AUTHOR

IVANA CATTURANI
Euricse and University of Trento, Italy
ivana.catturani@unitn.it
and
CARLO BORZAGA
University of Trento and Euricse, Italy
carlo.borzaga@unitn.it

Facts and Stereotypes about Cooperative Banks: To Whom Do CBs Actually Lend?

ABSTRACT

Cooperative banks' (CBs) customers have been traditionally described as small or medium firms with poor performance working at local level. Moreover, they are usually involved in tertiary sector of industry or in agriculture and are financed by several sources (i.e., not just banks).

This paper attempts to verify whether the characteristics listed above are stereotypes that no longer apply to CBs' clients or, on the contrary, whether these are still some of the most relevant features CB loan recipients. In order to test this hypothesis, we used data collected through a survey conducted in 2011 by MET on Italian firms working in manufacturing industries.

1. Introduction

Empirical evidence demonstrates the importance of relational banks, especially SMEs, in providing credit availability, lower interest rates on loans and reduced collateral requirements (Petersen and Raghuram, 1994; Berger and Udell, 1995; Colle, 1998). Among relational banks, cooperative banks (CBs)[1] add to the strict and personal relationship between the institution and the borrowers through the banks' ownership by customers-members, which is designed to reduce opportunistic behaviour. This allows CBs to soften the asymmetry of information and finance those firms that are disregarded by other banks.

The capacity of CBs to finance even opaque borrowers leads to the identification of CB customers as riskier clients. The common view is that CBs' clients are SMEs, are not very dynamic, work mainly in a narrow area and are characterized by a low level of innovation (Ferri and Messori, 2000; Alessandrini et al., 2006; Beishenaly, 2007). Moreover, firms are presumed to turn to CBs when other banks offer poor lending conditions, especially during times of financial turmoil (though they may maintain privileged relationships with non-CB banks in good times). This could explain the anti-cyclical performance of CBs, which increase their market share during negative economic phases (Birchall, 2013).

The above picture can be easily applied to the Italian context. On one hand, Italy is characterized by an economic environment inhabited by numerous SMEs. In particular, small, innovative Italian firms face higher costs of external financing, given the difficulties in evaluating their business activities and their creditworthiness (Magri, 2007). On the other hand, the banking system comprises two main sub-groups of banks: five large banks, which accounted for 49.4% of the market in 2012, and a varied universe of small banks (Banca d'Italia, 2013). Among these, the largest group is that of CBs.

According to Italian Banking Law (Art. 35), CBs have three relevant features: i) they grant credit primarily to their members; ii) their lending activity has to be concentrated on the operating area; iii) they are constrained regarding dividend distribution. In fact, at least 70% of annual profits must be sent to an indivisible reserve, and 3% have to be devoted to special funds for the development of the cooperative (Federcasse, 2009). In addition, all the assets are locked. Since CBs cannot redistribute large dividends to their members, they usually offer better financial conditions. In order to be eligible as members, customers, regardless of their economic activities, must live in or conduct their main economic activities within the operating area of the bank. The operating area includes the municipalities in which CBs have branches, as well as the neighbouring areas (the so-called "reference area")[2]: an approach that guarantees geographical continuity. As a result, CBs' members are generally local. It should be noted that customers do not necessarily have to live within the CB reference area. However, in order to fully exploit their relational links with the CB (e.g., in order to be known by the CB and to benefit from the relational lending), customers should have relatively long and continuous business lives within the reference area. As a counterpart, localism could imply a low level of dynamism.

The role of CBs in the Italian context is relevant for various reasons. CBs are well represented by number: At the end of 2012, 394 CBs had built a network of 4,400 branches (55.8% of the Italian banking

---

[1] In this paper, the expression "cooperative banks" is used to summarize the expression "cooperative financial institutions", and the terms are used interchangeably. In the case of Italy, Banche di Credito Cooperativo and Banche Popolari are included in the broader set of cooperative banks. However, given the differences in its dividend redistribution policies and the fact that it is not subject to mutuality requirements, Banche Popolari should not be considered in the cooperative bank group, at least for the purposes of this paper.

[2] The reference area of a credit CB is composed of the municipalities in which it has branches and the neighbouring municipalities, as defined by the Italian Banking Law of 1993 and by the Bank of Italy regulation. At least 95% of the bank's risky assets must refer to this area, while the residual 5% may be invested outside this area. The name of the bank must explicitly note its geographical reference area.

system). CBs exist in about a third of Italian municipalities; in more than 500 municipalities, the local CB is the only financial institution (Federcasse, 2012). Their presence even in remote villages underlines their importance for local development. In contrast to what was forecasted at the beginning of the liberalization process that began in 1992, in past years, CBs have enlarged their business. In particular, their market share in lending reached 8.1% in 2009. During the first part of the financial crisis (i.e., from 2008 to 2010), Italian CBs continued to finance the economy while the largest banks struggled. In 2009, when the largest commercial banks showed a negative growth rate of loans (-1.7%), CBs increased their lending by 6.2%. In the second phase of the crisis (i.e., from 2010 to 2013), CBs registered a slow-down in growth, while commercial banks turned to positive rates of growth.

The main influence of CBs cannot be identified through overall market share; rather, it is evident in the market share of CBs with regard to SMEs. As the previous governor of Italian Central Bank, Mario Draghi (2009), has pointed out, more than 50% of the credits provided to SMEs are distributed by branches in close proximity to their head office. In Italy, the loans provided to SMEs by CBs have risen from an overall share of 13% in 1999 to 21% in 2009. However, in that decade, CBs also increased their share of loans provided to larger firms—unusual borrowers for such banks. This last insight challenges the stereotypical view of CB customers, showing that CBs are able to finance, not only SMEs, but also enterprises of larger sizes. These findings give rise to a series of questions: Who are CBs' clients? What are their characteristics? How are these features related to the larger presence of CBs in each area?

In an attempt to answer these questions, this paper examines the special features of firms financed by CBs. The firms included in the analysed sample operate within the manufacturing industry or supply services to the manufacturing industry. Usually, given the high requirements in terms of capital, this industry is financially supported by large commercial banks, with little room left for other banks—especially CBs (which are more involved in financing artisans, farmers, services and the real estate industry). For this reason, it is more challenging to analyse what is happening in the manufacturing industry.

The paper is organized as follows: Section 2 reviews the relevant literature on CBs and their link with SMEs and introduces some relevant theoretical issues; Section 3 provides an overview of the data collected and presents and discusses the main descriptive features; Section 4 introduces the methodological approach used to define the results discussed; and Section 5 concludes.

