.5KM}$, $\text{CP.BRANCH\%}^{5.0KM}$, and $\text{CP.BRANCH\%}^{7.5KM}$) are constructed in a similar manner, but they measure the share of

[7] The number of observations and healthy banks varies among different specifications of our bank-year regressions, i.e., depending on the radius within which we look for banks' peers, which results from the fact that each time we consider only those healthy local banks that have at least one peer (healthy or in troubles) within the 2.5 km, 5 km or 7.5 km radius.

troubled local bank branches in all local banks' branches within the respective radiuses. The existence of replacement lending from the healthy local banks will be supported by significant and positive coefficients for the CP.AROUND-type variables. Panel C of Table 8 summarizes the definitions of the additional CP.AROUND variables, while Table 9 presents the descriptive statistics for all variables employed in our bank-level panel estimations.

[Table 9 here]

The results of the bank-level regression estimation are presented in Table 10. The control variables influence the dependent variable in a stable manner and in the expected directions. On the one hand, a strong capital base (BANK.EQUITY) and high overhead costs (OVERHEADS) stimulate the bank loan portfolio growth. On the other hand, the lending growth is slower in larger banks (BANK.SIZE) and banks with already important shares of loans in total assets (LOANS). Interestingly, the situation of local firms (SME.ROS; SME.SALES.GR) and general factors related to competition (MARKET.SHARE; COMPETITORS) do not alter the loan portfolio growth recorded by the healthy local banks. Among the variables illustrating local economic conditions, only the unemployment in a county (UNEMPL) significantly and negatively influences the dependent variable. The insignificance of the vast majority of the variables related to the banks' environment (groups: LOCAL.SME and LOCAL) is probably caused by the presence of the bank fixed effects in the context of a relatively stable economic situation during the post-crisis era.

From the perspective of the robustness check's goal, however, the estimation results obtained for variables from the group CP.AROUND are of particular interest. These variables are significant in all specifications, in the vast majority of cases at the 5% level. They enter bank-level regressions with positive signs, suggesting that the increase in the role of local banks under corrective programs in comparison to other cooperative banks operating within the same local banking market leads to increases in the lending activities of healthy banks. Importantly, these increases are observed after controlling for the macroeconomic tendencies, local economic situation, condition of local firms, factors related to local banking competition, bank changing in time and constant-over-time characteristics. The changes in the healthy banks' loan portfolio growth are, similarly to the changes in the SMEs' access to bank lending, not only statistically significant but also relevant in economic terms. For example, according to specification (2), if a healthy local bank faces only troubled local peers within the 5 km radius (i.e., $CP.BANK\%^{5.0KM}=1$), its yearly growth rate of loans is 6.81 percentage points higher than

that for healthy local banks with no neighboring troubled local banks. The increase in lending dynamics is equivalent to 50% of the dependent variable interquartile range in the sample.

[Table 10 here]

To summarize, the research outcomes in Table 10 support the existence of the replacement mechanism proposed to explain the results from Section five. We find not only that SME are, at least partially, immunized against the negative consequences of the local banks' corrective programs if healthy local banks are simultaneously present in their vicinity but also that local banks witnessing the corrective programs of their neighboring peers significantly increase lending activities. The concordant evidence from the firm-level and bank-level regressions alleviates, in our opinion, the causality concerns and underscores the robustness of our main findings.

7. Concluding remarks

In this study, we re-examined the importance of undisturbed bank-firm relationships in the post-crisis era. We used a comprehensive data set for the emerging economy encompassing information on the financial situations of the SMEs and local banks, SME and bank branch locations, local economic and demographic situation and local banks' corrective programs. Local banks under corrective programs differed significantly from their peers. They had a weaker capital base, exhibited lower profitability and, most importantly, grew much slower. Considering the previous literature findings on the role of soft information and relationship banking in SME financing, we chose SMEs as our primary suspected victim of the sizable slowdowns in the lending activities of troubled local banks. However, the firm-level fixed effect panel regressions showed that SMEs were not unconditionally affected by the local banks' corrective programs. Moreover, the influence of the corrective programs was not stronger in the case of SMEs vulnerable to being locked in existing bank relationships, SMEs that are unattractive for other lenders or local banks presumably experiencing the deepest financial problems. Therefore, we verified negatively hypotheses form H1 to H3. We established that only the local banking market structures mattered for differentiating between SMEs negatively affected by corrective programs and SMEs uninfluenced by these programs. More precisely, the negative impact of bank corrective programs was perceptible when the presence of healthy peer banks was limited within the local banking markets. In contrast, when, besides having troubled local banks in the vicinity of an SME, healthy local banks also had a strong position,

the negative impact of corrective programs disappeared. Consequently, our evidence supported H4. To check whether the healthy local banks compensated for the decreases in the lending activities of local banks under corrective programs, we also estimated the bank-level fixed panel regressions. They revealed that healthy banks competing locally with their troubled peers indeed abnormally increased their lending. Thus, the results from the firm-level and bank-level estimations corroborate each other.

