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The Role of Credit Consortia in the Financial Structure of Sardinian Companies During the SARS-CoV-2 Crisis

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Abstract: In this paper, we analyzed the role of credit consortia in supporting SMEs of the Italian region of Sardinia around and during the SARS-CoV-2 pandemic crisis. Credit consortia (or credit guarantee schemes) are financial companies whose institutional role is to support small firms needing bank lending who are individually weak in the bank–firm relationship. Credit consortia are particularly relevant in Italy, where they mitigate credit restrictions for SMEs by supplying guarantees to the bank, allowing for partial coverage of potential losses, providing peer-monitoring activity, and collectively negotiating more favorable interest rates and other conditions with banks. During the SARS-CoV-2 pandemic, credit consortia had a crucial role in supporting Sardinian SMEs with guarantees and obtaining government financial support. The evolution of Sardinian companies' financial structures during the SARS-CoV-2 pandemic shows that the confidi-supported firms have low capitalization and are financially fragile yet capable of good returns. The liquidity provided by the government during the pandemic loosened these constraints, boosting the available liquidity, which translated, in short, into higher investment and higher sales. The demographics of Sardinian companies in 2019–2022 and the volumes of loans and savings showed a strengthening of debt capital payments, increased collections, and a progressive improvement of the Sardinian companies' net financial positions.

Keywords: credit consortia; SARS-CoV-2 pandemic; bank–firm relationship; SMEs

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Citation: Desogus, Marco, Enrico Sergi, and Stefano Zedda. 2024. The Role of Credit Consortia in the Financial Structure of Sardinian Companies During the SARS-CoV-2 Crisis. *Risks* 12: 190. https://doi.org/10.3390/risks12120190

Academic Editors: Eulália Mota Santos and Margarida Freitas Oliveira

Received: 30 September 2024
Revised: 21 November 2024
Accepted: 25 November 2024
Published: 28 November 2024

1. Introduction

Credit consortia (or credit guarantee schemes) are financial companies whose institutional role is to support small firms needing bank lending who are individually weak in the bank–firm relationship. According to Leone et al. (2013), credit consortia "offer mutualistic guarantees aimed at alleviating financial constraints on their small or medium-sized shareholding or syndicated enterprises". Credit consortia are particularly relevant in Italy, accounting for almost 40 percent of the total outstanding volume of guarantees to SMEs (Columba et al. 2010).

Technically, credit consortia mitigate credit restrictions for SMEs by supplying guarantees to the lending bank, allowing for partial coverage of potential losses, providing peer-monitoring activity, and acting like debtors' unions for collectively negotiating more favorable interest rates and other conditions with banks.

Usually, credit consortia are strictly linked with business associations, which helps with information sharing among firms within the business association and the credit consortia and allows for some lobbying activity.

Credit consortia played a significant role during the SARS-CoV-2 pandemic, supporting SMEs with guarantees and easing the bank–firm relationship in all credit processes.

In this paper, we analyzed the evolution of Sardinian SMEs' financial equilibrium and the role played by credit consortia in supporting it during and after the SARS-CoV-2 pandemic.

In 2020, Italy was one of the European countries most affected by the pandemic, which caused significant contractions in the business economy. According to the Centro Studi Confcommercio (CSC) (2024), Italy's Gross Domestic Product (GDP) lost EUR 139 billion, or over EUR 2600 per inhabitant. The supply and demand crisis impacted specific economic activity sectors and aggregate variables. Of the EUR 139 billion in lost product in 2020, approximately EUR 129 billion were attributed to the collapse of domestic consumption, including spending by non-residents in Italy.

Das (2020) highlights territorial differences in the forecasted and actual growth rates between countries, emphasizing how policies against the pandemic and vaccination campaigns affected trends and growth rates.

These territorial differences affected the incidence numbers and the level of government restrictions. According to the "Osservatorio Nazionale sulla Salute nelle Regioni Italiane (2021, November)" report, SARS-CoV-2 infections in Sardinia initially remained lower than in other Italian regions, particularly during the early stages of the pandemic in 2020. However, by late 2020 and early 2021, Sardinia saw a significant rise in cases, aligning with the national trend. Despite this, the region did not face the same level of healthcare strain as northern Italy. Throughout 2021, as vaccines were rolled out, the case numbers stabilized, although fluctuations remained due to new variants. Sardinia's trajectory generally mirrored national patterns, with some regional variations in infection rates and healthcare system pressure.

In 2021, thanks to the vaccination campaign and the subsequent reduction in the spread of infections and easing restrictions, Italy recovered about two-thirds of the GDP contraction seen in 2020, with a GDP growth of +6.6%.

In early 2021, Sardinia's regional economy remained weak, being influenced by the complex epidemiological situation and restrictions on social activities, which severely impacted the tourism sector. In Sardinia, the crisis primarily affected the services sector, which was highly sensitive to containment measures, particularly in tourism, transport, entertainment, and non-food retail. The industrial sector also faced contractions, with significant reductions in the chemical and oil industries. Corporate profitability decreased due to lower turnover, leading to an increased need for liquidity, which was met through expanded credit and public support measures, as will be discussed later.

During 2021, economic activity showed significant improvements from April to June, followed by more moderate growth in the second half of the year, as the Bank of Italy estimated in its quarterly regional economy report (Bank of Italy, 2021 and 2022). Increased consumption, a modest investment rebound, and growing foreign demand for key Sardinian products supported this recovery. However, estimates by Prometeia () indicated that by the end of 2021, Sardinia's GDP was still 4.5% lower than pre-pandemic levels.

In the manufacturing sector, economic conditions improved unevenly across different sectors. The global economic slowdown continued into the last quarter of 2021, being driven by the rise in infections linked to the Omicron variant, production input shortages, and geopolitical tensions that culminated with Russia's invasion of Ukraine. These tensions led to a significant increase in raw material prices, particularly energy, exacerbated by the Russia–Ukraine conflict in 2022. Despite these challenges, in 2021, the profitability of Sardinian companies strengthened, being primarily driven by increased sales but partially constrained by rising prices for energy, commodities, and other raw materials, especially in the manufacturing sector. Corporate liquidity remained high, supported by favorable access to credit, but investment activity remained limited, especially in the industrial sector.

At the national level in 2020, according to Banca d'Italia (2023a), Italian banks continued to meet companies' demands for financing. Supply conditions remained generally favorable, being supported by ongoing monetary policy measures and public guarantees. According to the Ufficio Studi ABI—Associazione Bancaria Italiana (2024), loans in Italy grew by 4.1% in 2020 compared to the previous year, with Sardinia showing a slightly higher growth of 4.3%. This trend held even when focusing solely on production activities, with Sardinia recording an increase of 8.8%, close to the national figure of 8.4%. These data suggest that despite the economic challenges generated by the pandemic, Italian banks continued to support businesses through financing, being aided by monetary policies and government guarantees.

The financial structure of Sardinian companies and the role of regional credit consortia (confidi) during the SARS-CoV-2 pandemic revealed that firms supported by confidi were typically low-capitalized and financially fragile. However, these firms could generate good returns, and the liquidity provided by government measures during the pandemic alleviated these constraints. The government support led to higher available liquidity, translating into increased investment and sales in the short term. Evidently, this government spending had more macro-effects, but discussing these effects is beyond the scope of this paper.

The remainder of the paper is structured as follows: Section 2 presents the literature review, Section 3 outlines the Sardinian economic framework, Section 4 discusses the evolution of the pandemic, Section 5 compares the differential evolution of a general sample and confidi-supported firms, and Section 6 discusses the results and concludes.

2. Literature Review

Our study aims to examine the role of credit consortia (also known as credit guarantee schemes, CGSs, or mutual guarantee societies, MGSs) on Sardinian SMEs during and after the SARS-CoV-2 pandemic crisis. Numerous studies in the literature have investigated related questions, providing a foundation for understanding the financial challenges SMEs face during economic downturns and the role of credit consortia in supporting these businesses.

The literature review refers to three key areas: (1) studies examining credit consortia during the SARS-CoV-2 pandemic and other crises, (2) research analyzing SME behaviors in Italy during past economic crises, and (3) investigations into changes in financial structures influenced by the SARS-CoV-2 pandemic. This organization highlights how credit consortia have worked as financial stabilizers during crises, provides insights into SMEs' crisis responses in Italy, and examines the broader shifts in financial structures brought about by pandemic-related disruptions.

Several studies have focused on the Spanish credit market, specifically investigating the role of credit consortia, mainly called MGSs. In their paper, Corredera-Catalán et al. (2021) explore the Spanish guarantee model and how regional governments, in collaboration with MGSs, responded to the economic difficulties caused by the SARS-CoV-2 pandemic. Their study underscores the effectiveness of the guarantee schemes used by public administrations to improve SMEs' access to financing, helping stabilize the economy while minimizing the strain on public finances. Similar to our study, they evaluate the role of MGSs during crisis periods but focus solely on their effectiveness in supporting the lending capacity without analyzing the financial performances of the financed firms. Unlike our study, they do not incorporate balance sheet variables to assess firm performance during the crisis period.

