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# THE ROLE OF GUARANTEES TO ACCESS FINANCIAL MARKETS: A STUDY OF ITALIAN COMPANIES

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## Abstract

**How to cite this paper:** Martiniello, L., Marcello, R., & Savio, R. (2020). The role of guarantees to access financial markets: A study of Italian companies [Special issue]. *Corporate Ownership & Control*, 18 -

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**ISSN Online:** 1810-3057

**ISSN Print:** 1727-9232

**Received:** 23.08.2020

**Accepted:** 09.11.2020

**JEL Classification:** Q14, Q18, G23, G28

**DOI:**

Access to credit in agriculture pursues the important objective of allowing the development of the agricultural sector. In recent years the need for a new paradigm rises. It aims for sustainable finance in agriculture and uses of guarantee instruments in order to mitigate risks, lower costs, and expand the opportunities for access to credit. This article aims to analyze the guarantee instruments available on the Italian financial market in relation to several variables including sector, size, age, and geographical location of the company. From an analysis of the sample of data on the guarantees provided by ISMEA (Italian Service Institute for the Agri-Food Market), emerges the presence of territorial disparities in the use of guarantees, more widespread in northern Italy, and a higher cost of debt for micro-enterprises and for funds dedicated to innovation. Research results are in line with previous research that points out the importance of guarantees to reduce financial risks and increase access to bank financing. The paper contributes to the existing research in this field by analysing the effect of guarantees on the cost of debt and by suggesting an increase in the use of these instruments in some sectors and in some areas of Italy.

**Keywords:** Agriculture, Public Guarantees, Access to Credit, Cost of Debt, Funding Options

**Authors' individual contribution:** Conceptualization - L.M., R.M., and R.S.; Methodology - L.M., R.M., and R.S.; Formal Analysis - L.M., R.M., and R.S.; Resources - L.M., R.M., and R.S.; Writing - Original Draft - L.M., R.M., and R.S.; Writing - Review & Editing - L.M., R.M., and R.S.

**Declaration of conflicting interests:** The Authors declare that there is no conflict of interest.

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## 1. INTRODUCTION

Agriculture is an economic activity characterized by a high level of risk: production risks, market risks, legal and environmental risks as well as financial risks related to the ability to invest and innovate successfully. Obtaining credit is largely influenced by the level of risk and information asymmetries that can increase difficulties and borrowing costs as well as other dimensional, environmental, and cultural factors that often create disparities throughout the different Italian areas (Swinen & Gow, 1999; Martin & Roychowdhury, 2015).

However, local farmers need financial resources to make innovations and invest in the growth of small businesses which, in turn, plays a strategic role in the development of the territories.

In a context of continuous decline in investment funds in the agricultural sector, this paper reflects upon the prospects and advantages of promoting guarantees (sureties, co-guarantees, counter-guarantees) as innovative financial instruments in agriculture (Aleksandrova, 2017).

In the past, the Rural Development Plans - RDPs (*Piani Rurali di Sviluppo*) played an important role in the development of agriculture in Italy and

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across the EU. In particular, the European rural development policy which was put in place in the period from 2007 to 2013, and continued by the 2014-2020 plan, pursued the objective of supporting the rural development actions of the Member States (ISMEA, 2016).

The RDPs have financed and continue to finance a wide variety of projects and actions even though the implementation of rural development policy in Italy seems to be proceeding at a rather slow pace, especially in some regions. Consequently, in the past, the dominant approach to financing agricultural enterprises was that of public funding. Local governments and international institutions have offered (and in part continue to offer) credit at very low rates in order to increase the competitiveness of banking markets. However, the interventionist approach did not generate the results anticipated, producing only some short-term benefits. Conversely, low rates interests produced an excessive demand for credit, favoring the wealthier farmers and generating a culture uninclined to repay debts due to very low recovery percentages of credit granted by the main national and international institutions in the past.

In recent years, Community constraints on State aid to enterprises and the progressive restriction of national budgetary policies have reduced the traditional privileged channel of access to credit for agricultural enterprises. Agricultural holdings were therefore forced to tap into the standard channels of bank credit which are more onerous and subject to stricter and standardized evaluation criteria.