In more general terms, therefore, our evidence is consistent with the view that small, local banks play an important role in alleviating the SME constraints (for example, Petersen and Rajan 1994, Berger and Udell 1995, Berger et al. 2017a, Hasan 2017a). However, it shows additionally that local banks are much better at replacing lost lending from troubled peers for SMEs than are large banking organizations. This finding suggests that despite the changes in lending technologies (Berger and Black 2011, Berger et al. 2014), the advantage of local banks in gathering and processing soft information (Boot 2000, Stein 2002) still matters in the post-crisis era, at least in emerging economies. Moreover, when within local banking markets, only large banks and local banks under a corrective program operate, the troubles of the latter may have a significant impact on the local economy, as the literature on bank failures shows (for example, Calomiris et al. 1986, Calomiris and Mason 2003, Ramirez and Shively 2005, Ghosh 2017).

We believe that our study conveys two main policy implications. First, we demonstrate that the survival of local banks still has vital importance for small and medium-sized businesses. Large banks are not able to substitute perfectly for local bank activities. Therefore, it is advisable to promote the preservation of local banking markets with diversified players and banks with different sizes of operation. Second, from an SME perspective, it is better when local banks compete within geographically overlapping markets. The policies aiming at limiting competition among local banks, particularly cooperative ones, or integrating their activities may favor the financial stability of small banks (this topic is beyond the borders of our investigation), but they are simultaneously detrimental to the smoothing of bank lending to SMEs over time.

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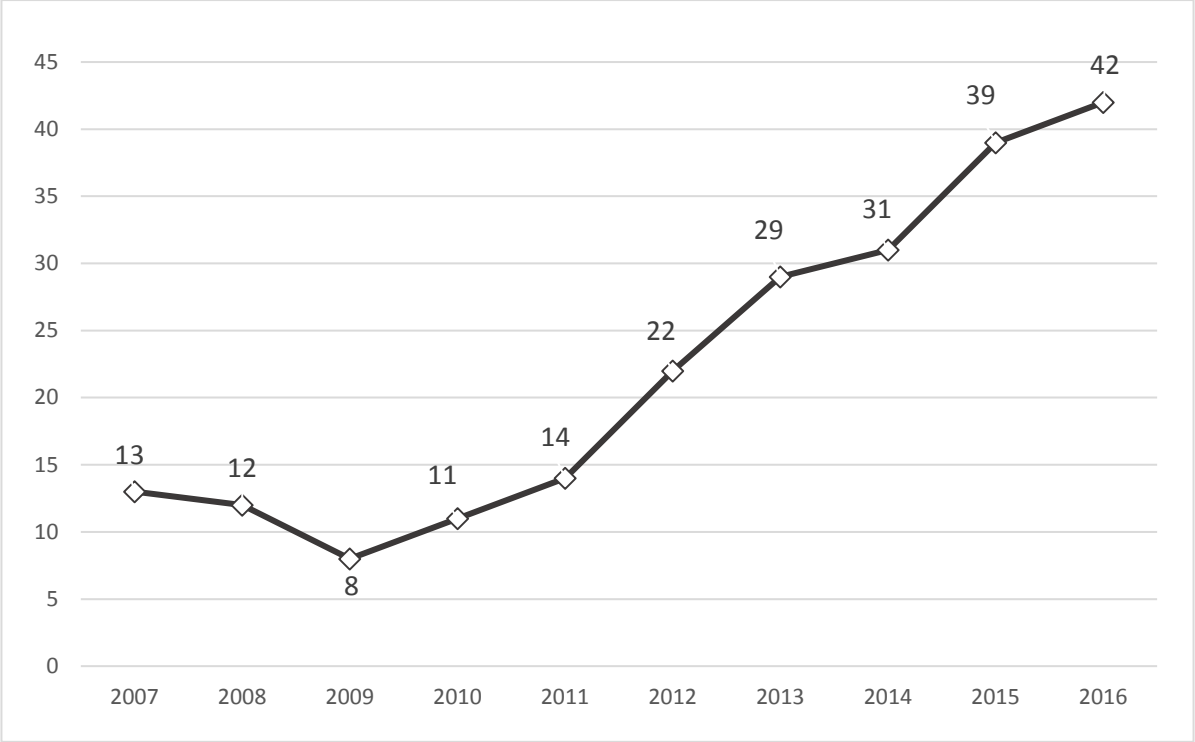
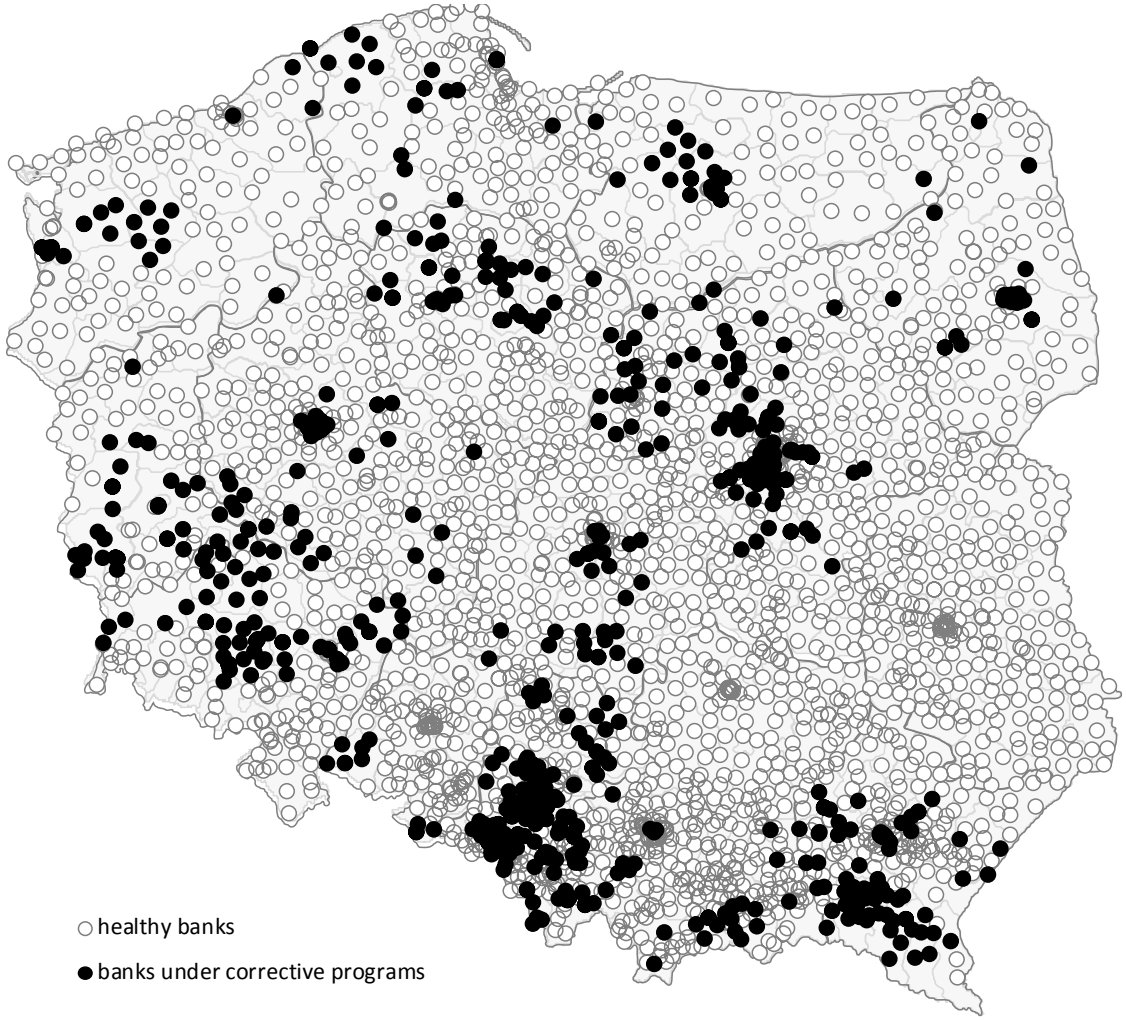
Figure 1. The end of the year number of cooperative banks under corrective programs