2. Financial intermediation: theoretical issues

The banking industry plays a fundamental role in the economic development of an area. With respect to CBs, several researchers have focused on their impact on local development and on the privileged link between SMEs and CBs (Petersen and Raghuram, 1994; Lucchetti et al., 2001; Goglio, 2007; Palomo Zurdo and Sanchis Palacio, 2008). CBs are particularly important in countries like Germany and Italy, in which SMEs are more common and relational banks have a longer tradition (Birchall and Hammond Ketilson, 2009). A CB is closely linked to the community in which it is established, since its objective is the maximisation of social utility rather than profit (Gutiérrez, 2008).

The theory of financial intermediation underlines how small and local banks, including CBs, which are more specialized than others in the production of information and loan contracts, are better equipped to face the credit rationing problem of SMEs. The collection of information from informal sources allows for a reduction in the asymmetries of information and the default risks of firms. Hard information, given by internal risk classes or by borrower ratings, is too rigid for less structured

enterprises. Thus, transitional lending, based on this hard information, has to increase the price of loans to cover the lending risk. In contrast, relationship lending, thanks to the intense relationship between the bank and the borrower, reduces the amount of counterpart requirements (Stiglitz and Weiss, 1981; Fama, 1985; Petersen, 2004).

Italian CBs have played a crucial role in local development, especially in areas where the banking network is denser, such as the central northeast part of Italy (Goglio, 2007). Their contribution in terms of liquidity supplied has been extensive, and it has helped the development of SMEs (Alessandrini and Zazzaro, 2001; Alessandrini et al., 2003). By comparing three types of credit institutions—commercial, savings and mortgage—in different European countries during the five years after deregulation, O' Brien and Wagenvoort (2000) found that Italian CBs have been among the most X-efficient[3] banks.

CBs have been analysed more recently for their anti-cyclical behaviour during financial turmoil. As underlined by Tarantola (2011), CBs served as a resource, especially during the first period of the crisis (2007 to 2009), when they were an important stabilizing factor in the supply of credit to households and businesses. As Birchall and Hammond Ketilson (2009, p. 8) argued, "The strength built up by cooperatives during the good times … helps tide them over a recession".

Relational banking is based on a balanced relationship between the size of the bank and the size of the firm (Boyd and Runckle, 1993; Petersen and Raja, 1994; Machauer and Weber, 2009; Bergen and Udell, 2002). Being local and small, the bank has detailed knowledge of the firms and the market in which they work. The fact that the firm is also small and local deepens this reciprocal knowledge and increases trust. Moreover, the membership, which is typical for a CB, helps to establish a long-term and customized bank-client relationship. However, financing opaque borrowers leads CBs to be more exposed to the risks of supporting firms disregarded by other banks for being considered too risky (Garcia-Appendini, 2007). Thus, the credit quality can be worsened. The balance, in terms of size, between CBs and their customers has been considered pivotal to CBs' ability to fully exploit their information advantage. Considerations of scale narrow CBs' business to customers of similar dimensions, through a sort of "scale dependence". In other words, it is too risky for a CB to finance large firms.

A study by Bonaccorsi di Patti and Gobbi (2001) challenged this perspective. The authors analysed the impact of the deregulation in the Italian banking industry on the availability of credit to small businesses by differentiating banks on the basis of size. In order to test their hypothesis, they assumed that the volume of credit per firm size in the local market was a function of consolidation, entry and a set of controls, including the share of small banks' branches. A higher presence of larger banks was associated with a larger volume of credit extended to small borrowers. This result seems to challenge the idea that large banks disregard small lenders firms due to the higher costs of collecting information.

---

[3] X-inefficiency is the difference between the efficient behaviour of an enterprise (assumed or implied by economic theory) and the enterprise's observed behaviour in practice.

3. Which firms get loans from CBs?

This research is based on a survey conducted in 2011 by MET[4] on a sample of 25,090 Italian firms in the manufacturing and services production industries[5]. The sample is representative of the population, and the interviewed enterprises are weighted to account for a certain number of similar enterprises[6]. The survey and the sampling design were based on a one-stage stratified random selection of sample units in strata without replacement. The data were stratified according to region (20 total regions) and firm size (defined by the number of employees)[7]. The questions were asked through telephonic interviews (Cati method) and concerned different aspects of the firms' operations in 2011, with some references to past and future years (2008 to 2012).

The question analysed in this research concerns the types of banks financing the interviewed firms. In the survey, 36.5% of the sample did not answer this question. Some differences emerged in the non-respondent set in terms of i) firm size (with non-responding firms ranging from 27.6% of companies with 5 to 9 employees to 47.6% of businesses with more than 250 employees), ii) firm sector (ranging from 27.7% of firms in the food chain to 46% of firms in transport); iii) region (from 25.9% of firms from Umbria to 52.9% of firms from Calabria).

According to the sample considered in the MET survey, CBs finance more than 100,000 firms, corresponding to 7.3% of all firms (three points lower than the percentage registered by Intesa San Paolo). Considering together the shares of banks with cooperative ownership (including both those that are cooperative in strict terms and Banche Popolari), this number reaches 12.6%, making the cooperative movement the second largest financing institution in the industry, second only to Unicredit, the largest Italian banking group (Figure 1). The majority of firms financed by CBs are small firms (94.2%). Moreover, among listed firms, 4.9% had received loans from CBs. This value is three percentage points lower than the share of cooperative firms or individual enterprises financed by CBs.

---

[4] MET is a private research centre for economic policy founded in 1992. It is mainly involved in regional development, industrial structure, research and innovation (see www.met-economia.it for more information).

[5] The industries of activities involved in the survey are: mining (NACE code C); food, beverage and tobacco (NACE code DA); textile and clothing (NACE code DB); ashlar, leather and skins (Code Ateco DC); wood and wood products (NACE code DD); paper, printing and publishing (NACE code DE); coke and refined petroleum products (NACE Code DF); chemical (NACE code DG); rubber and plastic products (NACE Code DH); non-metallic metal processing (NACE code DI); metallurgy (NACE Code DJ); mechanical (NACE code DK); electronics (NACE code DL); transport equipment (NACE DM Code); and other manufacturing (NACE code DN); as well as the production and distribution of electricity, gas and water (Ateco code E); transport, storage and communication (NACE code I, with the exception of travel agencies and tour operators (code 63.3)); and, finally, hiring, information technology, research and services (NACE code K, with the exception of real estate activities (code 70)).