The credit market has not been prosperous in recent years. In Italy, after four years of sharp decline (2012-2015) and two years of stagnation (2016-2017), credit for businesses resumed a weak growth only in 2018 with a constant low rate of increase in loans.

Agricultural businesses and the areas of southern Italy, particularly suffer from this situation. At the same time, different forms of guarantees aimed at lowering costs and expanding the opportunities for access to credit in the agricultural sector have found widespread use alongside the more traditional financing instruments (ISMEA, 2018).

Ten years after their introduction, the time is ripe for an evaluation of the usefulness of these instruments and their potential in an important sector for the Italian economy which encounters many challenges in pursuing development and innovation, mainly due to onerous and difficult access to credit (Moll, 2005).

After years of stagnation, in 2015, concurrently with a slight improvement in the general economic situation, a gradual recovery of investments in the agricultural sector also began. In spite of this gradual recovery, in 2017 investments in agriculture in real terms were still over 30% lower than in 2007, with a much sharper negative trend than the analogous downward trend experienced in the EU (around -16% between 2007 and 2016). The propensity to invest dropped to 27% in Italy (previously 41.7% in 2007) and is several points lower than the EU average value (EAFRD, 2018).

The situation is expected to worsen after the COVID-19 pandemic.

However, resources are needed to invest, while the stock of credit disbursed to agricultural, forestry and fishing enterprises shows decreasing values whether we observe a wide time frame (2011-2017) or whether we take a shorter time frame into consideration (2016-2017). The negative trend particularly regards medium-long term investments (over 12 months), albeit with a very slight recovery in 2018 attributable to an increase in loans for the purchase of machinery (+2.4%) and the purchase of rural properties including land (+3.4%).

On the subject, a quality survey on the access to credit for agricultural enterprises administered by ISMEA in December 2017 to a panel of agricultural holdings appears interesting.

According to this survey, the share of agricultural operators who went to a bank to request a loan in 2017 was 21.8%, in line with the share of 2016. Almost all applicants obtained the loan requested (93.4% of the applicants) against a small share (2.9%) who refused the loans due to the terms and conditions imposed by the bank which were too costly and the remaining 3.4%, to whom the loan had been explicitly declined by the lender.

With reference to the objectives of the loan, the aforementioned survey finds that: 1) 23.2% of the holdings requested a loan for medium to long-term investments, 2) 23.9% to finance day-to-day business operations, 3) 23% for marketing activities, 4) 15.8% of respondents requested a loan to achieve growth targets on the domestic market and 5) 14% on the foreign market.

Two main categories of specific needs and requirements arise:

- *financing for investments* aimed at financing the enhancement, innovation, and growth of the farm/agricultural enterprise which also includes financing for equipment/machinery and developing new markets;

- *financing for operating activities* aimed at supporting the company's current expenses including marketing activities.

The latter can also be achieved through a series of "advances" aimed at helping the company obtain resources to support ordinary expenses by exploiting future revenue, while medium to long-term financing is required for the former.

Furthermore, it is interesting to observe the trend in recent years of the so-called rate of decay, i.e., the incidence of new loans that become non-performing. The Bank of Italy and ISMEA (Institute of Services for the Agricultural Food Market) data on agri-food indicate a deterioration of lesser intensity compared to other economic sectors: the ratio between the non-performing loans and bank loan applications in agriculture went from 7% at the end of 2011 to 14% at the end of 2016, that of the food industry from 6% to 12% against an incidence of impaired loans of Italian companies which increased, reaching a share of 18% at the end of 2016. In terms of non-performing loans, therefore, the agricultural sector does not appear to present a higher risk trend compared with the average of Italian companies.

The reasons for such difficult access to credit, for which only a small part of companies in the agricultural sector turn to the banking system, can be ascribed not only to sector risk but also to factors such as:

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- the absence of financial culture and the ability of agricultural entrepreneurs to deal with the banking system;

- the absence of financial statements due to the presence of numerous sole proprietorships and a small number of holdings operating as a company, equivalent to about 6% (Istat data);

- the need for agricultural entrepreneurs to resort to personal guarantees and collateral.

These are, therefore, some of the problems that need to be addressed in order to improve access to credit for agricultural businesses by providing initiatives for the dissemination of financial culture, *ad hoc* evaluation processes by the banking system (already introduced by some credit institutions), and by implementing forms of guarantee other than personal guarantees (EStIF, 2018).