Source: Polish Financial Supervision Authority data

Figure 2. Branches of Polish cooperative banks during the 2007-2016 period: healthy banks vs. banks under corrective programs



Source: National Bank of Poland data and Polish Financial Supervision Authority data (Informacja o sytuacji banków spółdzielczych i zrzeszających w I kwartale 2015 roku – Information on the situation of cooperative banks and their associations at the end of the 1st quarter of 2015.

Table 1. Reflection of corrective programs in the local bank's fundamentals (2007-2015)

This table presents the results of the t-test for differences in means and the non-parametric Mann-Whitney U test.

Variable	Bank-year observations		Test for differences in means			Non-parametric Mann-Whitney U test		
			Means		t statistic	Medians		Z statistic
	Healthy banks	Banks under CP	Healthy banks	Banks under CP		Healthy banks	Banks under CP	
A. Bank-year levels (in %)								
Ratio of equity to assets	4807	162	12.83%	10.82%	5.58***	11.89%	9.68%	6.67***
Return on average assets	4301	153	1.48%	0.80%	10.18***	1.37%	0.85%	9.11***
Ratio of loan loss provisions to average loans	4234	153	0.32%	0.94%	-5.96***	0.20%	0.49%	-6.97***
Growth rate of assets	4253	151	8.65%	5.09%	5.53***	8.47%	5.46%	5.28***
Growth rate of loans	3991	145	8.20%	2.77%	6.09***	7.79%	3.02%	6.11***
B. Bank-year deviations from a country-year median (in %)								
Ratio of equity to assets	4807	162	1.00%	-0.75%	4.91***	0.15%	-1.81%	5.95***
Return on average assets	4301	153	0.10%	-0.33%	8.43***	0.04%	-0.20%	6.07***
Ratio of loan loss provisions to average loans	4234	153	0.10%	0.71%	-5.75***	-0.01%	0.27%	-6.07***
Growth rate of assets	4253	151	0.48%	-4.26%	7.95***	0.20%	-4.55%	7.51***
Growth rate of loans	3991	145	0.50%	-5.22%	6.54***	0.21%	-5.53%	6.41***

*, **, *** refer to significance at the 10%, 5%, and 1% levels, respectively.
Source: Authors' calculations based on cooperative banks' financial statements.