[6] The National Statistic Institute provides details on the procedure used to move from the sample to the universe. Details can be found in the Nota Metodologica (see www.met-economia.it/wp-content/uploads/2013/11/Nota_metodologica_finale.pdf).

[7] Enterprises are divided into four classes: micro enterprises (enterprises with between 1 and 9 employees), small enterprises (between 10 and 49 employees), medium-sized enterprises (between 50 and 250 employees), and large enterprises (more than 250 employees).

Figure 1. First ten banks from which firms received loans (percentage value)
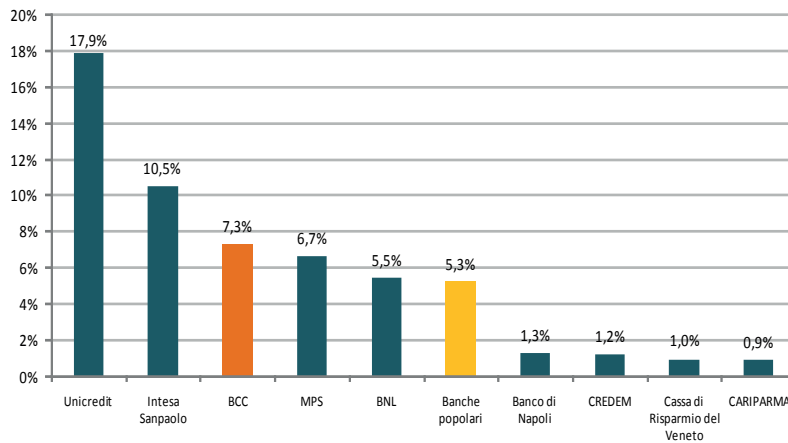
In sum, 88.2% of firms that received loans from CBs declared that CBs were the only banks supporting them (Figure 2). The majority share of firms financed solely by CBs is formed by firms of small size (95.2%)[8]. This figure confirms two facts: i) CBs finance primarily SMEs (see Section 2); ii) firms financed by only one bank are usually smaller, since larger firms tend to have several banks supporting them (Banca d'Italia, 2011).

Figure 2. Firms receiving loans from CBs also receive loans from… (percentage of total values of firms reporting funding from CBs)
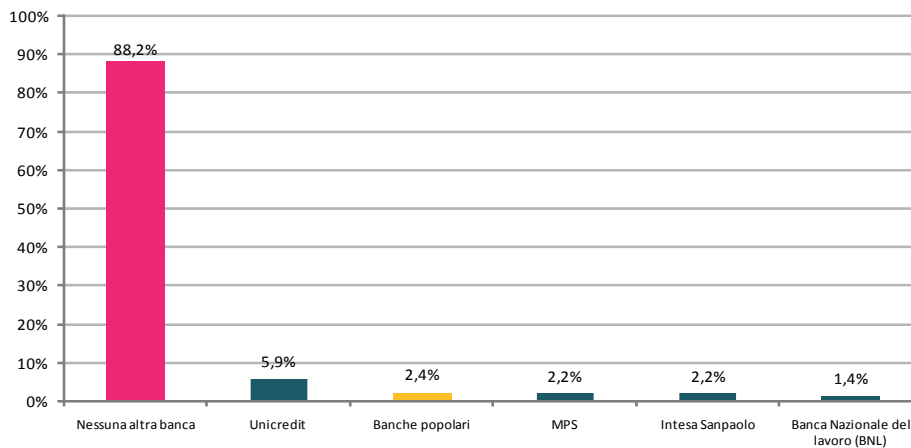
3.1 Structural characteristics

In absolute terms, the largest number of firms financed by CBs is settled in Lombardia, which is the largest and most industrialized Italian region. In relative terms, the highest incidence of enterprises financed by CBs is concentrated in the centre of Italy, followed by the northeast, while the lowest value

---

[8] The results of a logit regression, in which the dependent variable was a dummy equal to 1 if a firm was financed only by CBs and 0 otherwise, underline how the probability of having a CB as the only supporting bank increases for firms of micro and small size (coefficients of 1.041 and 1.043, respectively; significance levels of 0.1).

occurs in one of the islands. This figure is contradictory if compared with the distribution[9] of CBs and CB branches, since the highest concentration of CBs is in the northeast. In particular, in Trentino Alto Adige, where CBs hold a market share of 47.4%, only 9.4% of firms working in manufacturing and manufacturing services are financed by CBs. In the centre of Italy, CBs are lower in number, but larger in size. As an example, in Umbria, CBs finance a percentage of enterprises in the manufacturing industry that is twice their market share (Table A1). Regardless, the distribution of firms financed by CBs, either exclusively or in combination other banks, is statistically related to geographical area (Table A2.a).

CBs financed 11% of firms involved in either metal manufacturing and wood or wood and furniture production, while the shares of enterprises uniquely financed by CBs in the production of (i) technological items and (ii) transport, mail services and communication were, respectively 5.5 and 4%. In general, the market share of CBs by sector is homogenously distributed.

This homogenous distribution disappears once firms are sorted by size, and the differences become statistically significant (Table A2.b). The largest portion of firms financed by CBs comprised those with fewer than 5 employees (76.7%). With an increase in the number of workers, this percentage decreased to 0.7% for firms with more than 250 workers. Moreover, in the set of large enterprises, 3.2% were financed exclusively by CBs. Among firms with more than 50 employees, the percentage of firms financed by CBs increased to 7.2% (similar to the share of the smallest SMEs, which was 7.3%).

In sum, the presence of CBs has not necessarily translated into a larger share of firms financed by CBs. Moreover, the share of firms that are clients of CBs is larger among SMEs, although CBs have also financed larger firms.

3.2. Indebtedness and investments

Two main issues are related to indebtedness: i) the amount of the loans requested, as a signal of the healthy conditions of a firm; ii) the use of the loans (i.e., for investment or for new cash to pay old debts). As stated by Delgado et al. (2007), smaller banks are more specialized than larger banks in lending to smaller and opaque firms, thanks to their ability to exploit soft information and their proximity to customers. However, given their lower requirements in terms of information, CBs could attract customers with dangerous financial situations.