De la Fuente-Cabrero et al. (2019) evaluated loan defaults in the portfolios of Spanish MGSs to understand their evolution between 2003 and 2012, covering both economic growth and recession periods. They highlight how MGS support influences the distribution of defaults based on the company size and sector of activity. However, this study investigated MGS lending using different risk factors. And it did not compare the financial performances of firms that used MGSs with those that obtained financing directly from banks or were not supported, as we do in our research.

Gómez et al. (2016) investigated SME access to financing through MGSs in Spain during the 2010 economic crisis. Their findings indicate that SMEs with MGS-backed financing generally had better access to bank loans than those without such guarantees.

However, the impact of reducing financing costs was less conclusive. Our results will show that for Sardinian firms, the cost of financing is higher when the funding source is an MGS.

Briozzo and Cardone-Riportella (2016) examine Spanish SMEs' access to credit and subsidies with credit guarantees during crisis periods compared to standard years. Similar to our study, they compare direct credit channels through official credit institutions with bank credit guaranteed by MGSs. They highlight that these guarantees can serve as countercyclical tools, noting that mutual guarantee schemes cover only a limited portion of the Spanish credit market, indicating a relatively reduced role in credit guarantee activities.

While other studies have investigated the behavior of Italian MGSs before the pandemic, research has yet to focus on their response to the recent economic crisis caused by SARS-CoV-2 in Italy. Considering less recent publications on the Italian credit market, Gai et al. (2016) analyzed the determinants of defaults among firms that received SME loans guaranteed by MGSs and counter-guaranteed by the Italian Central Guarantee Fund from 2010 to 2011. They found that the proportion of counter-guaranteed loans in MGS portfolios increases the default risk. This can be explained by the fact that SMEs financed through MGSs are smaller and more vulnerable during crises. In our study, we will demonstrate how support from MGSs enables these SMEs to access essential resources, fostering positive growth trends. This support is well invested in businesses that, without MGSs, would likely be unable to secure the resources needed to withstand economic downturns.

Caselli et al. (2021) examined the loan failure risk associated with public credit guarantees, distinguishing between banks and MGSs. Their study assessed the Italian SME credit market during the 2008 crisis, finding that banks provided better loan screening in the manufacturing sector than MGSs despite the challenges of evaluating smaller enterprises. Cusmano (2018) studied the relationship between credit guarantee schemes and MGSs across European countries, examining their role in supporting SME financing during the 2008 financial crisis. The findings suggest that guarantee schemes are most effective when they deeply understand the market and industry dynamics specific to the SMEs they support. These publications on the Italian market are relevant because they allow us to compare similar scenarios in which public intervention prevents financial difficulties for vulnerable businesses during times of crisis. Like these publications, our results highlight the resilience of SMEs due to public intervention.

Another area of research has extensively examined the impact of the SARS-CoV-2 pandemic on firms' financial structures, focusing on how shifts in economic conditions and increased uncertainty have affected capital allocation, debt management, and financial stability. Studies such as those of Halling et al. (2020), Acharya and Steffen (2020), Li et al. (2020), and Gopalakrishnan et al. (2022) indicate that during periods of heightened uncertainty, firms' capital structure decisions have led to an increase in debt financing. This greater reliance on debt can be linked to firms' precautionary needs and the financial challenges posed by crisis conditions. Additional studies by Prakash et al. (2023), Huang and Ye (2021), and Nguyen Kim (2023) investigate the pandemic's impact on the capital structure and debt levels of firms in India, China, and Vietnam, respectively. Additionally, D'Amato (2020) studied Italian SMEs before and after the global financial crisis, emphasizing that the short-term debt channel is more sensitive than the long-term one, supporting the findings of previously cited articles.

Similarly, Wang et al. (2024) demonstrates that extending debt maturity in response to SARS-CoV-2 shocks helps firms avoid potential maturity constraints, lowers debt financing costs, and alleviates liquidity pressures. In a crisis scenario, particularly during a pandemic shock, the uncertainty in the external environment amplifies risks from asset-liability maturity mismatches, leading to a decline in firm performance. Extending debt maturity can help alleviate these mismatches.

Considering the Italian credit market, SMEs' debt levels were supported by government intervention, which provided them with easier access to financial resources during the pandemic. Analyzing the performances of these financed firms will help determine whether, without public guarantees, these SMEs would have had sufficient internal resources to achieve positive performance. Unlike the previously cited studies, which primarily focus on the financial structures of firms during the SARS-CoV-2 crisis, our research examines the performances of financed firms by tracking changes in financial indicators. We analyze shifts in debt and capitalization levels during the pandemic, highlighting that firms using MGSs exhibit higher debt exposure compared to the broader firm population that used direct bank financing. Typically smaller in size, these firms tend to prefer debt over equity due to the support provided by public credit guarantees.

Considering the three literature streams, financial support is one of the simpler and quicker responses for supporting the real economy during financial or economic crises. The experiences of the 2008–2012 crisis highlight that credit guarantees can effectively minimize the strain on public finances while helping SMEs overcome the crisis. In these cases, MGSs prove to be locally effective when they deeply understand the market and industry dynamics specific to the SMEs they support, and the intervention result most suited in these cases is the double support of immediate liquidity provision and debt maturity extension, so as to keep the firms' financial equilibrium.

Regarding methodology, the paper by Khurana et al. (2024) adopts a similar approach to ours. It analyzes the effects of SARS-CoV-2 on firm performance across various industries by examining liquidity and financial ratios, including the net working capital, quick ratio, debt–equity ratio, and financial autonomy rate. This study indicates a negative impact on specific sectors. It reveals a positive relationship between debt financing, working capital management, and firm performance while finding a negative correlation with financial autonomy. In our study, the average debt level is higher for MGS-supported firms due to their smaller size and reliance on government financial support, leading them to prefer external assistance over financial autonomy. While the study by Khurana et al. (2024) analyzes firms' responses to the crisis, our research distinguishes itself by comparing the performances of firms that are not supported with those supported through MGSs.

The SARS-CoV-2 pandemic has severely impacted SMEs, highlighting the need for effective financial support mechanisms. MGSs are crucial in providing credit guarantees to firms, particularly during economic crises. Our study aims to investigate the effects of SARS-CoV-2 on SME credit and explore the role of MGSs in supporting these businesses during this challenging time.

Additionally, our study differs from the cited works, as we use financial data both from firms financed through direct lending channels and those not and compare these with firms financed through the intermediary channel of MGSs. Only some studies in the literature have access to such detailed data for multiple years on firms supported by MGSs, as these entities are typically private, which adds value to our research.

Our methodology is based on a descriptive approach, focusing on the evolution of financial data before and after the pandemic. Despite extensive research on MGSs, significant gaps remain. Most studies focus on pre-pandemic periods or past economic crises, neglecting the recent challenges posed by SARS-CoV-2 in Italy. While many examine the lending capacity of MGSs, they often do not pay adequate attention to the financial performance of the firms they support. Moreover, the existing literature primarily examines MGSs in contexts outside of Italy, leading to a need for updated research specific to the Italian landscape during and after the pandemic.

Our study addresses these gaps by providing an analysis of MGSs during the SARS-CoV-2 pandemic and incorporating balance sheet variables to evaluate the financial performance of firms that receive MGS-backed financing compared to those utilizing direct lending channels. By leveraging comprehensive financial data over multiple years, our research will offer valuable insights into the effectiveness of MGS support, ultimately informing policymakers and financial institutions about enhancing SME resilience during crises.

3. The Sardinia Framework

During the SARS-CoV-2 crisis, the number of registered companies showed a slight increase compared to pre-pandemic years due to the effects of support measures in terms of liquidity, credit, and fiscal and social security provisions, followed by a decline in 2022 (Figure 1). More in detail, a significant decline is observed in the number of companies in the trade sector, with a reduction of 931 units from December 2019 to December 2021 (reaching a decline of 1850 companies by the end of 2022). The manufacturing sector decreased by over 4.7%, the extractive sector declined by 11.1%, and transport and logistics contracted by approximately 3.1%. Sectors showing growth, as expected, include health services (+13.2%), real estate activities (+12.3%), electricity and gas supply (+12.0%), and business services (+6.8%).

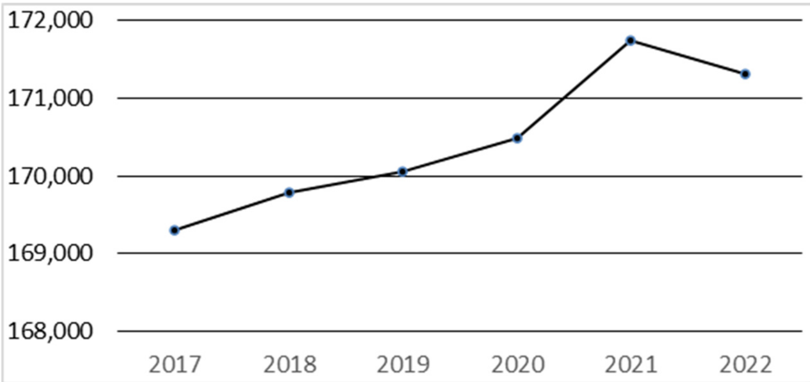

Figure 1. Total number of companies in Sardinia, years 2017–2022. Source: own elaborations on InfoCamere data.