Table 2. Variable definitions for firm-level regressions

Panel A. SME characteristics

DEBT.GR	Yearly increase in bank and long-term debt to total assets at the beginning of a year in constant prices
PROFIT	Operating profit/loss to sales
FIXA	Ratio of fixed assets to total assets
EQUITY	Ratio of shareholders' funds to total assets
ASSET.TURN	Ratio of sales to total assets
FIRM.SIZE	Natural logarithm of sales at constant prices

Panel B. Local environment

UNEMPL	Unemployment rate in a county
SALARIES	Average salary in a county divided by the country's average
MIGRATIONS	Net migrations to a county divided by the county's population in hundreds

Panel C. Local bank's corrective programs around a firm's location (CP.AROUND variables)

$CP^{2.5KM}$, $CP^{5.0KM}$, $CP^{7.5KM}$	Binary variables that take the value of 1 for firms facing a local bank's corrective program within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from their location, and 0 otherwise
$CP\%^{2.5KM}$, $CP\%^{5.0KM}$, $CP\%.^{7.5KM}$	Share of local bank branches affected with a corrective program in all bank branches within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location
$YEARS.CP^{2.5KM}$, $YEARS.CP^{5.0KM}$, $YEARS.CP^{7.5KM}$	The highest year number of a local bank's corrective program within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location (0 in case of no corrective programs around)
$DEEP.CP^{2.5KM}$, $DEEP.CP^{5.0KM}$, $DEEP.CP^{7.5KM}$,	Binary variables that take the value of 1 for firms facing a local bank's deep* corrective program within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from their location, and 0 otherwise
$DEEP.CP\%^{2.5KM}$, $DEEP.CP\%^{5.0KM}$, $DEEP.CP\%^{7.5KM}$	Share of local bank branches affected with a deep corrective program in all bank branches within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location

* 50% of 2007-2016 corrective programs with the lowest equity-to-assets ratio at entry.

Panel D. Banking market structure around a firm's location (BANK.STR variables)

$BANKS^{2.5KM}$, $BANKS^{5.0KM}$, $BANKS^{7.5KM}$	Number of banks operating within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location
$BRANCHES^{2.5KM}$, $BRANCHES^{5.0KM}$, $BRANCHES^{7.5KM}$	Number of bank branches within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location
$LOC.BANK\%^{2.5.KM}$, $LOC.BANK\%^{5.0.KM}$, $LOC.BANK\%^{7.5.KM}$	Share of healthy local banks in all banks** operating within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location
$LOC.BRANCH\%^{2.5.KM}$, $LOC.BRANCH\%^{5.0.KM}$, $LOC.BRANCH\%^{7.5.KM}$	Share of healthy local bank branches in all bank branches** within a 2.5 km, 5.0 km and 7.5 km radius, respectively, from a firm's location

** Excluding local banks under corrective programs and the branches of those banks.

Table 3. Descriptive statistics for firm-year data

Variable	Observations	Firms	Mean	Std. Dev.	Min	1st quartile	Median	3rd quartile	Max
DEBT.GR	283,099	49,585	0.0086	0.1149	-0.9926	-0.0152	0.0000	0.0019	0.9998
PROFIT	283,099	49,585	0.0516	0.1724	-2.0000	0.0103	0.0393	0.0938	1.0000
FIXA	283,099	49,585	0.3129	0.2649	0.0000	0.0729	0.2586	0.5042	1.0000
EQUITY	283,099	49,585	0.5051	0.2631	0.0000	0.2919	0.5006	0.7204	1.0000
ASSET.TURN	283,099	49,585	2.4066	1.7731	0.0001	1.1793	2.0000	3.1628	10.0000
FIRM.SIZE	283,099	49,585	10.8685	1.5814	2.0694	9.9907	10.9901	11.9106	16.0043
UNEMPL	283,099	49,585	0.1010	0.0609	0.0170	0.0490	0.0900	0.1370	0.3870
SALARIES	283,099	49,585	0.9741	0.1995	0.6090	0.8200	0.9190	1.0730	1.8360
MIGRATIONS	283,099	49,585	0.0773	0.5241	-1.1412	-0.2695	-0.0516	0.2317	2.3980
$CP^{5.0KM}$	283,099	49,585	0.1483	0.3554	0.0000	0.0000	0.0000	0.0000	1.0000
$CP\%^{5.0KM}$	277,678	48,890	0.0090	0.0547	0.0000	0.0000	0.0000	0.0000	1.0000
$YEARS.CP^{5.0KM}$	283,099	49,585	0.3712	1.1181	0.0000	0.0000	0.0000	0.0000	9.0000
$DEEP.CP^{5.0KM}$	262,617	48,049	0.0847	0.2784	0.0000	0.0000	0.0000	0.0000	1.0000
$DEEP.CP\%^{5.0KM}$	257,196	47,353	0.0036	0.0361	0.0000	0.0000	0.0000	0.0000	1.0000
$BANKS^{5.0KM}$	283,099	49,585	16.9914	11.6335	0.0000	5.0000	17.0000	28.0000	39.0000
$BRANCHES^{5.0KM}$	283,099	49,585	77.7537	107.2504	0.0000	8.0000	31.0000	104.0000	556.0000
$LOC.BANK\%^{5.0.KM}$	277,242	48,857	0.2374	0.2591	0.0000	0.0909	0.1471	0.2500	1.0000
$LOC.BRANCH\%^{5.0.KM}$	277,242	48,857	0.2294	0.2816	0.0000	0.0392	0.1154	0.2941	1.0000

Note: This table presents the descriptive statistics for variables employed in our firm-year panel regressions. For the sake of brevity, we present the CP.AROUND and BANK.STR variables only for the 5 km radius from a firm's head office (we include firm-year observations feeding specification 3 from Table 5). The statistics for the remaining CP.AROUND and BANK.STR variables are available upon request.