Due to the issues raised by the literature, this paper answers the following research questions:

*RQ1: Are public guarantees a useful tool to ease financial market access and cost of capital reduction to Italian agricultural enterprises?*

*RQ2: Are sector, size, location, types of investment, discriminating factors for Italian agricultural enterprises asking for financial resources.*

The paper is organized as follows: Section 2 examines relevant literature. Section 3 presents the research methodology. Section 4 describes guarantees as a tool to access the financial market. Section 5 contains the findings from the analysis. Section 6 discusses the results obtained. Finally, Section 7 presents the conclusions and limitations of the paper identifying future research activities.

## 2. LITERATURE REVIEW

In literature, many agricultural economists have consistently highlighted the requirements of capitalizing agriculture firms. After years of State interventions to support agricultural development, with measures often favouring large-scale farmers and agricultural trading interests, in more recent years, some authors (Fairbairn, 2014; Isakson, 2014) observed there has been a systematic reduction in the role of the State in the agricultural finance sphere that has benefited private financial actors and larger farming interests at the expense of small-scale farmers.

Most experts expected that, with the State out of the way, the private sector, mainly banks, would step into setting up new financing arrangements. Nevertheless, many authors (Mohan, 2006; Martin & Clapp, 2015; van der Kamp, 2017) described farms as risky financial investments in comparison with other economic sectors such as manufacturing or services. Consequently, they observed that private capital is reluctant to invest without assurances from the State, such as contract enforcement, bankruptcy laws, and state-backed collateral.

In particular, Mohan studied the role of agricultural loans in supporting agricultural production. He appraised the performance of agricultural loans during the period 1950-51 to 2003-04 and found that an increasing number of rural branches resulted in a rising level of rural credit. He also commented on the sectoral disparity in the disbursement of agricultural loans, scarcity of medium and long-term lending, and inadequate

lending levels to small and marginal farmers. Uppal (2009) evaluated the performance of public, private, and foreign banks in India and studied various issues related to priority sector like low profitability, transaction cost, government intervention, etc. and suggested strategies to address these issues. Ahmed (2010) evaluated the role of public and private sector banks and observed various factors that can affect the scheme of bank financing to priority sectors suggesting proper recovery mechanisms should be used by banks when facing liquidity problems. In particular, Kaur (2012) studied the priority sector advances by the private, public sector and foreign banks for the period 1997-1998 to 2008-2009 and concluded that private and public and sector banks have achieved their 40% target but foreign banks achieved their targets for small-scale industries, export credit, and overall target too. Armendáriz and Morduch (2010) state that "Moneylenders are routinely characterized as exploitative monopolists who systematically squeeze the poor. The poor, for their part, are seen as vulnerable, driven to pay usurious rates out of desperation" (p. 27).

Finally, some authors analyse the role of guarantees provided by public authorities and their impact on financial stability and on companies' cost of debt (Schich, 2018; Liu, Cullinan, Zhang, & Wang, 2016).

Nevertheless, the importance of guarantees and collateral to reduce financial risks and increase access to bank financing by agricultural enterprises, this area has been under-explored in literature. Consequently, this paper aims at filling this gap through the analyses sample of 4.674 guarantees issued by a Public Institution ISMEA between 2008 and 2018.

## 3. METHODOLOGY

The study starts with the debate on financing firms in agriculture.

Exploratory and observational research design has been used (Stebbins, 2001). For the purpose of the study primary and secondary data has been collected.

The issues explored by the paper have not been deeply analyzed by Academia, especially with reference to the Italian context.

The research examines the phenomenon of guarantees by examining a sample of quantitative data. Specifically, official data on 4.674 guarantees issued by ISMEA between 2008 and 2018 have been collected through the ISMEA database. Some descriptive statistics have been used to perform the analysis of guarantees.

The purpose of descriptive statistics is to facilitate the description and summarization of data providing some graphical representation of the data and a logical explanation of them.

Along the way, we explore the fundamental relations between guarantees and the cost of debts in the light of some additional explanatory variables as firms' size, firms' geographical position, firms' age, and types of investments.

We interpret observations and try to identify patterns and trends in the data.