3.1. Government Financial Support

To ensure resilience in the economic system during the SARS-CoV-2 emergency, it was crucial to preserve the levels of credit leverage, particularly in fragile or partially compromised economic scenarios. This included implementing guidelines set by the Italian government to maintain the effective functioning of the banking–business system. In response to the crisis, the Italian government focused on strengthening public guarantee funds rather than directly injecting liquidity into the production system or households. This strategy maintained the role of banks as financial intermediaries and encouraged a quantitative expansion of credit.

An essential role was also given to the "private" guarantees provided by credit consortia, which further reduced bank provisions and mitigated risks through increased counter-guarantees offered by the Central Guarantee Fund for SMEs (FCG). Legislative Decrees No. 18, 20, and 34 of 2020 (known as "Cura Italia", "Liquidità", and "Rilancio") primarily allocated resources toward direct public guarantees, with zero weighting on provisions and reinsurance for credit guarantee consortia. These measures helped to prevent an additional credit crunch, counteracting the decline in creditworthiness caused by the lockdown and averting potential crises in both the corporate and banking sectors.

While reducing credit leverage below a certain threshold may initially appear beneficial for banks due to lower provisions and reduced risk indicators, prolonged credit restriction threatens the stability of the production and entrepreneurial landscapes (Desogus and Casu 2020). Our analysis highlights the effectiveness of government measures and the significant role of credit consortia in preventing this adverse dynamic, supporting corporate liquidity and, ultimately, system stability.

3.2. Loans

During 2020, the Italian government implemented several actions to counteract the effects of the pandemic on the national economy and promote credit inclusion (Senato della Repubblica Italiana 2023). These actions, included in the aforementioned legislative decrees, were based on the extensive use of public guarantees and characterized by several key features:

- Free guarantee: the public guarantee was provided at no cost.
- Increase in the maximum guaranteed amount: the maximum guaranteed amount per company was raised from EUR 2.5 million to EUR 5 million.
- Increased coverage percentages of the FCG: coverage percentages from the Guarantee Fund for SMEs (FCG) were enhanced, with a direct guarantee of 80% and reinsurance of 90%.
- Granting guarantees without a credit assessment: guarantees were granted without a credit assessment, allowing companies across all rating ranges to be eligible.
- Suspension of mortgage payments: mortgage payments were suspended, with an automatic extension of any public guarantee.
- Consolidation/renegotiation operations: these operations were allowed within the same bank or banking group for loans not already covered by the FCG.
- Use of the Temporary Aid Framework: this framework provided a 100% guarantee for financing up to EUR 30,000 and increased FCG coverage to 90% for direct guarantees and 100% for reinsurance.

These measures increased public guarantees and, more broadly, helped to revitalize the role of credit consortia (confidi), which benefited from enhanced reinsurance coverage by the FCG, generating a more significant weighting effect. From the beginning of the SARS-CoV-2 emergency until the end of 2020, the largest number of operations benefiting from FCG guarantees were those of smaller size, with an average value of less than EUR 30,000 (100% covered), representing 63.56% of the accepted requests. These operations accounted for more than EUR 21 billion in guarantees (Fondo di Garanzia 2024a), with an average unit value of EUR 19,600. However, this category had a much lower impact (15.7%) on the total guaranteed values in the same period.

The interventions were designed specifically to reduce bureaucratic formalities, enabling near-automatic evaluations for immediate credit availability. These operations were primarily managed by banks, with credit consortia focusing on smaller-scale operations for micro-, small-, and medium-sized enterprises (mPMI). This shifted the role of confidi, which traditionally dealt with smaller-sized operations, as banks had previously expressed opposition due to the complexity of automating the investigation process, especially for sole proprietorships, partnerships, artisan businesses, start-ups, and companies with few years of activity. These businesses not only require guarantees but also support to access credit.

In practice, the banking sector's activity smoothed the potential growth of confidi-supported firms with the SARS-CoV-2 measures. However, a "carryover" effect bolstered the reinsurance activity of 2020 by confidi, with a national increase of 91.5% (from EUR 1596 to 3057 million) and a 30.8% rise at the regional level (from EUR 57 to 75 million). In 2021, FCG guarantees decreased from EUR 105.9 billion to EUR 67.6 billion (−36.1%), gradually returning to previous standards. In Sardinia, as illustrated by the tables and graphs below, the risk transfer to the state helped maintain a positive trend in corporate net liquidity.

The value of loans to businesses (Figure 2) stabilized the bank–business relationship, counteracting the shocks caused by the crisis and showing a slight increase. In Sardinia, aggregate data on business loans showed a +12.3% increase between 2020 and 2019, with a further +3.3% increase between 2021 and 2020 (end-of-year data). The overall intervention of the Central Fund (direct guarantees and counter-guarantees on confidi operations) increased from 2.6% in 2019 (pre-pandemic) to a peak of 18.95% in 2020, stabilizing at 12.7% in 2021. From 2020 to 2021, credit support for "Industrial Activities" grew by +29.3%, for "Services" by +13.9%, and for "Construction and Building" by +12.2%. In terms of firm size, which is influenced by the structure of the Italian and Sardinian economies, credit leverage for micro-enterprises grew by +10.2% between 2020 and 2022. Medium–large companies recorded a +6.1% increase, while small companies experienced a slight contraction of −0.5%.

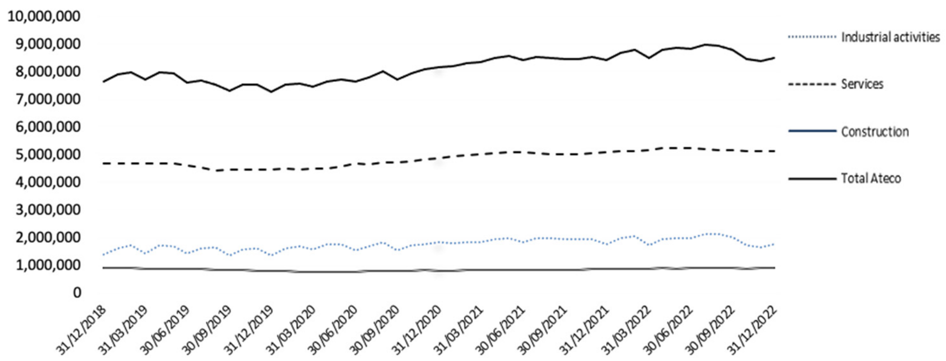

Figure 2. Loans in Sardinia by sector, years 2019–2022 (thousands of euros). Source: own computations on Bank of Italy data.

3.3. Non-Performing Loans

As reported by the Bank of Italy, during 2020–2021, despite the challenges posed by the pandemic, the stock of non-performing loans (NPLs) accumulated by Italian banks continued to decrease. This reduction affected both loans to households and loans to businesses. The trend in these indicators also continued to reflect the positive impact of government measures designed to support access to credit, such as moratoria (loan repayment deferrals) and guarantees on new loans.

Additionally, as directed by the supervisory authorities, the flexibility incorporated into the loan classification rules played a significant role, as previously mentioned. It is important to note that the reduction in NPLs was also facilitated by the sale of non-performing loans, continuing a trend that started in 2017. These sales improved the average quality of banks' assets, with a progressive decline in NPLs at the national and regional levels, as shown in Figure 3.

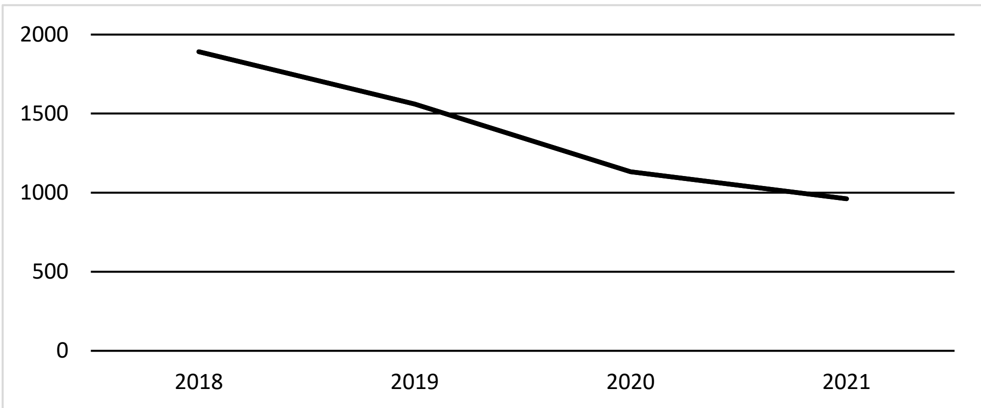

Figure 3. Bad loans in Sardinia, 2018–2021 (thousands of euros). Source: own computations on Bank of Italy data.

3.4. Deposits

Corporate liquidity showed a general increase during the period considered, as highlighted in Figure 4 below. Deposits from Sardinian companies grew by 36.3% between 2019 and 2020, followed by an additional increase of 17.2% in 2021. Overall, this two-year period saw a cumulative increase of 59.7%.