Table 4. Impact of local banks' corrective programs (CP.AROUND) on SMEs' access to bank and other long-term debt financing

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	-	$CP^{2.5KM}$	$CP^{5.0KM}$	$CP^{7.5KM}$	$CP\%^{2.5KM}$	$CP\%^{5.0KM}$	$CP\%^{7.5KM}$
$PROFIT_{t-1}$	0.00324	0.00322	0.00321	0.00321	0.00385*	0.00374	0.00366
	(0.00227)	(0.00227)	(0.00227)	(0.00227)	(0.00231)	(0.00228)	(0.00227)
$FIXA_{t-1}$	-0.0716***	-0.0717***	-0.0717***	-0.0717***	-0.0715***	-0.0715***	-0.0712***
	(0.00323)	(0.00323)	(0.00323)	(0.00323)	(0.00332)	(0.00325)	(0.00324)
$EQUITY_{t-1}$	0.130***	0.130***	0.130***	0.130***	0.130***	0.130***	0.130***
	(0.00248)	(0.00249)	(0.00249)	(0.00249)	(0.00254)	(0.00250)	(0.00249)
$ASSET.TURN_{t-1}$	0.0139***	0.0139***	0.0139***	0.0139***	0.0140***	0.0140***	0.0140***
	(0.000444)	(0.000444)	(0.000444)	(0.000444)	(0.000453)	(0.000447)	(0.000445)
$FIRM.SIZE_{t-1}$	-0.0101***	-0.0101***	-0.0101***	-0.0101***	-0.0103***	-0.0103***	-0.0102***
	(0.000722)	(0.000722)	(0.000722)	(0.000722)	(0.000738)	(0.000728)	(0.000724)
$UNEMPL_t$	-0.0292	-0.0291	-0.0288	-0.0282	-0.0336	-0.0292	-0.0246
	(0.0220)	(0.0220)	(0.0221)	(0.0222)	(0.0226)	(0.0222)	(0.0221)
$SALARIES_t$	-0.0117	-0.0115	-0.0114	-0.0113	-0.0157	-0.0112	-0.0112
	(0.0112)	(0.0112)	(0.0112)	(0.0112)	(0.0115)	(0.0113)	(0.0112)
$MIGRATIONS_t$	0.00176	0.00179	0.00182	0.00190	0.00251	0.00232	0.00188
	(0.00202)	(0.00202)	(0.00203)	(0.00205)	(0.00209)	(0.00205)	(0.00203)
$CP.AROUND_t$		-0.000259	-0.000220	-0.000353	0.00145	0.00131	-0.00228
		(0.00105)	(0.000852)	(0.000816)	(0.00493)	(0.00540)	(0.00615)
Constant	0.0685***	0.0684***	0.0683***	0.0681***	0.0749***	0.0698***	0.0677***
	(0.0139)	(0.0139)	(0.0139)	(0.0139)	(0.0143)	(0.0141)	(0.0139)
Observations	283,242	283,099	283,099	283,099	270,673	277,678	281,518
Companies	49,611	49,585	49,585	49,585	48,014	48,890	49,406
R-squared	0.040	0.040	0.040	0.040	0.040	0.041	0.040

Note: This table presents the results of the fixed-effects estimations. For the sake of brevity, the year dummies' coefficients are not reported. Robust standard errors are shown in parentheses. *, **, *** refer to significance at the 10%, 5%, and 1% levels, respectively.

Table 5. Impact of local banks' corrective programs (CP.AROUND) on SMEs. The role of a firm's size (FIRM.SIZE) and profitability (PROFIT)

Panel A. Impact on SMEs with different sizes

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$CP^{2.5KM}$	$CP^{5.0KM}$	$CP^{7.5KM}$	$CP\%^{2.5KM}$	$CP\%^{5.0KM}$	$CP\%^{7.5KM}$
$CP.AROUND_t$	0.00325	-0.000202	-0.00304	-0.0143	0.0323	-0.0224
	(0.00713)	(0.00547)	(0.00523)	(0.0356)	(0.0418)	(0.0533)
$CP.AROUND_t$ x $FIRM.SIZE_{t-1}$	-0.000320	-1.71e-06	0.000245	0.00143	-0.00283	0.00183
	(0.000636)	(0.000486)	(0.000465)	(0.00316)	(0.00369)	(0.00468)
Observations	283,099	283,099	283,099	270,673	277,678	281,518
Companies	49,585	49,585	49,585	48,014	48,890	49,406
R-squared	0.040	0.040	0.040	0.040	0.041	0.040