Firms financed by CBs are more heavily represented in the set of firms that had realized investments and that held a significant debt level[10] (Table A3.a). The data show that only 21% of the interviewed firms did not base their investments on same amount of self-financed capital. This percentage is similar for firms financed by CBs and those that were not. Self-financing is the most common form of financing investments. The second most popular methods found among the interviewed firms were medium- and long-terms debts. With respect to the amount of debt in comparison to the amount of investment among CB customers, 18.1% of firms had a level of medium- and long-term indebtedness lower than 25%, while 9.6% of firms financed their investment interlay with external funds (Table A3.b). It could be argued that, among CB customers, the share of firms able to finance investments with their own funds was the largest.

---

[9] The market share of CBs in the manufacturing industry is computed as the weighted share of firms financed by CBs over the total number of firms, while the share of branches is the number of CB branches over the total number of branches.

[10] The results of a logit regression, in which the dependent variable was a dummy equal to 1 if the firm was financed only by CBs and 0 otherwise, underline how the probability of having a CB as the only supporting bank increases for firms that have made investments in the last period (coefficient of 0.5; significance of 0.05), while it decreases for firms that show a low debt level (coefficient of -0.687; significance level of 0.01).

However, given the smaller size of CB customers, it could also be argued that the demand for capital was lower. A chi-squared test helps to clarify this point: The share of self-financing depends on size, irrespective of the main bank of the firm. In this case, CB customers are not different from other banks' customers.

With respect to the situation of firms that asked for external finances to invest, only 3.3% of enterprises asked for short-term debts; among these, 11.5% were customers of CBs. This share was higher when medium-term financing was considered. Finally, among SMEs that received conspicuous help from the public administration (i.e., greater than 75% of their capital), 27.5% had an open position with CBs. CBs lent to firms that invested mainly in three sectors: machineries (68.6%); real estate (23.7%); and software, websites and other services (23%). Comparing these figures with those of other banks, a point emerges: Firms financed by CBs invest more than others in real estate. However, the concentration of loans by industry and the firms' typologies increase the risks for CBs. Real estate and construction companies, to which CBs direct a significant proportion of loans, express significant and increasing difficulties (Tarantola, 2011), which could be one of the reasons for the worsening of the quality of CBs credits registered after 2010.

In 2010, in a situation of general credit crunch, credit rationing was not the main cause for the reduction in investments, particularly for CBs' clients. Among firms that suffer from credit rationing, 6.7% are linked to CBs (Table A3.d). This figure can, on one hand, underline how CBs have been better able to sustain their clients than other banks; on the other hand, it can represent a problem of selection bias.

The request for loans does not necessarily reflect a negative situation for a firm, since firms often need money for new investments. However, fewer than one quarter of enterprises have made new investments in the last three years (2008 to 2010). Focusing only on firms financed by CBs, 32.4% have made some investments. This figure is higher than that for firms financed by other banks. Moreover, 81.6% of enterprises that did not plan investments for the next year (i.e., 2012), the share of CB clients is higher than the overall market share (9.8% vs. 7.8%). More than 75% of firms did not invest; of these, CBs provided loans to 6.6%.

CBs have played an important role in sustaining firms facing reductions in production, particularly during the financial turmoil. Moreover, CBs' customers are more present among firms that have reduced their labour forces (17.2%). Analysing the labour dynamics, the share of firms with labour reductions of 5 to 15% is four points higher for CB customers than for customers of other banks. Forecasting the future dynamics of labour (2011 and 2012), it emerges that CBs mainly finance either stable or negatively growing enterprises.

Most of the firms financed by CBs are local; their businesses are located mainly in the area in which they are settled. In this study, among the enterprises uniquely financed by CBs, 43.7% based their income trading mainly at the local level[11]. However, firms with larger markets are also financed by CBs. In sum, 12% of CB clients were involved in regional markets for a share of up to 15% of their total businesses. Moreover, CBs represented the only financial institution for 15% of firms whose businesses operated at the national level. Finally, CBs financed almost 6% of firms that conducted more than 75% of their business abroad, while they supported 2.3% of firms trading only outside Italy. In comparison to other banks, with regard to internationalisation levels, CBs have mainly dealt with non-international firms (89.7%). However, these data are only two percentage points lower than the value for enterprises financed by other banks. Figure 3 sums up these results for CB customers, illustrating the cumulative value of firm turnover, sorted by the

---

[11] The results of a logit regression, in which the dependent variable was a dummy equal to 1 if the firm was financed only by CBs and 0 otherwise, underline how the probability of having a CB as the only supporting bank decreases for firms that trade abroad (coefficient of -0.746; significance level of 0.1).

final destinations of their trading. It emerges that firms have a predominantly local dimension. However, the share of firms financed by CBs with national and international perspectives is not negligible.

Figure 3. Firms' distribution by area of business
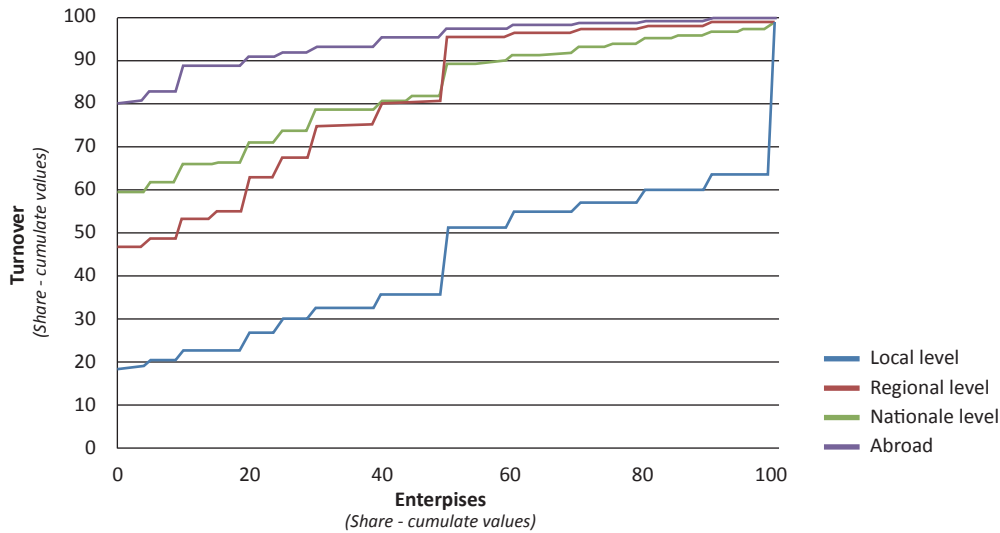
Source: MET Survey 2011

Regarding the amount of turnover, 42% of CBs' customers were subcontractors, while almost 40% were working on their own account. By comparison, the corresponding figure for firms financed by other type of banks is biased towards firms that work independently (48.5%). Considering the overall market share, CBs were the financial partners of 14.7% of firms whose turnover was primarily independent (between 50 and 75%).