Figure 4 illustrates the increase in bank deposits during the pandemic period. Under normal circumstances, such deposits would decrease due to the financial distress that firms experience during economic uncertainty. However, this deposit growth can be attributed to government support measures implemented during the pandemic.

The graph shows that both producer households and private enterprises were able to increase their deposit levels despite the challenges posed to business activities. This indicates that government support extended to firms of all sizes, benefiting smaller entities, such as producer households, and larger private enterprises across various categories.

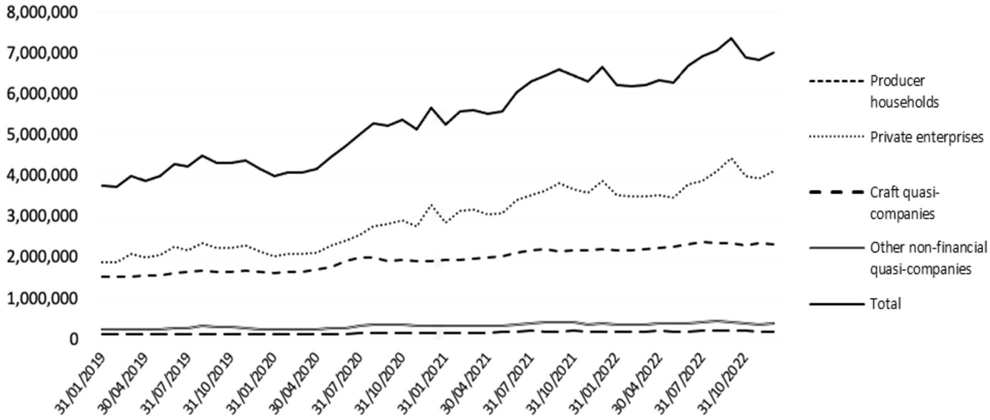

Figure 4. Deposits in Sardinia, years 2019–2022 (thousands of euros). Source: own computations on Bank of Italy data.

3.5. The Net Financial Position of Companies in Sardinia

The aggregate data of loans and deposits show a significant improvement in regional companies' overall net financial position: from EUR −3.1 billion at the end of 2019 to −2.5 billion at the end of 2020 to −1.8 billion at the end of 2021. The trend is also confirmed for December 2022, with an aggregate PFN of −1.5 billion.

A comprehensive analysis of the data presented in the previous paragraphs shows that the government measures effectively prevented the credit contraction that had been anticipated due to recession risks arising from the exogenous economic crisis caused by the SARS-CoV-2 pandemic. Although there is a slight decline in the business demographic balance in Sardinia between 2022 and 2021, the trends in loans extended to the production sector and the continued reduction in non-performing loans indicate stable systemic parametric trajectories. However, the evidence of deposit growth, alongside the reported improvement in the net financial position, reveals a conservative approach to resource management marked by limited investments. This further confirms the support's largely reactive and externally driven nature rather than a proactive one.

4. The Pandemic Crisis

To provide a more transparent contextual framework for the analysis of the impact of guarantee consortia (confidi) on mitigating the economic and financial effects of the SARS-CoV-2 containment measures, in the following paragraphs, we present trend data on the use of public guarantees and the extent of confidi interventions both at the national level and, in particular, within the Sardinian region for the years 2019–2022, splitting them into the pre-pandemic year (2019), the two pandemic years (2020 and 2021), and the post-pandemic year (2022).

4.1. Pre-Pandemic: The 2019 Scenario

In 2019, the world economy showed some positive signals: international trade began to grow again, and there was a reduction in tariff disputes between the United States and China. However, the outlook remained uncertain, with rising geopolitical tensions leading to weakly positive growth expectations. These expectations were supported by the accommodative policies of central banks, which provided a slight upward push to stock markets and facilitated a modest improvement in long-term yields. In the Euro area, economic activity was hindered by the vulnerability of the manufacturing sector, particularly in Germany, although an improving trend emerged toward the end of the year. This economic trend influenced inflation, which, while reinforced by monetary stimulus, remained below 2 percent. The ECB's

Governing Council maintained its accommodative policy throughout the year, signaling its continuation in the years ahead (Banca d'Italia 2020).

In Italy, economic activity showed slight growth in the third quarter but remained nearly stagnant in the fourth quarter, mainly due to the weak manufacturing sector. According to ISTAT—Istituto Nazionale di Statistica (2020) and the Banca d'Italia (2020), companies were slightly more optimistic about orders and foreign demand. However, uncertainty and trade tensions continued to pose obstacles. Despite this, companies planned to increase investments in 2020 at a more modest pace than the previous year. In the final months of 2019, foreign investors purchased significant amounts of Italian government bonds (over EUR 90 billion for the year), improving the Bank of Italy's debit balance on the European payment system TARGET2 (Drott et al. 2024; Glowka et al. 2022). This improvement was also supported by increased net foreign funding through the Repo market by Italian banks, facilitated by activating the new Eurosystem bank reserve remuneration system (Braun 2020).

During 2019, Italy's current account surplus remained substantial, and its net foreign position moved closer to equilibrium. Inflation remained contained, at 0.5% in December. Services contributed more to overall price dynamics, with modest growth observed in the industrial goods sector. Core inflation increased slightly in the autumn, reaching 0.7%. Starting mid-October, Italian government bond yields and stock markets rose, reflecting similar trends across the Euro area. However, yields on bonds issued by Italian banks and non-financial corporations remained more than 70 basis points below the average of the first half of 2019.

4.1.1. Financial Intermediation in 2019

The cost of credit decreased significantly for households. At the same time, lending to businesses continued to decline, primarily due to the weak demand for new financing. However, the measures adopted by the ECB in September were expected to improve credit conditions, according to commercial banks. The data from 2019 indicate a slight decrease in the net borrowing of public administrations relative to the GDP, but there was an overall increase in the debt-to-GDP ratio. The budget plan for 2020 to 2022, approved by parliament in December 2019, projected an average increase in the deficit of 0.7 percentage points of the GDP per year compared to trend values. According to the government's programs, the impact of net borrowing and debt on the economy was expected to decrease over the following two years (MEF—Ministero dell'Economia e delle Finanze 2020–2022).

4.1.2. The Confidi in Pre-Pandemic Periods

During 2019, the activity of national guarantee consortia showed a decrease in the number and volume of guarantees provided during the year and in the accumulated total.

From 2012 to 2019, the number of confidi steadily decreased, dropping from 642 to 298 (−53.6%), as shown in Table 1. This decline was observed across both supervised confidi (−48.3%) and the so-called "minor confidi" (−54.1%). In 2019, the reduction was 15.1%, with a more significant drop for supervised confidi (−16.7%) compared to minor confidi (−14.9%). The situation in Sardinia appeared slightly less critical, with 15 "minor" confidi registered and 8 canceled from the previous section. The supervised confidi registered under Art. 106 TUB numbered two (Unifidi Sardegna 2020). Many of the closures were the result of mergers between non-supervised confidi or incorporations into supervised and non-supervised confidi. However, this trend did not alleviate the worrying signals from the sector, as most mergers appeared to be responses to the crisis rather than proactive development strategies.

The volume of guarantees issued by confidi also followed a decreasing trend, with a 42.4% drop from 2012 to 2018, more pronounced for supervised confidi (−45.1%) than for "minor confidi" (−36.3%). The volume of guarantees almost halved over the same period, and the 2019 data confirmed this ongoing trend.

Several factors may explain this decline, including the rationing of credit to micro-, small-, and medium-sized enterprises (mSMEs), the disintermediation of credit guarantee consortia by banks through the direct use of FCG guarantees, and the growing preference for automated credit assessment models based on algorithms rather than the traditional discretionary evaluations by analysts that involve soft information. Algorithm-based models tend to favor companies with large amounts of hard data, referred to as "digitally transparent", over disadvantaging companies with limited hard data, known as "digitally opaque". These latter companies are often the ones most in need of financial support and guarantees from credit guarantee consortia. In 2019, disintermediation by banks was particularly evident, with a significant increase in the direct use of FCG guarantees compared to counter-guarantees or co-guarantees, as confirmed by the Fund's data (Fondo di Garanzia 2024a; Fondo di Garanzia per le PMI 2020).

Table 1. Dynamics of confidi in Italy from 2012 to 2019 (number of intermediaries).

Year	Supervised *confidi*	"Minor" *confidi*	Total
2012	58	584	642
2013	60	557	617
2014	62	468	530
2015	56	452	508
2016	40	441	481
2017	38	401	439
2018	36	315	351
2019	30	268	298

Source: Bank of Italy.

The data analysis revealed a significant reduction in the incidence of counter-guarantees + co-guarantees on the total guarantees issued by the FCG (Table 2), which decreased from 31.5% to 14% over the last six years. In parallel, the share of direct guarantees provided by banks rose sharply, from 68.5% to 86%. A similar trend was observed at the regional level in Sardinia.