Panel B. Impact on SMEs with different profitability

	(7)	(8)	(9)	(10)	(11)	(12)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$CP^{2.5KM}$	$CP^{5.0KM}$	$CP^{7.5KM}$	$CP\%^{2.5KM}$	$CP\%^{5.0KM}$	$CP\%^{7.5KM}$
$CP.AROUND_t$	1.80e-05	7.36e-05	2.71e-05	0.00182	0.00207	-0.00219
	(0.00108)	(0.000878)	(0.000844)	(0.00534)	(0.00598)	(0.00733)
$CP.AROUND_t$ x $PROFIT_{t-1}$	-0.00588	-0.00651	-0.00829**	-0.00613	-0.0125	-0.00135
	(0.00562)	(0.00454)	(0.00422)	(0.0282)	(0.0346)	(0.0484)
Observations	283,099	283,099	283,099	270,673	277,678	281,518
Companies	49,585	49,585	49,585	48,014	48,890	49,406
R-squared	0.040	0.040	0.040	0.040	0.041	0.040

Note: This table presents the results of the fixed-effects estimations. The set of unreported explanatory variables includes year dummies, firm-level controls ($PROFIT_{t-1}$, $FIXA_{t-1}$, $EQUITY_{t-1}$, $ASSET.TURN_{t-1}$, $FIRM.SIZE_{t-1}$), county-level controls ($UNEMPL_t$, $SALARIES_t$, $MIGRATIONS_t$), and the constant term. Robust standard errors are shown in parentheses. *, **, *** refer to significance at the 10%, 5%, and 1% levels, respectively.

Table 6. Impact of local banks' corrective programs (CP.AROUND) on SMEs. The role of the duration and depth of a corrective program.

Panel A. Duration of corrective programs within a firm's neighborhood

	(1)	(2)	(3)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$YEARS.CP^{2.5KM}$	$YEARS.CP^{5.0KM}$	$YEARS.CP^{7.5KM}$
$CP.AROUND_t$	0.000248	0.000249	0.000357
	(0.000363)	(0.000314)	(0.000291)
Observations	283,099	283,099	283,099
Companies	49,585	49,585	49,585
R-squared	0.040	0.040	0.040

Panel B. Presence of deep corrective programs within a firm's neighborhood

	(4)	(5)	(6)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$DEEP.CP^{2.5KM}$	$DEEP.CP^{5.0KM}$	$DEEP.CP^{7.5KM}$
$CP.AROUND_t$	0.000163	0.000165	0.000270
	(0.00134)	(0.00107)	(0.00102)
Observations	268,093	262,617	256,518
Companies	48,358	48,049	47,779
R-squared	0.041	0.041	0.042

Panel C. Share of branches with deep corrective programs within a firm's neighborhood

	(7)	(8)	(9)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$DEEP.CP\%^{2.5KM}$	$DEEP.CP\%^{5.0KM}$	$DEEP.CP\%^{7.5KM}$
$CP.AROUND_t$	0.00339	-0.000797	-0.00703
	(0.00799)	(0.00804)	(0.00940)
Observations	255,667	257,196	254,937
Companies	46,787	47,353	47,599
R-squared	0.041	0.041	0.042

Note: This table presents the results of the fixed-effects estimations. The set of unreported explanatory variables includes year dummies, firm-level controls ($PROFIT_{t-1}$, $FIXA_{t-1}$, $EQUITY_{t-1}$, $ASSET.TURN_{t-1}$, $FIRM.SIZE_{t-1}$), county-level controls ($UNEMPL_t$, $SALARIES_t$, $MIGRATIONS_t$), and the constant term. Robust standard errors are shown in parentheses. *, **, *** refer to significance at the 10%, 5%, and 1% levels, respectively.

Table 7. Impact of local banks' corrective programs (CP.AROUND) on SMEs. The role of local competition

Panel A. Number of competitors

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$CP^{2.5KM}$	$CP^{5.0KM}$	$CP^{7.5KM}$	$CP\%^{2.5KM}$	$CP\%^{5.0KM}$	$CP\%^{7.5KM}$
Variable as BANK.STR:	$BANKS^{2.5KM}$	$BANKS^{5.0KM}$	$BANKS^{7.5KM}$	$BRANCHES^{2.5KM}$	$BRANCHES^{5.0KM}$	$BRANCHES^{7.5KM}$
$BANK.STR_t$	-8.70e-06	-0.000124	-4.68e-05	5.58e-05	3.72e-05**	2.68e-05**
	(0.000150)	(0.000150)	(0.000154)	(3.89e-05)	(1.87e-05)	(1.26e-05)
$CP.AROUND_t$	-0.000265	-0.000710	-0.00148	0.000906	-0.000322	-0.00291
	(0.00251)	(0.00249)	(0.00246)	(0.00529)	(0.00569)	(0.00651)
$CP.AROUND_t$ x $BANK.STR_t$	2.29e-07	1.84e-05	3.99e-05	0.000132	0.000249	4.66e-05
	(0.000108)	(9.14e-05)	(8.25e-05)	(0.000542)	(0.000336)	(0.000257)
Observations	283,099	283,099	283,099	270,673	277,678	281,518
Companies	49,585	49,585	49,585	48,014	48,890	49,406
R-squared	0.040	0.040	0.040	0.040	0.041	0.040