Firms financed by CBs were less exposed to the effects of the credit crunch. However, through CBs support the local economy, they seem to be less active in promoting growth. In particular, CBs lent to 11.7% of firms that experienced a reduction in turnover of more than 15% in the period from 2008 to 2010, while they played a less important role in financing firms that forecasted business increases of more than 15% from 2011 to 2012. This strategy can lead to an increase in risky assets and a reduction in earnings.

3.3. Innovation and R&D propensity

CBs are more influential among enterprises that have introduced product innovation, either main or secondary, than among firms that have adopted process innovation. With regard to process innovation, CBs were found to play a more important role in those enterprises that had started secondary process innovations, with a market share of 9.5%. In general, CBs supported less dynamic firms: those that did not innovate from 2008 to 2012.

The focus on R&D describes the dynamism and the growth path of firms, and the role of banks is strategic in supporting R&D. The data show that CBs privileged firms that engaged in R&D activities between 2008 and 2010. CBs market share was 11.7%: three percentage points higher than both their overall market share and the share held by firms that did not engage in R&D. Two aspects need to be underlined: First, 34.2% of firms that decreased their R&D expenditures by more than 15% were financed

by CBs; second, the market share of CBs among firms that increased their R&D or that did not decrease their expenditure levels was above the overall market share of CBs (23.7% and 11%, respectively). However, CB customers are larger among firms that substantially reduced their R&D expenditures in the same period. This share reduced between 2011 and 2012. Finally, CBs were more relevant for firms that did not engage in any R&D activity between 2011 and 2012.

In sum, CBs, although still related to small and local firms, have moved to medium-large and broader business-oriented enterprises. The descriptive analysis shows how, among CB clients, there are also large firms that work, not only at the local level, but also in the international market. This fact is controversial. On one hand, it signals how CBs have tried to enter new market segments; on the other hand, it underlines how CBs have moved from their secure zone, based on small sizes, personal relationships and local dimensions, to a more challenging arena.

One of the most critical aspect concerns the role played by CBs in supporting the growth of firms, especially SMEs. Their growth is pivotal for local economies, since it might create a trickle-down effect and enhance the development of an area. CBs have not only financed mainly local firms, but they have also been active in supporting firms in distress. The growth of their focus to larger firms may result in a reduction in resources addressed to local actors.

In the period considered, CBs financed less dynamic firms as much as other banks did. CBs held market shares above their average in the case of firms that had introduced only secondary process innovations, that had been involved in R&D and that intended to increase their R&D in the next period. These figures only provide a picture of the situation in 2010; however, they are useful in crystallising some aspects and allowing for the emergence of new patterns of growth.

4. The econometric analysis

The econometric model focuses on the underlying factors that define the market share of CBs in each province, including the characteristic of firms financed by CBs and demand and supply controls. Although the survey conducted in 2010 was cross-sectional, it allows for an investigation into the primary important variables that impact the market share of CBs at the provincial level. The implemented regression is a simple regression, estimated through OLS on 2010 data[12]. Thus, the following model is estimated:

$$market\ share_i = \beta_1 firms'\ features_i + \beta_2 controls_i + \varepsilon_i$$

where the dependent variable is the share of firms financed by CBs in each province in the set of respondents for the MET survey. This proxy for market share takes into account only those firms that are financed exclusively by CBs. In absolute terms, 1,191 firms are *exclusively* financed by CBs, representing more than 90,000 enterprises. The set of variables describing firms' features groups firm share by province, based on identical characteristics (i.e., type of ownership, size). Control variables include mainly demand-side variables, such as the rate of unemployment by province and the value added by the manufacturing industry. In order to be representative, the data have been weighted.

In Table A3, we present the variables and some descriptive statistics. The pairwise correlations among the variables are presented in Table A4. We find a significant positive correlation between CBs' market

---

[12] The cross-sectional analysis may be biased by the choice of the year; however, 2010 was the only year available. An extension of the model will enlarge the panel and include other years.

shares and the share of firms trading mainly in other regions, as well as a significant positive correlation between CBs' market shares and the share of firms with high levels of indebtedness. The highest correlation is, however, the one between market share and the incidence of CB branches. Finally, we find a positive correlation with the share of value added by the manufacturing industries.

The econometric result confirms most of the results described above (Table A5[13]). CBs' clients are not large firms or firms with core businesses abroad. In fact, a larger presence of firms with more than 250 employees is associated with a lower market share of CBs in a province. With the same sign, but a lower impact, the coefficient of the variable "abroad" underlines how an increase of 1% in the share of firms trading abroad reduces the market share of CBs by 0.3 points. Moreover, as expected, firms financed by CBs face adverse economic conditions. Thus, the presence of a higher share of highly indebted firms increases the market share of CBs.

However, some unexpected findings also emerge. In particular, CBs are more important in provinces in which firms trading also outside their region of origin are relatively more numerous. This result does not support the idea that CBs move towards larger firms, *per se*; however, a more open economic environment is related to a larger presence of CBs. On one hand, it could be that firms trading outside the region may be healthier and less vulnerable to idiosyncratic risks. CBs might than benefit from less local customers. On the other hand, firms trading in broader areas have less control over their business. The higher market share of CBs in areas with riskier firms may signal situations in which CBs have substituted for other banks, even when their lending tools in assessing risks were not appropriated. In this case, CBs could end up worsening the quality of their portfolio.

Other relevant variables concern the demand side (i.e., the geographic and economic characteristics of the provinces in which the firms are established). The higher presence of a network of CB branches has a positive impact on CB market share. Quite surprisingly, the market share of CBs is higher in more industrialized areas—a finding that challenges the traditional view that CBs are more relevant in rural areas, where agriculture is prominent. As expected, the results underline the important role played by CBs in poor areas, where unemployment rates are higher. Finally, with regard to geographic variables, the market share of CBs is lower in mountain areas and in provinces with big cities.