Table 2. Central Guarantee Fund's total amount of guarantees accepted in 2014–2019 in Italy (thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee %	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total
2014	9,794,161	68.5%	4,504,836	31.5%	14,298,996
2015	10,862,549	72.1%	4,202,344	27.9%	15,064,893
2016	12,918,729	77.3%	3,783,997	22.7%	16,702,727
2017	14,140,840	81.0%	3,320,734	19.0%	17,461,573
2018	16,057,493	83.1%	3,256,487	16.9%	19,313,980
2019	16,657,146	86.0%	2,718,550	14.0%	19,375,697

Source: own computations on FCG data.

The reform of the FCG introduced in March 2019 (Fondo di Garanzia 2024b), which was strongly supported by confidi and their associated systems, aimed to mitigate this trend. The reform introduced a graduated guarantee coverage based on the requesting company's risk profile, prioritizing the riskiest companies representing the majority of confidi members. Despite these more favorable conditions, disintermediation continued in 2019, with no signs of reversal.

This ongoing disintermediation can be attributed to banks' tendency to overlook the SME segment, viewing it as unprofitable and difficult to evaluate through digital systems due to the limited availability of reliable quantitative data (hard information). Additionally, the involvement of confidi often entails extra costs for companies and complicates banking procedures. A comparative analysis of the transparency documents published by the most relevant Sardinian confidi suggested a mitigating effect on average bank pricing of around 1.5%, based on conventional conditions, which was the net of an average annual guarantee commission of approximately 1.2 percentage points on the nominal amount of the individual loan. However, it is essential to note that the disintermediation trend persisted throughout the year, as banks continued offering conditions equal to or even more favorable than those set by existing agreements with confidi.

4.2. The Pandemic Explosion: 2020

In 2020, based on macroeconomic data (Table 3) and the assessments by the Centro Studi Confcommercio (2024), the contraction in economic activity due to the SARS-CoV-2 pandemic was the worst since the Second World War despite the actions to combat the pandemic implemented by the government (De Vincenzo 2021).

Table 3. Some macroeconomic variables of Italy (average % variations).

Variables	2008–2018	2018–2019	2019–2020
GDP	−0.4	−0.3	−8.9
Consumption	−0.2	0.4	−11.7
Investments	−0.3	1.1	−9.1
Employed (ULA × 1000—var. ass.)	−981	28	−2.457
Debt as a % of the GDP		−1.6	−9.5
Public debt as a % of the GDP		134.8	155.6

Source: Confcommercio Research Centre.

4.2.1. Financial Intermediation in 2020

According to the Bank of Italy, Italian banks continued to respond to businesses' demands for financing in 2020 (Table 4a,b). Financing conditions remained generally favorable thanks to the continued support from monetary policies and public guarantees (Banca d'Italia 2021; Desogus and Venturi 2023).

Table 4. (**a**) Financing in Italy as of end 2019 (millions of euros). (**b**) Financing in Italy as of end 2020 (millions of euros).

(**a**)

Areas	Total Economy	Private Sector	Production Activities	Consumer Families
Italy	1,756,033	1,253,847	708,195	545,652
Mezzogiorno	250,349	225,376	100,435	124,941
Sardinia	24,573	20,289	8817	11,471
Cagliari	7938	7114	3099	4015
Nuoro	2252	2117	1075	1042
Oristano	1712	1623	749	873
Sassari	9539	6424	2818	3606
Sud Sardegna	3132	3012	1076	1935

(**b**)

Areas	Total Economy	Private Sector	Production Activities	Consumer Families
Italy	1,764,349	1,300,791	750,521	550,270
Mezzogiorno	253,025	228,329	103,964	124,365
Sardinia	25,292	20,871	9355	11,517
Cagliari	8400	7522	3476	4046
Nuoro	2258	2124	1073	1051
Oristano	1725	1639	763	876
Sassari	9771	6572	2948	3624
Sud Sardegna	3137	3015	1095	1920

Source: own computations on data from ABI Research Office and Bank of Italy.

According to the ABI Research Office (2023), in 2020, total loans grew by 4.1% in Italy and by +4.3% in Sardinia, a growth slightly higher than the national average for production activities also, for which the Sardinian figure (+8.8%) was close to the national figure (+8.4%).

The Bank of Italy data reported in Tables 5 and 6 show that despite the pandemic, the reduction in Italian banks' NPLs continued in 2020. This reduction involved loans to households and businesses and was supported by the moratoriums and guarantees on new loans introduced by the government to ease access to credit, together with the long-term horizon in the risk weighting of loans allowed by the supervisory authorities.

Table 5. Gross impaired loans, Dec 2020 (millions of euros).

Areas	Sufferings	Probable Non-Fulfilments	Overdue/Impaired Loan Overdrafts	Total
Italy	46,502	47,365	3120	96,987
Mezzogiorno	11,505	8951	1148	21,605
Sardinia	1267	749	100	2116

Source: Unifidi Sardegna based on Bank of Italy data.

Table 6. Bad loans/loans ratio, Dec 2020.

Areas	Bad Debt/Loans (Production Activities)
Italy	5.09
Mezzogiorno	8.13
Sardinia	12.09
Cagliari	11.16
Nuoro	11.38
Oristano	5.63
Sassari	14.42
Sud Sardegna	13.99

Source: Unifidi Sardegna based on Bank of Italy data.

4.2.2. The Confidi in 2020

The government interventions significantly increased the importance of public guarantees. Initially, they favored more significant activity from *confidi*, whose guarantees could have benefited from greater coverage by the FCG than the direct guarantee, producing a more significant weighting effect for the banks. However, while these measures indeed increased the use of the fund, the results were more evident in the number and volume of transactions directly supported by the public guarantee. In contrast, the transactions intermediated by *confidi* recorded a more marginal increase.

As highlighted in Table 7, at a national level, the impact of the pandemic led to an increase in direct guarantees of approximately 8.8 times, while counter-guarantees were less than doubled (1.9 times) (Dell'Atti and Lopes 2020; Unifidi Sardegna 2021).

Table 7. Operations of the Central Guarantee Fund for 2019–2020 in Italy (thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee %	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total Amount
2019	11,745,677	88.00%	1,596,453	12.00%	13,342,131
2020	102,863,646	97.10%	3,057,069	2.90%	105,920,715

Source: own computations on FCG data.

At the Sardinian regional level, the trend mirrors the national one but with a more marked decrease (25.8%) in the last year.

Focusing on the two primary types of operations benefiting from the FCG guarantee in 2020 (Table 8), it was found that operations with a value of less than EUR 30 thousand, which received 100% coverage, accounted for 63.56% of the accepted requests, with an average value of EUR 19.6 thousand each (Fondo di Garanzia 2024a). Although they represented a significant portion of the accepted requests, they contributed to a lesser extent (15.7%) to the total financing guaranteed by the Fund during the same period (Fondo di Garanzia per le PMI 2021).

Table 8. Operations of the Central Guarantee Fund for 2015–2020, Sardinia (total amount of guarantees issued in thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee %	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total
2015	89,402	71.10%	36,290	28.90%	125,692
2016	107,723	70.30%	45,561	29.70%	153,284
2017	113,638	67.70%	54,300	32.30%	167,938
2018	119,867	67.70%	57,196	32.30%	177,063
2019	129,395	69.30%	57,430	30.70%	186,825
2020	1,468,782	95.10%	75,107	4.90%	1,543,889

Source: own computations on FCG data.

As previously mentioned, these interventions were specifically designed to minimize bureaucratic formalities and provide an almost automatic evaluation method for immediate credit availability.

These operations, primarily managed by banks, excluded confidi from an important target group, namely micro-, small-, and medium-sized enterprises (mPMI), which had often been neglected or excluded by banks due to the difficulties in automating credit assessment processes. These difficulties stemmed from the complexity of digital information for individual firms, partnerships, artisan businesses, start-ups, and companies with few years of activity (De Socio et al. 2020; Nadotti 2020). More than others, these businesses required both guarantees and additional support to access credit. As a result, the role of confidi was further weakened, limiting their growth compared to the potential offered by the SARS-CoV-2 measures.

However, in 2020, confidi increased their reinsurance activity, which grew by 91.5% at the national level and 30.8% at the regional level. The increase in guaranteed volumes is mainly due to the rise in the guarantee quota per individual loan rather than an increase in the number of guaranteed transactions over the year. The numerical distribution between major and minor consortiums shows that there were 32 major consortiums, representing 15.3% of the total providers of consortium guarantee services in the market, and 177 minor consortiums, representing 84.7%. Although the major consortiums are numerically a minority, as of the end of 2020, they held a stock of guarantees amounting to EUR 6.7 billion, representing approximately three-quarters of the total. In contrast, the minor consortiums, with a total stock of guarantees of just over EUR 2.4 billion, saw an 8% growth compared to the previous year.

4.3. The Second Pandemic Year: 2021

In 2021, the improvement of vaccination campaigns, which were remarkably rapid in advanced countries, led to significant progress in overcoming the global pandemic, as highlighted by the Banca d'Italia (2022b). This enabled a relaxation of mobility restrictions and a recovery in global demand (Armantier et al. 2021), supporting a global growth recovery of +6.1% and a rebound in international trade.