Panel B. Share of healthy local banks in the banking market around a company

	(7)	(8)	(9)	(10)	(11)	(12)
Dependent variable:	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$	$DEBT.GR_t$
Variable as CP.AROUND:	$CP^{2.5KM}$	$CP^{5.0KM}$	$CP^{7.5KM}$	$CP\%^{2.5KM}$	$CP\%^{5.0KM}$	$CP\%^{7.5KM}$
Variable as BANK.STR:	$LOC.BANK\%^{2.5KM}$	$LOC.BANK\%^{5.0KM}$	$LOC.BANK\%^{7.5KM}$	$LOC.BRANCH\%^{2.5KM}$	$LOC.BRANCH\%^{5.0KM}$	$LOC.BRANCH\%^{7.5KM}$
$BANK.STR_t$	0.00289	0.00363	0.00335	0.00223	0.00212	0.00146
	(0.00305)	(0.00352)	(0.00380)	(0.00321)	(0.00375)	(0.00418)
$CP.AROUND_t$	-0.00230	-0.00397***	-0.00329**	-0.0137	-0.0187*	-0.0226**
	(0.00143)	(0.00145)	(0.00140)	(0.0103)	(0.0109)	(0.0111)
$CP.AROUND_t$ x $BANK.STR_t$	0.0204**	0.0271***	0.0172***	0.0658***	0.0933***	0.0584***
	(0.00870)	(0.00832)	(0.00659)	(0.0234)	(0.0255)	(0.0225)
Observations	269,967	277,242	281,228	269,967	277,242	281,228
Companies	47,965	48,857	49,382	47,965	48,857	49,382
R-squared	0.040	0.040	0.040	0.040	0.040	0.040

Note: This table presents the results of the fixed-effects estimations. The set of unreported explanatory variables includes year dummies, firm-level controls ($PROFIT_{t-1}$, $FIXA_{t-1}$, $EQUITY_{t-1}$, $ASSET.TURN_{t-1}$, $FIRM.SIZE_{t-1}$), county-level controls ($UNEMPL_t$, $SALARIES_t$, $MIGRATIONS_t$), and the constant term. Robust standard errors are shown in parentheses. *, **, *** refer to significance at the 10%, 5%, and 1% levels, respectively.

Table 8. Variable definitions for bank-level regressions

Panel A. Bank characteristics

LOANS.GR	Yearly growth rate of loans in constant prices
BANK.SIZE	Natural logarithm of total assets in constant prices
LOANS	Ratio of loans to total assets
BANK.EQUITY	Ratio of equity to total assets
OVERHEADS	Ratio of overhead to operating income
NII.SHARE	Ratio of net interest income to total income

Panel B. Situation of local SMEs, a bank's competitive position and its local environment*

SME.ROS	Average return on sales of SMEs domiciled in a county
SME.SALES.GR	Average sales growth of SMEs domiciled in a county
MARKET.SHARE	The number of a given bank's branches in a county divided by the number of all bank branches in a county
COMPETITORS	The number of banks operating in a county
UNEMPL	Unemployment rate in a county
SALARIES	Average salary in a county divided by the country's average
MIGRATIONS	Net migrations to a county divided by a county's population in hundreds

* For each bank-year observation, the values were averaged over counties in which a bank operates with the number of the bank's branches in individual counties used as weights.

Panel C. Local bank's corrective programs around (CP.AROUND variables)**

CP.BANK%$^{2.5KM}$, CP.BANK%$^{5.0KM}$, CP.BANK%$^{7.5KM}$	Share of local banks under corrective programs in all local banks operating respectively within 2.5 km, 5.0 km and 7.5 km radius from a bank's branch
CP.BRANCH%$^{2.5KM}$, CP.BRANCH%$^{5.0KM}$, CP.BRANCH%$^{7.5KM}$	Share of branches of local banks under corrective programs in all local bank branches located respectively within 2.5 km, 5.0 km and 7.5 km radius from a bank's branch

* For each bank-year observation, the values were averaged over all branches of the bank.

Table 9. Descriptive statistics for bank-year data

Variable	Observations	Banks	Mean	Std. Dev.	Min	1st quartile	Median	3rd quartile	Max
LOANS.GR	2,562	425	0.0853	0.1061	-0.1998	0.0164	0.0789	0.1449	0.4970
BANK.SIZE	2,562	425	18.3386	0.8153	16.1009	17.7387	18.2962	18.8095	21.6232
LOANS	2,562	425	0.8018	0.1568	0.1753	0.6983	0.8685	0.9280	0.9784
BANK.EQUITY	2,562	425	0.1185	0.0396	0.0443	0.0906	0.1108	0.1383	0.3931
OVERHEADS	2,562	425	0.6631	0.0915	0.3420	0.6056	0.6685	0.7276	0.9497
NII.SHARE	2,562	425	0.7338	0.0639	0.3564	0.6967	0.7378	0.7755	0.9295
SME.ROS	2,562	425	0.0293	0.0300	-0.2935	0.0127	0.0290	0.0453	0.1869
SME.SALES.GR	2,562	425	0.0380	0.0734	-0.1976	-0.0099	0.0320	0.0818	0.3633
MARKET.SHARE	2,562	425	0.1648	0.1113	0.0056	0.0819	0.1386	0.2143	0.8182
COMPETITORS	2,562	425	15.2046	5.3504	3.0000	11.1295	14.6667	19.0000	38.0000
UNEMPL	2,562	425	0.1430	0.0514	0.0170	0.1060	0.1360	0.1733	0.3265
SALARIES	2,562	425	0.8436	0.0839	0.7018	0.7859	0.8270	0.8778	1.2626
MIGRATIONS	2,562	425	-0.0435	0.3180	-0.7526	-0.2489	-0.1086	0.0727	1.8658
CP.BANK%$^{5.0KM}$	2,562	425	0.0349	0.1271	0.0000	0.0000	0.0000	0.0000	1.0000
CP.BRANCH%$^{5.0KM}$	2,562	425	0.0308	0.1212	0.0000	0.0000	0.0000	0.0000	1.0000