5. Conclusion

This paper sought to underline the most relevant characteristics of firms financed by CBs. In particular, the study found that the investigated enterprises existed in manufacturing industries, which are usually not targets for these banks. The findings show the relevance of CBs for this capital-intensive industry. The penetration of CBs by region was not always related to the presence of a widespread network of CB branches, like Trentino Alto Adige. One of the reasons for this may be the fact that, in these regions, CBs have smaller sizes and are less able to finance firms in capital-intensive sectors, such as the manufacturing industry. It could also be that CBs have decided to allocate more resources to new industries. Among the various reasons for this choice could be the existence of a power imbalance among the board of directors with regard to other industries (i.e., artisans, farmers and, more recently, real estate entrepreneurs). CBs

---

[13] The VIF value computed for the variables seems to exclude problems of multi-collinearity, since the highest value found was 1.49 for the variable "share of firms of large dimension".

have lent mainly to firms facing or forecasting negative dynamics in terms of number of employees and turnover. Moreover, CBs are more present in areas with high unemployment. Once again, their role as supporter of the local economy is clear.

The statistical description and the econometric model facilitate our understanding of the main characteristics of CB clients. The picture for the manufacturing industry in 2010 describes how CBs, though still attached to the conventional business model, have moved in other directions. Firms financed by these banks were working, not only at the local level, but also at the national one. CBs' main business was addressed to SMEs; however, CBs also financed firms with more than 250 employees. The slow enlarging of their business towards non-conventional customers could be explained by two hypotheses: first, this could have been the result of either an active strategy (i.e., CBs consciously move from smaller firms to larger firms) or a passive strategy (i.e., larger firms move to CBs because of the crisis). This evolution of the CB business model involves both positive and negative aspects. On one hand, it could signal how CBs, having increased their size and turnover and improved their lending tools, are now able to spread their market to new customers. On the other hand, in a pessimistic scenario, it might underline how CBs have increased the riskiness of their business and been captured by large-sized firms. This scenario is the most plausible, since the majority of firms financed by CBs faced a negative growth of employees, production and R&D. However, this open question cannot be solved with the available data. It must remain, for the moment, an unanswered research question.

CBs have played an important role in the financial turmoil that started in 2007. They have granted firms loans during a period when larger banks have reduced their loan rates. However, CBs seem to remain linked to a supporting role, especially in the case of poor-performing firms. Instead, they should move to sustain local development by investing in more innovative and dynamic firms.

Appendix: Tables

TABLE A1. Credit cooperative banks and market share by region (2010, units and average percentages)

	Number of CBs*	Share of CBs* branches	Market share of CBs in the manufacturing industry**
Abruzzo	8	10.0	14.6
Basilicata	4	11.6	4.0
Calabria	18	14.8	13.6
Campania	22	9.1	5.0
Emilia-Romagna	23	11.5	23.1
Friuli-Venezia Giulia	15	20.6	24.0
Lazio	25	10.7	11.1
Liguria	0	3.1	7.1
Lombardia	45	10.3	22.5
Marche	20	14.2	25.3
Molise	2	7.5	3.9
Piemonte	9	3.4	9.5
Puglia	23	7.7	19.6
Sardegna	2	0.8	2.5
Sicilia	28	10.6	13.9
Toscana	32	12.2	10.4
Trentino-Alto Adige	94	45.1	8.9
Umbria	4	5.9	34.7
Valle d'Aosta	1	15.2	7.0
Veneto	40	16.6	13.3

Source: *Banca d'Italia; **MET survey

TABLE A2. Chi-squared Tests

a. Firms by size and financing institution (2010, percentages)

1. Is the firm financed by a CB?

	Yes	No	
Abruzzo	2.55	0.30	2.84
Basilicata	1.69	0.23	1.92
Calabria	2.69	0.41	3.09
Campania	6.14	0.44	6.59
Emilia-Romagna	6.68	0.52	7.20
Friuli-Venezia Giulia	2.05	0.38	2.42
Lazio	7.92	0.89	8.82
Liguria	2.49	0.15	2.64
Lombardia	10.43	1.06	11.49
Marche	3.92	0.68	4.60
Molise	1.41	0.12	1.52
Piemonte	7.07	0.42	7.49
Puglia	4.47	0.59	5.06
Sardegna	2.70	0.21	2.91
Sicilia	4.13	0.50	4.62
Toscana	8.89	1.07	9.96
Trentino-Alto Adige	2.68	0.26	2.94
Umbria	2.94	0.27	3.21
Valle d'Aosta	0.96	0.22	1.18
Veneto	8.55	0.93	9.48
Total	90.34	9.66	100.00

Pearson chi2(19) = 122.3304   Pr = 0.000

2. Is the firm financed ONLY by a CB?

	Yes	No	
Abruzzo	2.23	0.36	2.59
Basilicata	3.13	0.28	3.41
Calabria	4.35	0.41	4.76
Campania	6.12	0.49	6.61
Emilia-Romagna	4.84	0.60	5.44
Friuli-Venezia Giulia	2.53	0.43	2.95
Lazio	9.59	1.03	10.62
Liguria	2.84	0.18	3.03
Lombardia	6.06	1.14	7.20
Marche	3.85	0.86	4.71
Molise	1.99	0.16	2.16
Piemonte	4.78	0.45	5.24
Puglia	4.61	0.64	5.26
Sardegna	3.04	0.24	3.27
Sicilia	4.81	0.55	5.36
Toscana	9.03	1.10	10.13
Trentino-Alto Adige	3.06	0.34	3.40
Umbria	2.86	0.30	3.16
Valle d'Aosta	1.47	0.18	1.65
Veneto	8.01	1.05	9.06
Total	89.21	10.79	100.00

Pearson chi2(19) = 95.4233   Pr = 0.000

b. Firms by size and financing institution (2010, percentages, not weighted)

1. Is the firm financed by a CB?

	Yes	No	
Small	62.9	60.1	60.4
Medium	26.0	26.2	26.1
Big	8.7	10.7	10.5
Large	2.5	3.0	3.0
Total	9.7	90.3	100.00

Pearson chi2(3) = 8.244 Pr = 0.041

2. Is the firm financed ONLY by a CB?

	Yes	No	
Small	67.1	59.8	60.4
Medium	23.4	26.4	26.1
Big	7.1	10.8	10.5
Large	2.4	3.0	3.0
Total	7.7	92.3	100.00