The slowdown in production during the pandemic led to global supply shortages (Reis 2022) and contributed to inflation due to rising commodity prices, especially for energy and food. In the Euro area, GDP grew significantly in 2021 after the severe contraction in 2020. However, toward the end of the year, economic activity was partially affected by persistent supply difficulties in global distribution chains and rising energy prices, being exacerbated by the onset of tensions between Russia and Ukraine.

Italy, in 2021, saw the easing of restrictions, leading to a 6.6% growth in the national GDP, allowing for the recovery of two-thirds of the exceptional contraction in 2020 caused by the health crisis. This recovery was widespread across the country, with the northeast experiencing the highest growth (7.2%), followed by the northwest (6.8%), the center (6.1%), and the south (5.7%). Although the number of employed people and the total hours worked increased, both remained below pre-pandemic levels (ISTAT—Istituto Nazionale di Statistica 2024).

During 2021, inflation rose to 1.9%, being mainly driven by higher energy costs, after being nearly negligible in 2020. In contrast, due to moderate wage growth, core inflation remained under control (Unifidi Sardegna 2022). While consumption grew significantly, it only partially recovered from the sharp contraction in 2020, especially in tourism and leisure-related spending. Despite a decrease from the highs of 2020, the propensity to save remained high compared to the levels of the past twenty years (ISTAT—Istituto Nazionale di Statistica 2022, Rapporto annuale). Real estate wealth increased in 2021, in line with rising house prices.

Production activity resumed growth, particularly in industry and construction, while services grew more smoothly. However, only the construction sector fully recovered its pre-pandemic level, being boosted by tax incentives for housing redevelopment. The easing of containment measures supported the recovery but was also constrained by ongoing difficulties in supplying intermediate products and rising raw material costs, especially energy.

The birth rate of businesses in 2021 returned to pre-crisis levels, and the exit rate from the market decreased, especially in sectors that benefited most from public support measures (Centro Studi Confcommercio 2024). Overall, households' financial conditions improved due to growth in disposable income and increased asset value. Households' loans and consumer credit grew, although at slower rates compared to the pre-pandemic period. Corporate profitability improved, although still slightly below 2019 levels, thanks to abundant liquidity that reduced the need for new loans (Ufficio Studi ABI—Associazione Bancaria Italiana 2024).

4.3.1. Financial Intermediation in 2021

The improvement in macroeconomic conditions and government support measures in response to the pandemic positively impacted bank balance sheets in 2021. However, the gradual end of government support measures and the Russia–Ukraine war induced significant uncertainty for credit intermediaries' profitability and asset quality.

Bank lending slowed significantly due to lower demand for financing from businesses, while lending to households accelerated, being driven by the growth in mortgages for house purchases; consumer credit remained weak (Banca d'Italia 2021, 2022b).

The ratio of new non-performing loans to total performing loans remaining limited and the volume of disposals still being high made the share of non-performing loans in total financing fall to a lower level than before the global financial crisis and to stay in line with the average of major Euro area countries.

Overall, collections continued to grow, albeit slower than in 2020. Bank profitability increased, returning to pre-health emergency levels, mainly due to the reduction in loan write-downs, which had been very high in 2020, and the increase of non-interest income (notably commissions), while the interest margin slightly decreased (Ufficio Studi ABI—Associazione Bancaria Italiana 2024).

4.3.2. The Confidi in 2021

In 2021, the amount of accumulated guarantees held by the confidi under Art. 106 TUB slightly increased, reaching EUR 8 billion, with impaired loans accounting for 22% of the total. The sector's profitability was influenced by high fixed costs, which absorbed

85% of the intermediation margin, a 2.3% increase. The ratio between own funds and risk-weighted assets remained high at 33% (Camera di Commercio Industria Artigianato e Agricoltura di Torino 2022).

By the end of 2021, Italian confidi maintained a stock of approximately EUR 9.1 billion in accumulated guarantees, with significant geographical disparities. The northern regions of Italy exhibited a marked concentration of guarantees. During 2021, Italian confidi issued around EUR 2.85 billion in guarantees, with an even more pronounced polarization in the northern regions. Although confidi in northern Italy represented only a third of the total, they issued 57% of the overall guarantee flow, totaling EUR 1.6 billion out of EUR 2.8 billion. In contrast, the southern regions, which host more than half of the Italian confidi, issued only approximately 15% of the overall guarantees.

The confidi categorization revealed that the largest confidi provided 84.31% of the total guarantees, amounting to EUR 2.4 billion, while the smaller confidi contributed just 15.69% (Unifidi Sardegna 2022; Camera di Commercio Industria Artigianato e Agricoltura di Torino 2022).

As shown in Table 9, at the national level in 2021, guarantees issued by the FCG (Fondo di Garanzia) decreased by 36.1%, falling from EUR 105.9 billion to EUR 67.6 billion. Both direct guarantees and combined counter-guarantees and co-guarantees saw declines in absolute value and percentage terms, with direct guarantees experiencing a steeper decline of 36.6% compared to those intermediated by confidi. Notably, the share of guarantees intermediated by confidi showed a slight increase, rising from 2.9% to 3.6% of the total (Fondo di Garanzia 2024b; Fondo di Garanzia per le PMI 2022).

Table 9. Operations of the Central Guarantee Fund for 2020–2021 in Italy (thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee %	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total Amount
2020	102,863,646	97.10%	3,057,069	2.90%	105,920,715
2021	65,191,455	96.40%	2,450,385	3.60%	67,641,840

Source: own computations on FCG data.

In Sardinia, during 2021, the trend mirrored the national one (Table 10), with a 30.9% decrease in the total guarantees issued by the Fund, dropping from EUR 1.54 billion to EUR 1.07 billion. However, it is worth noting that the behavior of direct guarantees differed from the aggregate guarantees intermediated by the confidi: while direct guarantees saw a decrease of 33.6%, the aggregate of counter-guarantees and co-guarantees increased by EUR 16.5 million, rising from EUR 75.1 million to EUR 91.6 million, a 22% increase. Consequently, the share of the aggregate guarantees in the total guarantees issued by the Fund in Sardinia rose from 4.9% to 8.6% (Unifidi Sardegna 2022; Fondo di Garanzia per le PMI 2022).

Table 10. Operations of the Central Guarantee Fund for 2020–2021 in Sardinia (thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee%	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total Amount
2020	1,468,782	95.10%	75,107	4.90%	1,543,889
2021	975,787	91.40%	91,680	8.60%	1,067,467

Source: own computations on FCG data.

Although this figure represents only 1.5% of the Fund's total assets in Sardinia, it still demonstrates a notable increase in guarantees intermediated by Sardinian confidi, reflecting the dynamism of local economic activity.

4.3.3. Minor Confidi

The analysis of the segmentation by quartiles of the consortiums registered in the list maintained by the “Organismo Confidi Minori” (OCM), based on the guarantee flows issued in 2020 (Vescina 2021), reveals that the efficiency of the consortium guarantee instrument increases with the size of the consortium’s assets (Table 11a–c).

Table 11. (**a**) Assets guaranteed in 2020, distribution by quartiles (EUR). (**b**) Flows of guarantee stock in 2020, distribution by quartiles (EUR). (**c**) Guarantee stock in 2020, distribution by quartiles (EUR).

(**a**)

Quartiles	Net Assets	% of Total	Average Net Assets
1st quartile	32,239,841	3.10%	716,441
2nd quartile	89,684,847	8.50%	1,992,997
3rd quartile	211,059,395	20.00%	4,690,209
4th quartile	722,064,817	68.40%	16,045,885
Total	1,055,048,900	100.00%	5,861,383

(**b**)

Quartiles	Flows	% of Total	Average Flow
1st quartile	1,924,587	0.20%	42,769
2nd quartile	19,343,801	2.30%	429,862
3rd quartile	82,984,646	10.00%	1,844,103
4th quartile	727,204,634	87.50%	16,160,103
Total	831,457,668	100.00%	4,619,209

(**c**)

Quartiles	Stock	% of Total	Average Stock
1st quartile	33,572,623	1.30%	746,058
2nd quartile	152,925,702	6.10%	3,398,349
3rd quartile	372,846,045	15.00%	8,285,468
4th quartile	1,930,287,945	77.50%	42,895,288
Total	2,489,632,316	100.00%	13,831,291

Source: OCM.

The ratio between guarantee stock and net assets is approximately 1 to 1 in the first quartile, while it reaches 1 to 2.65 in the fourth quartile. This result signals the need for capital-strengthening measures of credit consortia.

4.4. The Post-Pandemic Recovery: 2022

As reported by the Bank of Italy (2023), 2022 economic activity in advanced countries slowed due to the persistent effects of high inflation and the ongoing conflict in Ukraine. In China, economic weakness became evident, particularly from autumn onwards, as measures were implemented to counter what appeared to be a new wave of the COVID-19 pandemic. International trade suffered from a significant global demand slowdown, contributing to a moderate decrease in oil prices. This trend was even more pronounced for natural gas prices in Europe, which, although still high, saw a notable decline.

In the Euro area, the GDP mainly remained stable in the final quarter of 2022, while consumer inflation remained elevated, reaching 9.2% in December. The European Central Bank raised its official rates by 75 basis points in October and by an additional 50 basis points in December, signaling that further significant and steady increases would be necessary in the following quarters to return inflation to its medium-term objective (Diebold et al. 2023).