Note: This table presents the descriptive statistics for the variables employed in our bank-year panel regressions. For the sake of brevity, we present CP.AROUND variables only for the 5 km radius from a bank's branch (we include bank-year observations feeding specification 2 from Table 11). Nevertheless, statistics for the remaining CP.AROUND variables are available upon request.

Table 10. Impact of local competitors' corrective programs on heathy local banks' loan growth

Dependent variable:	(1) $LOANS.GR_t$	(2) $LOANS.GR_t$	(3) $LOANS.GR_t$	(4) $LOANS.GR_t$	(5) $LOANS.GR_t$	(5) $LOANS.GR_t$
Variable as CP.AROUND:	$CP.BANK\%^{2.5KM}$	$CP.BANK\%^{5.0KM}$	$CP.BANK\%^{7.5KM}$	$CP.BRANCH\%^{2.5KM}$	$CP.BRANCH\%^{5.0KM}$	$CP.BRANCH\%^{7.5KM}$
$BANK.SIZE_{t-1}$	-0.130***	-0.142***	-0.166***	-0.130***	-0.141***	-0.165***
	(0.0490)	(0.0470)	(0.0421)	(0.0490)	(0.0470)	(0.0421)
$LOANS_{t-1}$	-0.344***	-0.335***	-0.334***	-0.344***	-0.334***	-0.334***
	(0.0421)	(0.0406)	(0.0361)	(0.0422)	(0.0406)	(0.0361)
$BANK.EQUITY_{t-1}$	1.201***	1.220***	0.938***	1.200***	1.219***	0.940***
	(0.295)	(0.265)	(0.235)	(0.296)	(0.266)	(0.235)
$OVERHEADS_{t-1}$	0.177***	0.172***	0.148**	0.177***	0.172***	0.147**
	(0.0635)	(0.0609)	(0.0574)	(0.0634)	(0.0608)	(0.0574)
$NII.SHARE_{t-1}$	-0.0594	-0.0294	-0.0248	-0.0608	-0.0291	-0.0244
	(0.107)	(0.0998)	(0.0909)	(0.107)	(0.0997)	(0.0905)
$SME.ROS_{t-1}$	0.164	0.148	0.106	0.162	0.146	0.105
	(0.0997)	(0.0940)	(0.0916)	(0.0996)	(0.0939)	(0.0915)
$SME.SALES.GR_{t-1}$	-0.00535	-0.0145	-0.0438	-0.00440	-0.0136	-0.0434
	(0.0382)	(0.0364)	(0.0327)	(0.0383)	(0.0365)	(0.0328)
$MARKET.SHARE_t$	-0.00992	-0.0303	0.00474	-0.00958	-0.0294	0.00599
	(0.0937)	(0.0909)	(0.0829)	(0.0937)	(0.0908)	(0.0828)
$COMPETITORS_t$	0.00117	0.00119	0.000419	0.00110	0.00116	0.000403
	(0.00212)	(0.00198)	(0.00159)	(0.00214)	(0.00199)	(0.00159)
$UNEMPL_t$	-0.276	-0.410*	-0.419**	-0.280	-0.411*	-0.420**
	(0.248)	(0.240)	(0.211)	(0.247)	(0.240)	(0.211)
$SALARIES_t$	0.103	0.0744	0.0401	0.100	0.0727	0.0380
	(0.133)	(0.129)	(0.110)	(0.133)	(0.129)	(0.110)
$MIGRATIONS_t$	-0.0225	-0.0295	-0.0367	-0.0222	-0.0290	-0.0369
	(0.0329)	(0.0314)	(0.0309)	(0.0330)	(0.0315)	(0.0309)
$CP.AROUND_t$	0.0505**	0.0681**	0.0766**	0.0439*	0.0668**	0.0801**
	(0.0242)	(0.0269)	(0.0307)	(0.0236)	(0.0272)	(0.0326)
Constant	2.459***	2.680***	3.181***	2.457***	2.674***	3.168***
	(0.929)	(0.882)	(0.802)	(0.930)	(0.882)	(0.801)
Observations	2,370	2,562	3,105	2,370	2,562	3,105
Companies	403	425	481	403	425	481
R-squared	0.178	0.177	0.167	0.178	0.177	0.166

Note: This table presents the results of the fixed-effects estimations. For the sake of brevity, the year dummies' coefficients are not reported. Robust standard errors are shown in parentheses. *, **, *** refer to significance at the 10%, 5%, and 1% levels, respectively.