#### 4. GUARANTEES AS A TOOL TO ACCESS THE FINANCIAL MARKET

Guarantees have always been widely used in the banking sector to solidify the financial position of the agricultural company (although not limited to agribusinesses) or to allow the young entrepreneur to access the credit.

One of the main intermediaries - indeed the only one in this sector with a State guarantee - is the ISMEA, an Institution established in 1999.

It offers:

1. *Direct guarantees* (pursuant to the decree of March 22, 2011, of the Ministry of Agricultural, Food and Forestry Policies in coordination with the Minister of Economy and Finance) which pursue the objective of favoring access to credit for agribusinesses through a) the integration of the offer of guarantee on the farmer's part; b) the presence of the State guarantee against the protections provided.

2. *Subsidiary guarantees* automatically issued by ISMEA in relation to agricultural credit operations carried out pursuant to article 43 of Legislative Decree No. 385 of September 1, 1993, that arise under particular conditions indicated by the legislation that regulates their activity.

The main positive effects of the use of direct guarantees on the credit system are ascribable to:

- reduction of the rate applied to the company;
- easier access to credit due to the lower risks that the bank has to bear and the possibility of reducing the weight of the Basel II framework.

The data provided by ISMEA on the direct guarantees granted between 2008 and 2018 on 4.674 applications received are analyzed below.

The type of guarantees granted is mainly the Surety (FID) which represents 95.8% (in value) of the guarantees requested for a total of €655.53 million against 4.5% (in value) of the co-guarantees (COG) for a total of €28.46 million. The average duration of the loans considered is approximately 10 years. No counter-guarantees were provided.

It is also noted that:

- the volume of guarantees requested from ISMEA (see Table A.3 in the Appendix) peaked in the years 2012-2014, probably in the face of the strong credit crunch of those years which made the guarantees all the more necessary in order to access credit, which then tapered off in subsequent years;

- according to the data provided to ISMEA by partner banks, the use of sureties led to a significant reduction in the cost of loans, which went (on average) from 8.59% in the absence of guarantees to 4.84% in the presence of a guarantee;

- the reduction in financing costs is less evident if a co-guarantee is used. The data is summarized by year in Table A.2 (Appendix), to better appreciate the effect of the guarantees compared with the rates of the reference period.

The reasons for the low prevalence of co-guarantees are due to:

- more complex procedures (from a three-way relationship: bank/entrepreneur/guarantor to a four-way relationship: bank/entrepreneur/guarantor/co-guarantor), which implies more bureaucratic steps and allows for greater possible business relations among the involved parties;

- financing times longer than when using surety;

- except in the case of offering guarantees of the same kind, the co-guarantee may provide for the coexistence of different forms of guarantees, i.e., State guarantee (ISMEA) and the direct guarantee of a "*Confidi credit consortia*".

Furthermore, the absence of counter-guarantees appears to be ascribable to difficulties in collaboration among the various institutions and in particular to the scarcity of large agricultural Confidi credit consortia capable of wielding this instrument which, instead, is used more successfully in other sectors.

#### 4.1. The role of agricultural confidi

The "Confidi" are private entities set up to support access to credit for businesses. Developed in the seventies in conjunction with the progressive worsening of financing conditions especially for smaller companies, they, therefore, pursue the objective of facilitating access to credit and reducing its cost by setting up guarantee funds.

In recent years, the development of the activity of the Confidi credit consortia has reflected the affirmation of the approach according to which guarantees are of primary importance in contrasting credit rationing towards SMEs (European Commission, 2005) as they reduce information asymmetries that characterize the bank-business relationship and allow for a lower absorption of assets.

The current market organization distinguishes the Confidi credit consortia into two categories: larger (registered in the general list pursuant to art. 106 Consolidated Law On Banking) and smaller (covered by art. 112 and 112-bis Consolidated Law On Banking).

The Confidi sector has also shown a deterioration in the guarantees issued in recent years (see the Bank of Italy hearing). The causes of this weakening are ascribable to:

- the economic crisis and the credit crunch that hit the Italian market in 2010 and 2011, leading to an increase in business failures and bankruptcies and the worsening of the financial situation of some Confidi;

- reduced public funding to support the development of the territories;

- the fact that falling into the category of Confidi credit consortia supervised by the Bank of Italy entails increasing costs;

- the stricter Basel requirements on the basis of which not all contributions granted to the Confidi are attributed to their assets but are considered debts, which entails the obligation of a greater capitalization for the company (given the necessary proportionality ratio between capital and guaranteed credit).