In Italy, the Bank of Italy (Unifidi Sardegna 2023) reported a weakening of economic activity in the final months of 2022. This was driven by a slowdown in the recovery of services and a decrease in industrial production. Household spending also decelerated despite government measures aimed at mitigating the impact of high energy prices and supporting disposable income, particularly for the more vulnerable population segments. The propensity to save declined, returning to pre-health-emergency levels.

In the October–December quarter, exports of goods remained stable, while imports fell, contributing to a widening of the current account deficit, mainly due to the worsening energy deficit. Industrial production contracted in the fourth quarter due to high energy costs and reduced demand. After expanding in the second and third quarters, activity in the tertiary sector slowed down.

Uncertainty surrounding the ongoing conflict in Ukraine and tighter financial conditions negatively impacted investment spending and the outlook for the real estate sector. Inflation reached new highs in the autumn months, driven mainly by energy prices, which continued to push up the cost of other goods and services. This contributed to a moderate rise in core inflation. Despite government interventions in the energy sector, consumer price inflation only eased at the end of the year (ISTAT—Istituto Nazionale di Statistica 2024).

The Confidi in 2022

As of 31 December 2022, there were 200 Italian confidi, consisting of 32 major confidi and 168 minor confidi. The major confidi were distributed across 15 Italian regions, with a concentration in the north (20 out of 32). At the same time, approximately one-third were located in the center and south (six confidi in each area). Regarding geographical distribution, the minor confidi were spread across the entire country, with at least one present in each region. The highest concentration of minor confidi was in the southern regions (94 out of 168), followed by the north (48 confidi) and the center (26 confidi) (Camera di Commercio Industria Artigianato e Agricoltura di Torino 2023).

At the end of 2022, Italian confidi held a total of EUR 8.4 billion in guarantees, reflecting a decrease of 7% compared to 2021, when the cumulative stock was EUR 9.1 billion. However, the distribution of outstanding guarantees differed from the geographical distribution of the confidi. During the year, Italian confidi issued approximately EUR 2.8 billion in new guarantees, most of which came from northern Italy. In contrast, the southern regions, where about half of the Italian confidi are located, accounted for only 14% of the guarantees issued.

The share of guarantees issued by the largest confidi was 85%, while the smaller confidi accounted for 15%. The data indicate a trend toward a greater concentration of guarantee stocks in the larger confidi and, consequently, the northern regions. Specifically, while the southern regions held 21% of the guarantee stocks at the end of 2022, they issued only 14% of the flows during the year. Meanwhile, northern regions, which held 51% of the stocks at the end of 2021, issued 57% of the flows in 2022. According to the Bank of Italy, in 2022, the amount of guarantees issued by the largest confidi decreased by 11%, reaching EUR 6.9 billion. The percentage of impaired guarantees to the total issued was 19.5%, compared to 22.2% in 2021.

The sector's profitability remained limited due to the high impact of fixed costs. However, the ratio of own funds to risk-weighted assets remained high at 36.4% (Banca d'Italia 2022a, 2023b; Camera di Commercio Industria Artigianato e Agricoltura di Torino 2023). This emerging picture suggests that the gradual reduction in the size of the smaller confidi may be partly due to the end of the extraordinary pandemic-related measures, which had directly affected confidi operations, increasing their activity in some areas. Meanwhile, the consolidation process among the larger confidi continued, strengthening certain players in terms of available resources.

At the same time, there was a growing diversification of commercial activities, with a significant shift toward "residual" activities. These were seen as the only sustainable economic and financial viability sources for the confidi. Consequently, the revenues of the larger confidi grew, driven by these activities, which did not require provisions like the issuing of guarantees. This option, however, was excluded for smaller confidi, whose operations remained focused solely on issuing collective guarantees.

In 2022, there was a further and significant contraction in the guarantees issued by the FCG, with a national decrease of 37.7%, from EUR 67.6 billion to EUR 42.1 billion (34.2% less than the change recorded in 2020–2021). Both direct guarantees and the aggregate of counter-guarantees and co-guarantees saw reductions in both absolute and percentage terms (Table 12). However, the decrease was more pronounced for direct guarantees (−38.6% compared to −36.6% in the previous two-year period), while the aggregate intermediated by confidi recorded a decrease of 13.1% (compared to −19.8% in the previous two-year period). As a result, the incidence of the guarantees intermediated by confidi increased from 3.6% to 5.1%.

Table 12. Operations of the Central Guarantee Fund for 2021–2022 in Italy (thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee %	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total Amount
2021	65,191,455	96.40%	2,450,385	3.60%	67,641,840
2022	40,006,760	94.90%	2,129,342	5.10%	42,136,102

Source: own computations on FCG data.

In Sardinia, the general trend in 2022 showed a more significant decrease than the national average, with a reduction of 40.7% in the total guarantees issued by the Fund, which fell from EUR 1.07 to 0.63 billion. As in the previous year, a decrease was observed in both components. However, while the direct guarantee recorded a decrease of −42.6% (Table 13), which was higher than the overall reduction, the aggregate of guarantees intermediated by the guarantee consortia decreased to a lesser extent (−20.6%). This led to an increase in the share of the aggregate guarantees from 8.6% to 11.5% of the total guarantees issued on the island by the Central Guarantee Fund between 2021 and 2022.

Table 13. Operations of the Central Guarantee Fund for 2021–2022 in Sardinia (thousands of euros).

Year	Direct Guarantee Amount	Direct Guarantee %	Counter-Guarantee + Co-Guarantee Amount	Counter-Guarantee + Co-Guarantee %	Total Amount
2021	975,787	91.40%	91,680	8.60%	1,067,467
2022	559,785	88.50%	72,757	11.50%	632,542

Source: own computations on FCG data.

Notably, the data regarding the reduction in the volume of counter-guarantees intermediated by Sardinian guarantee consortia in 2022 are significant, amounting to a decrease of EUR 18.9 million (Unifidi Sardegna 2023; Fondo di Garanzia per le PMI 2023).

5. Comparison Between General Averages and a Sample of Regional Confidi Supported Firms

5.1. Data

Our study examines the role of credit consortia in supporting SMEs during the SARS-CoV-2 crisis by comparing the financial performances of firms financed through credit consortia with those funded directly by banks. Using a descriptive methodology, we assess key financial indicators across three distinct periods—pre-crisis, during the crisis, and post-crisis—to determine which financing channel offered more effective support during economic uncertainty. This comparison of firms with and without credit consortium backing allows us to evaluate performance trends throughout the selected timeframe.

The dataset consists of companies registered in the Chambers of Commerce of the Sardinia region and operating in the business sectors listed in the following Table 14.

Table 14 presents data on firms supported by confidi credit consortia during the pandemic, which were selected based on the most frequent industry sectors as defined by the Italian ATECO classification, alongside a larger sample of firms from the AIDA database, which were selected using the same industry sector criteria.

Table 14. Data description (number of firms by sector and type).

Ateco Code	Description	Totals	Aida Firms	Confidi Supported
41.20.00	Construction of residential and non-residential buildings	660	652	8
47.77.00	Retail sale of watches, jewelry, and silverware	22	18	4
49.41.00	Road freight transport	178	175	3
56.10.11	Full-service restaurants	315	305	10

Source: own computations on data from ABI Research Office and Bank of Italy.

Of the total companies active in these selected sectors in Sardinia in 2022, a "rational" sampling approach was applied to the general database. This process was carried out through the AIDA—Analisi Informatizzata delle Aziende Italiane (2024) platform, focused on extracting limited liability companies to mitigate the digital opacity typically associated with sole proprietorships and partnerships.

Starting with an initial pool of 10,745 companies extracted from the AIDA database, only those that had filed their 2022 financial statements were considered. From this, 1150 companies were selected, including only those with complete data and no missing values. These firms were further filtered based on having total assets of less than EUR 5 million, creating a sample that closely mirrors the characteristics of confidi-supported companies, thereby enabling a more accurate comparison between the two groups.

The final sector breakdown of this sample consists of 652 firms under code 41.20.00, 18 under code 47.77.00, 175 under code 49.41.00, and 315 under code 56.10.11. In contrast, the confidi sample includes 25 companies distributed as follows: 8 under code 41.20.00, 4 under code 47.77.00, 3 under code 49.41.00, and 10 under code 56.10.11. The comparatively lower representation of credit consortium-assisted companies in the construction sector is attributed to significant fluctuations in financial liabilities tied to the "super bonus" for construction introduced by the Italian government in May 2020. This policy did not involve confidi intermediaries.

In particular, the data relating to 2017–2018–2019 (pre-pandemic), 2020–2021 (pandemic), and 2022 (post-pandemic) were identified. The balance sheet elements considered were the total assets, capitalization, liquidity, total debts, sales volume, ROI, and cost of debt. All these variables were extracted from the firms' year-end financial statements; consequently, the values are nominal and not adjusted for inflation.