Pearson chi2(3) = 22.123 Pr = 0.000

TABLE A3. Investments and debts

a. Investments strategy by financing bank

	Sample	CBs' customers	Non CBs' customers	CBs' customers weighted
Firms that have not invested	75.7	67.6	74.9	6.6
Total	100	100	100	7.3

b. Ways to finance the investments

Percentage of	Sample [*]	CBs' customers [**]	Non CBs' customers [***]	CBs' customers weighted
Self-financement				
0%	21.5	21.7	23.6	9.9
1 - 25%	1.1	0.9	0.8	8.1
26 - 50%	10.5	8.9	9.1	8.3
51 - 75%	16.2	6.3	13.2	3.8
76 - 99%	3.8	12.4	2.7	31.9
Short term bedts				
0%	91.4	93.6	91.9	10.0
1 - 25%	1.4	0.3	1.0	2.1
26 - 50%	2.9	1.2	3.7	4.0
51 - 75%	0.5	0.8	0.6	14.4
76 - 99%	0.5	0.3	0.1	6.4
100%	3.3	3.8	2.6	11.5
Medium & long term debts				
0%	68.8	77.6	71.2	11.1
1 - 25%	0.4	0.7	0.4	18.1
26 - 50%	22.1	13.5	16.8	6.0
51 - 75%	0.6	0.4	0.8	6.2
76 - 99%	1.4	1.2	2.2	8.4
100%	6.7	6.5	8.7	9.6
Share capital				
0%	99.6	99.8	99.6	9.8
1 - 25%	0.0	0.0	0.0	0.0
26 - 50%	0.1	0.2	0.2	15.0
51 - 75%	0.0	0.0	0.0	0.0
76 - 99%	0.0	0.0	0.0	0.0
100%	0.2	0.0	0.2	0.0

Percentage of	Sample [*]	CBs' customers [**]	Non CBs' customers [***]	CBs' customers weighted
Leasing				
0%	88.5	81.9	88.5	9.1
1 - 25%	1.5	7.6	0.5	49.5
26 - 50%	2.9	2.6	3.1	9.0
51 - 75%	0.6	0.1	0.9	2.2
76 - 99%	0.6	0.9	0.7	15.5
100%	6.0	6.8	6.3	11.1
Public financements				
0%	90.8	85.4	92.4	9.2
1 - 25%	4.7	8.4	5.0	17.6
26 - 50%	3.8	5.7	1.6	14.8
51 - 75%	0.0	0.0	0.1	0.0
76 - 99%	0.1	0.2	0.1	27.5
100%	0.6	0.2	0.9	3.4
Other				
0%	97.5	98.9	98.5	10.0
1 - 25%	0.1	0.0	0.0	2.4
26 - 50%	1.0	0.9	1.0	8.9
51 - 75%	0.0	0.0	0.0	0.0
76 - 99%	0.0	0.0	0.0	0.0
100%	1.4	0.1	0.4	1.0
Total	100.0	100.0	100.0	9.8

c. Industry to which investments have been addressed

	Sample [*]	CBs' customers [**]	Non CBs' customers [***]
Real Estate	10.7	23.7	9.0
Machinary	73.4	68.6	73.6
Land	3.4	0.7	3.7
Software, services and internet sites	22.0	23.0	20.0
Copy rights and patents	0.6	0.4	0.7
Human capital	3.1	0.9	2.7
Marketing, advertisement, environment	3.7	7.3	2.6
Others	10.6	6.5	13.8

d. Credit crunch

Impact of the credit crunch on the investment choice	Sample [*]	CBs' customers [**]	Non CBs' customers [***]	CBs' customers weighted
Limited	64.3	68.2	63.8	7.8
Medium	27.2	24.1	29.4	6.5
Huge	8.4	7.7	6.8	6.7
Total	100.0	100.0	100.0	7.3

Notes: * where the total represents the firms in the sample that have invested; ** where the total represents the firms in the sample that have invested and simultaneously are CB's customers; *** where the total represents the firms in the sample that have invested and simultaneously are not CB's customer

TABLE A4. Description of the explicative variables and main descriptive statistics

Variable Name	Variable Definition & Source	Mean	Median	Std.dev.
Firms' features (at province level)				
Coops	Share of firms with a cooperative form. Data from the MET survey (2010).	16.1	1.2	3.2
Large firms	Share of firms declaring to have more than 250 employees. Data from the MET survey (2010).	0.1	0.1	0.1
Poor perfoming firms	Share of firms declaring to a negative variation of the turnover. Data from the MET survey (2010).	22.2	19.8	12.4
Non local	Share of firms declaring to trade mainly in other regions. Data from the MET survey (2010).	4.4	3.5	4.8
Abroad	Share of firms declaring to trade abroad. Data from the MET survey (2010).	12.0	9.3	9.0
Indebtedness firms	Share of firms declaring to have a share of debt higher than 100% of the capital. Data from the MET survey (2010).	0.1	0.0	0.5
Control variables (at province level)				
CB's impact	Share of CB's branches over the total number of banks' branches. Data from Banca d'Italia (2013).	10.7	9.8	8.6
Mountains	Dummy variable. Value=1 if the province is mainly mountains. Data from Istat (2013).	0.1	0	0.3
Manufacturing	Value added from manufacturing sector over total value added. Computations on Istat data (2013).	19.8	19.7	7.8
Unemployment rate	Unemployment rate. Data from Istat (2013).	2.8	1.7	3.9
Big cities	Dummy variable. Value=1 if in the province the main town has more than 200.000 inhabitants. Data from Istat (2013).	0.1	0	0.4

TABLE A5. Pairwise comparison among variables

	Market share of CB	Coops	Large firms	Poor perfoming firms	Non local	Abroad	Indebtedness firms	CB's impact	Mountains	Manufacturing	Unempl- oyment rate
Coopsw	-0.094										
Large firms	-0.183	0.013									
Poor perfoming firms	0.143	-0.072	-0.236*								
Non local	0.263*	0.085	0.139	-0.225*							
Abroad	-0.070	0.091	0.286*	-0.098	0.307*						
Indebtedness firms	0.191*	-0.008	0.059	0.187	-0.043	-0.041					
CB's impact	0.392*	-0.084	-0.005	-0.002	0.097	0.054	-0.046				
Mountains	-0.170	-0.041	0.058	-0.085	0.072	-0.043	-0.068	0.215*			
Manufacturing	0.222*	-0.127	0.431*	-0.189*	0.216*	0.162	0.080	0.115	0.049		
Unemployment rate	0.077	0.002	-0.055	-0.111	0.208*	0.120	0.084	-0.181	-0.174	-0.142	
Big cities	-0.157	0.010	0.142	-0.025	0.009	-0.012	-0.069	-0.104	-0.141	-0.158	0.385*

Note: * Significant at 5 per cent

TABLE A6. The effects of firms' features on the market share of CBs

	Market share of CB
Coops	-.151
	(.214)
Large firms	-30.480***
	(10.160)
Poor perfoming firms	.202
	(.133)
Non local	.959***
	(.200)
Abroad	-.304**
	(.141)
Indebtedness firms	4.558**
	(1.805)
CB's impact	.797***
	(.176)
Mountains	-13.493***
	(3.348)
Big cities	-5.993**
	(2.385)
Manufacturing	.552***
	(.189)
Unemployment rate	.622**
	(.242)
Cons	-6.515
R_squared	0.478
Nr. observation	109

Notes: *Significant level at 10 per cent; **Significant at 5 per cent; *** Significant at 1 per cent.