In light of the deterioration of the Confidi assets which, in turn, reduces the possibility of granting guarantees to companies, the trade associations have asked for the possibility to compute hybrid capital instruments deriving from public funding into assets (first pillar) of the Confidi.

The presence of numerous small Confidi fragmenting the system and multiplying the actors present on the market can allow for the pursuit of local development strategies. However, it is important that in order for the smaller Confidi

credit consortia to overcome the challenges and difficulties linked to their small size, they seek forms of collaboration throughout the territory aimed at ensuring better conditions and time frames for the provision of guarantees. It is equally important that they diversify and expand the services offered to businesses. Failure to do so would put them at risk of being scarcely competitive with other operators in the supply chain, and therefore, of little use to businesses.

At a territorial level, there are also some disparities in terms of the ability of smaller Confidi to operate effectively, also in relation to territorial

policies, offering guarantees on medium and long-term loans and carrying out the role of counter-guarantee and co-guarantee to the top-level Confidi credit consortia.

It is, therefore, necessary to work on the expertise and skills of smaller Confidi through targeted development policies that make it possible to avoid technological delays and a lack of useful cognitive and management tools (e.g., access to databases and risk centers, etc.) ensuring rapid and effective evaluation processes capable of responding efficiently to the needs of businesses applying for credit.

**Table 1.** Types of guarantees

Sureties	The beneficiary requests the surety from ISMEA through the lending bank. By virtue of the surety, the lending bank can obtain payment of the guaranteed sum from ISMEA in the event of default on the principal debtor's part and upon specific request made to ISMEA.
Co-guarantees	ISMEA issues the co-guarantee alongside a similar one issued by a Confidi agricultural credit consortia that forwards an application. Similarly, to the surety, the lending bank can obtain payment of the guaranteed sum through ISMEA in the event of default on the principal debtor's part and upon request made to ISMEA.
Counter-guarantee	The guarantee given at the request of Confidi agricultural credit consortia. The ISMEA counter-guarantee protects the bank from the risk of default on the part of the main guarantor, the Confidi credit consortia. The payment of the counter-guarantee may be requested by the bank following the non-payment of the underlying guarantee by the counter-guaranteed agricultural credit consortia.

**Table 2.** Types of agricultural Confidi

	<i>Larger Confidi</i>	<i>Smaller Confidi</i>
Confidi	The larger Confidi are characterized by a complex activity and can carry out (residually) the activity of financial intermediaries in addition to that of the collective guarantee of credit lines	Smaller Confidi are required to register on the list pursuant to art. 112, c. 1, Consolidated Law on Banking and their financial assets amount to less than €150 million
Agricultural Confidi	Confidi with share capital made up mostly of agricultural enterprises	Confidi with share capital made up mostly of agricultural enterprises
Strengths	<ul style="list-style-type: none"> <li>• subject to the prudential supervision of the Bank of Italy</li> <li>• stringent evaluation processes related to the supervisory regulatory framework</li> </ul>	<ul style="list-style-type: none"> <li>• strong link with the territory that makes finding synergies possible with other local institutions (Chambers of Commerce, local banks, etc.)</li> <li>• proximity and greater ability to satisfy the needs of local businesses</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>• high management costs</li> <li>• need to develop large volumes of business to achieve economic breakeven</li> </ul>	<ul style="list-style-type: none"> <li>• possible technical-organizational deficiencies</li> <li>• possible inefficient evaluation processes</li> </ul>

## 5. ISMEA DATABASE ANALYSIS

### 5.1. Guarantees and firms sector activities

The sample observed includes over 4.674 companies in various sectors of business activity from breeding, which is one of the most relevant sectors, to viticulture (Table A.1 in Appendix).

The companies under observation submitted an application to ISMEA to obtain personal sureties. It is noted that 81.4% of the requested guarantees had a positive outcome against 8.2% accounting for rejected applications and the remaining 10.4% accounting for applications that were either not completed or were renounced by the applicant (2018 data).

The cost of financing appears to be lower than that applied by the banking system in the absence of guarantees. This means that the guarantees provided by ISMEA have been a valid tool not only to access credit but also to lower the cost of debt for agricultural businesses.

There are no significant differences in the loan rate in the event that it is disbursed to a young company, where it is considered a young one founded in the previous 3 years.

### 5.2. Guarantees and firms geographical area

To better understand who resorted to the use of this tool in the last 10 years (2008-2018), the values of the applications received by ISMEA are analyzed according to the geographical area.

Although the south has a prevalently agricultural vocation, it is observed that the beneficiaries of the guarantees (in particular of the sureties) are located in the north (east and west) which overall presented more than 50% of the applications. The south follows with 23% (by the value of the guarantees requested) for a total of €155.7 million and the center with 15%. The islands are in the last place with 12%. The value of the guarantees is equal to approximately 53% of the loans requested.

It follows that companies in the north were much more active in applying for guaranteed loans than companies located in other geographical areas. On the other hand, guarantees would be of greater usefulness in the south where the cost of debt is on average higher.

In fact, in the south, the cost of financing is higher by more than one percent. Even in the presence of sureties, the cost of debt in the south

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and the islands is approximately 5.4% against approximately 4.1-4.8% in the rest of the country.

The question arises whether the greater use of guarantee instruments and the lower financing costs are ascribable to the size of the firms observed.

### 5.3. Guarantees and firms size

The sample under analysis distinguishes micro-enterprises, small enterprises, and medium-sized enterprises.

The data analyzed shows, as expected, that larger companies obtain on average better financing rates (4.21%) likely because they are perceived to be less risky. Among these companies, in any case, the highest rates are registered in the islands, while it is the northeast that boasts the lowest financing costs (3.58%).

On the other hand, the record low is held by micro-enterprises whose cost of guaranteed loans averages 4.9%. The worst financing rates are found in the south (5.57%) and the islands (5.45%).

Lastly, small agricultural enterprises have an average cost of financing of 4.88% (in the presence of guarantees), and the worst financing rates also in this case are in the south (5.28%) and on the islands (5.26%).

In short, the companies that bear the highest financing costs, albeit beneficiaries of sureties, are the micro-enterprises of the south and of the islands in relation to which specific support policies should be considered (Table A.3 in Appendix).

### 5.4. Guarantees and type of investment

To better understand the needs of agricultural entrepreneurs who enter the credit market, it is also interesting to observe the purposes for which these guarantees were requested. In particular, the question arises whether these requests are in part destined for innovation or research, both strategic levers for the development of modern agricultural enterprises, and what in each case is the cost of the financing obtained. That is, it is our aim to understand if the cost of debt varies significantly depending on the type of investment to be financed.

The analysis of the data shows that the highest funding costs relate to research. The number of guarantees requested (and therefore the amount of financing) for this activity is, however, negligible with only 194 thousand out of 683 million guarantees. The requests for loans and guarantees for technological innovation were slightly more substantial representing 12% of the total guarantees (in the space of approximately 10 years) accounting for a value of €81.45 million of guarantees requested.

Data regarding the consolidation of short-term liabilities (€138.14 million) appear worrying. They (by value) the prime reason for requesting guaranteed loans, a clear signal of financially distressed companies that have probably implemented incorrect debt policies in the past by financing long-term needs with short-term loans.

In second place by percentage value of requests, there is the acquisition of real estate (15%) followed by land improvement (13%). It is interesting to note, as already mentioned, fourth place (12%) is occupied by technological innovation.

Analysing in detail the data relating to the companies that have requested sums of money for technological innovation, it appears that the investments in innovation are made by mostly older, more established companies (84% of the total) and located in the north-east and north-west of the country.

Looking at the data broken down according to the geographical area, it appears that the centre and the south have requested less funding (and guarantees) for innovation and that it is above all the more established companies to invest in these activities. Young companies, therefore, seem to need additional incentives for innovation, especially in the central and southern areas of the country.

## 6. DISCUSSION

Agriculture is an essential sector capable of generating added value for the national economy. There are, as we have seen, various ways to finance agriculture, among which bank loans which have become increasingly important. Good practice in Italy and some European countries has led to the creation of institutions specialized in agricultural credit, such as ISMEA, as well as to the proliferation of private entities (Confidi) appointed to provide guarantees and other financial services to businesses, often their own members. The advantages of this system include, in general, access to lower credit cost, lower transaction costs, low cost for monitoring credit default, and limitation of problems linked to asymmetric information.