Robust standard errors clusterized by provinces are in brackets

References

Alessandrini, P. & Zazzaro, A. (2001). L'evoluzione dei sistemi finanziari locali: i nodi da sciogliere. In Alessandrini, P. (Ed.) *Il sistema finanziario Italiano tra Globalismo e Localismo.* Bologna: Il Mulino, p. 77-94.

Alessandrini, P., Presbitero, A.F. & Zazzaro, A. (2006). Banks, Distances and Financing Constraints for Firms. Università Politecnica delle Marche, *Economics Working Paper* No. 266.

Alessandrini, P., Papi, L. & Zazzaro, A. (2003). Banche, Territorio e Sviluppo. *Moneta e Credito*, 1: 3-43.

Banca d'Italia, Official Web Site, Statistics section, www.bancaditalia.it/statistiche/basi-dati/bds/index.html

Banca d'Italia, Relazione annuale, various issues, https://www.bancaditalia.it/pubblicazioni/relazione-annuale/index.html

Beishenaly, N. (2007). Savings and Cooperative Banks: Social Approach to Credit Rationing. Paper submitted to the Savings Banks Academic Award 2008. Retrieved from: http://text.123doc.org/document/1212526-savings-and-cooperative-banks-social-approach-to-credit-rationing-docx.htm

Berger, A.N., & Udell, G.F. (1995). Relationship Lending and Lines of Credit in Small Firm Finance, *Journal of Business*, 68: 351-382. http://dx.doi.org/10.1086/296668

Birchall, J. (2013). The Potential of Co-Operatives during the Current Recession; Theorizing Comparative Advantage. *Journal of Entrepreneurial and Organization Diversity*, 2(1): 1-22.

Birchall, J. & Hammond Ketilson, L. (2009). Resilience of the Cooperative Business Model in Time of Crisis. Sustainable Enterprise Programme. Geneva: International Labour Organization.

Bonaccorsi di Patti, E. & Gobbi, G. (2001). The Changing Structure of Local Credit Markets: Are Small Business Special?. *Journal of Banking and Finance*, 25: 2209-2237. http://dx.doi.org/10.1016/S0378-4266(01)00191-1

Boyd, J.H., & Runkle D.E. (1993). Size and Performance of Banking Firms: Testing the Predictions of Theory. *Journal of Monetary Economics,* 31(1): 47-67. http://dx.doi.org/10.1016/0304-3932(93)90016-9

Colle, R. (1998). The Importance of Relationships to the Availability of Credit. *Journal of Banking and Finance,* 22: 959-977. http://dx.doi.org/10.1016/S0378-4266(98)00007-7

Delgado, J., Salas, V. & Saurina, J. (2007). Joint Size and Ownership Specialization in Bank Lending. *Journal of Banking and Finance,* 31(12): 3563-3583. http://dx.doi.org/10.1016/j.jbankfin.2007.01.009

Draghi, A. (2009). Credito Cooperativo nelle Economie Locali. Speech at the workshop "Solidarietà nella Crisi, il Credito Cooperativo nelle Economie Locali", CrediUmbria, December 10, Città della Pieve, Perugia.

Fama, E. (1985). What's Different About Banks?. *Journal of Monetary Economics*, 15(1): 29-39. http://dx.doi.org/10.1016/0304-3932(85)90051-0

Federcasse, Official Web Site www.creditocooperativo.it.

Ferri, G., & Messori M. (2000). Bank-Firm Relationships and Allocative Efficiency in Northeastern and Central Italy and in the South. *Journal of Banking and Finance,* 24(6): 1067-1095. http://dx.doi.org/10.1016/S0378-4266(99)00118-1

García-Appendini, E. (2007). Soft Information in Small Business Lending, EFA. Retrieved from: www.greta.it/credit/credit2006/talk/Tuesday_26/7_Appendini.pdf.

Goglio, S. (2007). Local Credit and Territorial Development: General Aspects and the Italian Experience. *University of Trento, Department of Economics and Management, Discussion Paper 27.*

Guitiérrez, E. (2008). The Reform of Italian Co-Operative Banks: Discussion of Proposals. *IMF Working Paper* 08/74. http://dx.doi.org/10.5089/9781451869361.001

Lucchetti, R., Papi. L., & Zazzaro, A. (2001). Efficienza del sistema bancario e crescita economica nelle regioni italiane. In Alessandrini, P. (Ed.) *Il sistema finanziario Italiano tra Globalismo e Localismo*. Bologna: Il Mulino, p. 115-146.

Machauer, A. & Weber, M. (2000). Number of Bank Relationships: an Indicator of Competition, Borrower Quality, or Just Size?, *CFS Working Paper*, 6.

Magri, S. (2007). The Financing of Small Innovative Firms: the Italian Case. Banca d'Italia, *Temi di Discussione,* 640.

O'Brien, D. & Wagenvoort, R. (2000). Some Empirical Findings on the Characteristics of Cost-Efficient Credit Institutions. *Economic and Financial Report*, 2000/01.

Palomo Zurdo, R.J. & Sanchis Palacio, J.R. (2008). Un Anàlisis del Crèdito Cooperativo en España: Situaciòn Actual, Expansiòn Territorial y Proyecciòn Estratégica. *Estudios de Economia Aplicada* 26 (1): 89-132.

Petersen, M.A. & Raghuram, G.R. (1994). The Benefits of Lending Relationships: Evidence from Small Business. *The Journal of Finance* 49 (1): 3-37. http://dx.doi.org/10.1177/088636879402600113

Stiglitz, J. & Weiss, A. (1981). Credit Rationing in Markets with Imperfect Information. *American Economic Review*, 71(3): 393-410.

Tarantola, A.M. (2011). L'Economia delle Province Autonome di Trento e di Bolzano". Speech at the presentation of the Annual Regional Report, Banca d'Italia, Trento, June 4th.

JEOD

JOURNAL OF ENTREPRENEURIAL AND ORGANIZATIONAL DIVERSITY

www.jeodonline.com