The offer of dedicated financial products and assistance services to agricultural businesses has been sufficiently widespread in recent years even if in the face of still high financing costs due to spreads even higher than 5% (as in the case of agricultural loans). Guarantee instruments such as sureties, co-guarantees, counter-guarantees can facilitate access to credit for agricultural businesses and reduce the cost of financing, while allowing banks to mitigate the weight of the Basel II framework, thus making more resources available to the market. It is, therefore, necessary to ensure the system of disbursement of guaranteed loans functions efficiently through the development of synergies among all the parties involved such as Banks, ISMEA, Guarantee Fund, and Confidi credit consortia, all of which have the capacity to play an important role at a territorial level by reducing the time and costs of access to credit, also for the smaller agricultural businesses.

In particular, the sureties provided by ISMEA had excellent effects on the financial system, making it possible to reduce the cost of business loans.

However, some critical issues come up:

1) the number of guarantees issued by ISMEA could be expanded through more stringent collaborative relationships with the banking system;

2) the time frame for guaranteed loans to be issued should be sped up to meet the requests of applicants who in some cases have had to wait even longer than 6 months to see the procedural process completed and the loan disbursed;

3) among the financial engineering instruments, the co-guarantees and the counter-guarantees are used too little or not used at all, in both cases due to the difficulty of coordinating with the Confidi credit consortia system which fails to exploit the role of the counter-guarantee.

From a geographical point of view, the beneficiaries of the guarantees (in particular of the sureties) are located in the north (east and west) while the use of this instrument should be reinforced in the areas of the south and the islands which, moreover, bear higher financing costs.

From a dimensional point of view, micro-enterprises are the most disadvantaged in accessing credit, especially those in the south and the islands, for which specific support policies should be considered. Lastly, the funding requested for innovation and for research is still lacking especially funding destined for young companies that require additional incentives to invest in innovation.

## 7. CONCLUSION

In the last 10 years in Italy, the ISMEA guarantee instruments, and in particular the surety instrument, have made it possible to support investments in agriculture by providing a solution to the problem of high-interest rates and the difficulties in accessing credit for agricultural businesses.

The overall good functioning of the disbursement system of guaranteed credit which includes ISMEA banks, Confidi, Guarantee Fund, etc., is central to the development of agricultural credit and to directing greater financial resources towards innovation by placing agricultural businesses in a position to invest in their growth and in the development of their respective territories.

The paper shows some critical issues that must be overcome to ensure further improvement of the system that leads to the provision of guaranteed loans such as:

1) simpler procedures and leaner, more efficient communication at the base of the relationship among each player in the system;

2) reduction in the timing of the disbursement of guaranteed loans especially in the case of co-guarantees and counter-guarantees;

3) increase in the number and volume of guarantees issued above all to the south and to micro-enterprises;

4) reduction of financing costs for research and innovation projects through forms of guarantee.

Overall, the analysis carried out leads to the conclusion that it is necessary to increase and strengthen the use of guarantee instruments more and more, especially in the southern territories and the islands (where their use is less widespread) and with particular reference to micro-enterprises and young businesses. It is also necessary to encourage the use of guarantee instruments to support investments in the research and innovation sectors for which agricultural enterprises, in particular the younger ones, could encounter particular difficulties in accessing credit. This can ultimately be overcome by activating these mechanisms of guarantee.

Limitations of this work concern the lack of additional information on the firms' structure and governance and date on the ability of those firms to repay their financial debts. These limits regard the needs for an expansion of the variables and factors under observation. Future research avenues should address the government role and the public policies necessary to balance the specific financial needs of agriculture firms with the freedom required by private operators in the financial markets.

They are expected to provide an in-depth study of the sample under analysis relative to the years 2019 and 2020 and to carry out statistical analyses aimed at investigating the effect of the corporate structure and corporate governance on the capacity and cost of access to credit of agricultural enterprises.

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## APPENDIX

Figure A.1. Total amount requested to ISMEA

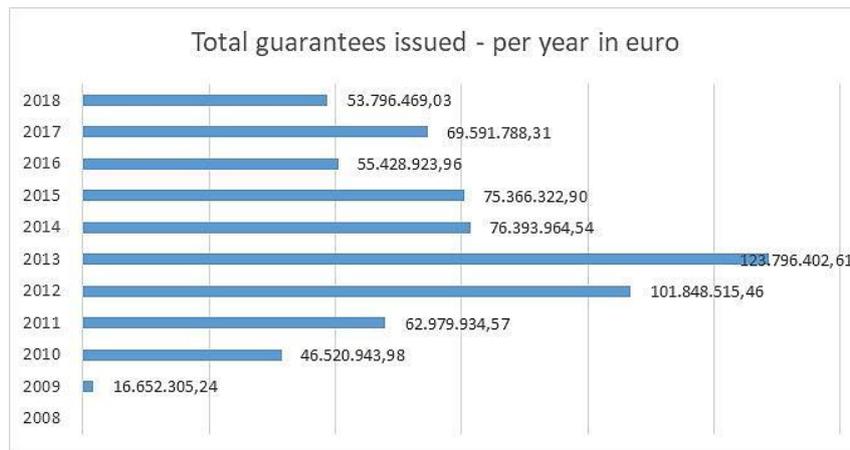
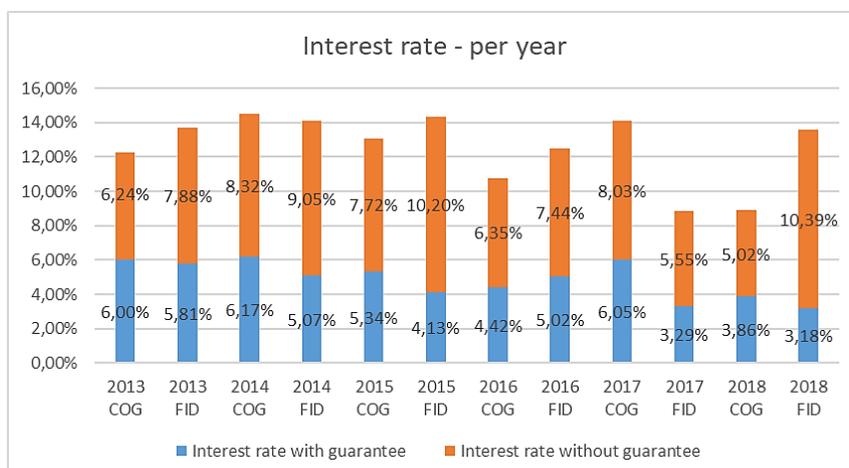


Figure A.2. The reduction of the financing rate after ISMEA guarantees



**Table A.1.** Interest rate after guarantees by firms' sector

<i>Sector of activity</i>	<i>Firms' interest rate</i>	<i>Young firms interest rate</i>	<i>Number of firms</i>
Citrus growing	4.7%	4.7%	157
Breeding	4.6%	4.9%	1.618
Floriculture	4.8%	5.3%	235
Nuts	4.1%	5.7%	70
Fruit growing (including grape)	4.6%	4.7%	378
Olive growing	5.2%	5.0%	230
Horticulture	4.5%	5.4%	971
Specialized arable land	6.3%	5.3%	551
Viticulture	4,5%	4.9%	460

**Table A.2.** Interest rate after guarantees by firms' location

<i>Geographical area</i>	<i>Total debt in euro</i>	<i>Amount guaranteed in euro</i>
Center	186.356.721	99.815.963
Islands	150.199.644	84.081.901
North East	328.204.751	161.734.202
North West	359.979.767	182.598.702
South	259.090.657	155.762.686
<i>Total</i>	<i>1.283.831.541</i>	<i>683.993.454</i>

**Table A.3.** Interest rate after guarantees by firms' size

<i>Firms' size</i>	<i>Center</i>	<i>Island</i>	<i>North East</i>	<i>West</i>	<i>South</i>	<i>Average</i>
Medium	4.3%	5.1%	3.6%	4.1%	4.8%	4.2%
Micro	4.0%	5.5%	4.2%	5.1%	5.6%	4.9%
Small	4.8%	5.3%	4.5%	4.6%	5.3%	4.9%
<i>Total</i>	<i>4.2%</i>	<i>5.4%</i>	<i>4.2%</i>	<i>4.8%</i>	<i>5.4%</i>	<i>4.9%</i>