The total assets per firm include current and non-current assets. The capitalization value is represented by the ratio of equity (the net worth attributable to the firm's shareholders or owners) on total assets. The liquidity ratio refers to the ratio of liquid assets—assets that can be quickly and easily converted into cash with little to no loss in value—over total assets. The total debts represent the total amount of money a firm owes, encompassing both short-term and long-term liabilities such as loans, bonds, and accounts payable. The sales volume indicates the total revenue a firm generates from its sales of goods or services during the year considered, reflecting business activity and market demand. The return on investment (ROI) measures the EBITDA over total assets, indicating how effectively the firm generates returns. Finally, the cost of debt represents the ratio of financial charges, including interest expenses and other associated borrowing costs, over the total debt, reflecting the firm's expense for financing through debt.

The AIDA sample values were first calculated by industry sector and then synthesized using a weighted average, with the same weighting as the confidi-supported sample. This process allows for an accurate proportional comparison of the values between the two samples, with the AIDA sample balanced against the confidi-supported one.

The financial indicators considered in this study are inter-related and reflect a firm's overall financial health, operational efficiency, and risk profile.

The evolution of total assets reflects the business's dimension and its expansion level. Growth in total assets indicates an increase in the scale of operations, which may be associated with higher investment in production capacity, strategic assets, or acquisitions. The capitalization ratio, on the other hand, captures financial autonomy. A higher capitalization ratio suggests that the firm is relying more on equity financing than on debt, which lowers financial risk. This makes the firm more resilient to economic shocks, as it has a greater cushion against financial distress.

Liquidity and total debts are inversely related. Liquidity measures a firm's ability to quickly meet its short-term obligations by converting assets into cash. Firms with high levels of debt, particularly short-term liabilities, may struggle to maintain liquidity because a significant portion of their resources is used for debt servicing rather than remaining available as cash or liquid assets. High debt levels can strain the firm's finances, especially if the sales volume decreases or operational challenges emerge, which is often the case during periods of economic uncertainty like the SARS-CoV-2 pandemic. In this context, government intervention plays a critical role in shaping debt levels, with public financial support for SMEs helping to ease debt burdens and improve liquidity.

The sales volume and ROI are closely connected, as they both reflect a firm's profitability and the efficiency of its resource utilization. A higher sales volume will likely produce higher returns on its invested assets, indicating greater operational efficiency and improved financial performance. Conversely, the ROI may also drop if sales volumes decline, signaling reduced profitability.

Liquidity is also tied to the cost of debt, specifically to the level of interest rates. High interest rates increase the cost of debt, making it harder for a firm to manage its liabilities and maintain liquidity. A firm with poor liquidity may struggle to secure financing, especially during economic distress.

In summary, these financial indicators are part of an interconnected cycle. Effective liquidity management, debt, asset utilization, and sales growth can improve profitability and the ROI, while the capitalization ratio determines a firm's financial risk profile. The SARS-CoV-2 pandemic likely disrupted these relationships, introducing business challenges and opportunities, particularly in managing liquidity, securing debt financing, and maintaining operational efficiency. The pandemic underscored the importance of strategic decision making and financial planning to navigate periods of financial distress.

5.2. Evolution of the Sardinian Companies During and After the SARS-CoV-2 Crisis

The following graphs show the evolution of the main financial indicators from 2017 to 2022. We use them to compare the two samples and understand how each group was influenced by the pandemic, based on whether they were supported by credit consortia or not.

In the following figures, the two samples show similar ongoing trends, as the framework is the same for the credit consortium-supported and non-supported firms. Nevertheless, some differences in the evolution are evident, and our focus is on these differences to evidence the role of credit consortia.

The total assets volume evolution, as reported in Figure 5, shows that the pre-pandemic level was similar for the general sample and the confidi-supported firms. In contrast, during and after the pandemic, the general sample registered growth, but the confidi-supported sample reported more significant growth, almost doubling the value of their total assets. This rapid growth suggests that the confidi-supported firms already had potential in the previous years, which was only expressed as they had the liquidity to finance it.

The capitalization level (Figure 6), measured by the equity/(total liabilities + equity ratio), shows an almost flat evolution in the pre-pandemic and pandemic years, staying in the 26% range from 2017 to 2021 for the general sample and in the range 15–16% for those that were confidi supported in the same years, followed by an irrelevant reduction in the post-pandemic, which reduced the ratio value from 26% in 2021 to 25% in 2022 for the general sample and from 15% to 13% for the confidi-supported sample. This evolution evidenced the lower capitalization rates of the confidi-supported firms, confirming their patrimonial weakness and the need for external support in their bank–firm relationship. The evolution also shows the reduction in capitalization, mainly related to the availability of cheap debt (see Figures 7 and 8) and the government's financial support granted as a response to the pandemic problems.

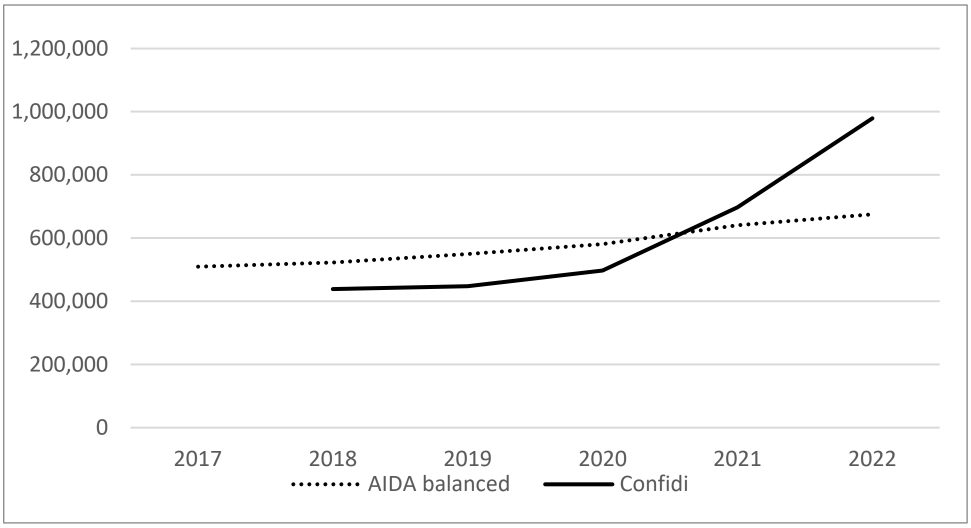

Figure 5. Average total assets per firm (EUR) for the years 2017–2022.

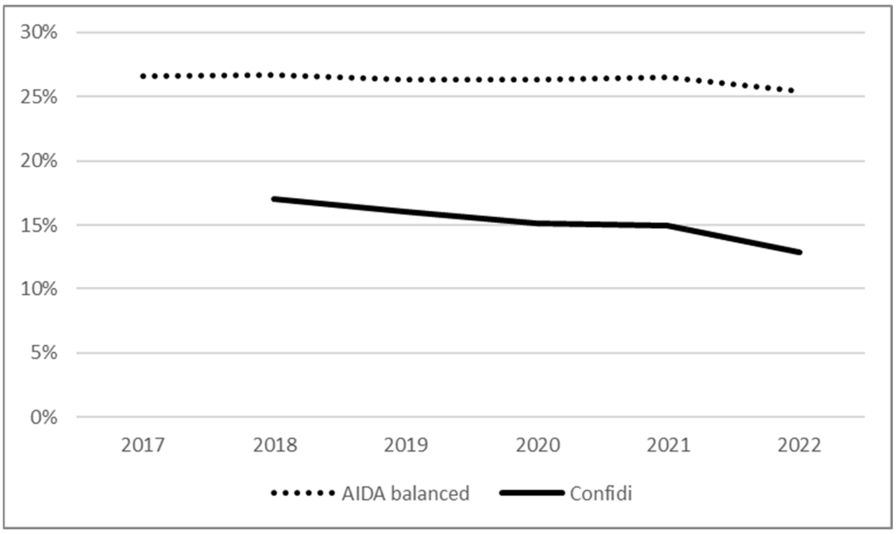

Figure 6. Capitalization: equity/(total liabilities + equity), years 2017–2022.

The liquidity rate evolution, as reported in Figure 7, shows even more clearly the impact of government policy interventions in support of firms. The liquidity ratio values, ranging from 12% to 14% in the pre-pandemic years for the general Aida sample, rose to 16% in 2021. Instead, the confidi-supported firms show a more significant liquidity improvement, starting from around 6% for the pre-pandemic period and almost reaching 12% in 2021, more than doubling the previous values. This graph also evidences the deficient liquidity levels of the confidi-supported firms, which greatly benefited from the government's pandemic support policies but, even in the moments of higher support availability, could not reach the pre-pandemic minimum liquidity levels of the general sample. This low liquidity confirms the financial weakness of the confidi-supported firms.

The debt incidence rates reported in Figure 8 show the total debt level evolution in the considered period. It is worth noting that the total debt level includes bank and commercial debts. Thus, the high level of debt of the confidi-supported firms does not evidence the easy and more extensive credit availability of these firms but rather the low capitalization and high level of commercial debts. It is confirmed by the rising debt level in the post-pandemic, which is related to the need to restart the business activity at the previous (or higher) levels (see also Figure 9), so needing higher financial coverage but also allowing for more commercial debts.

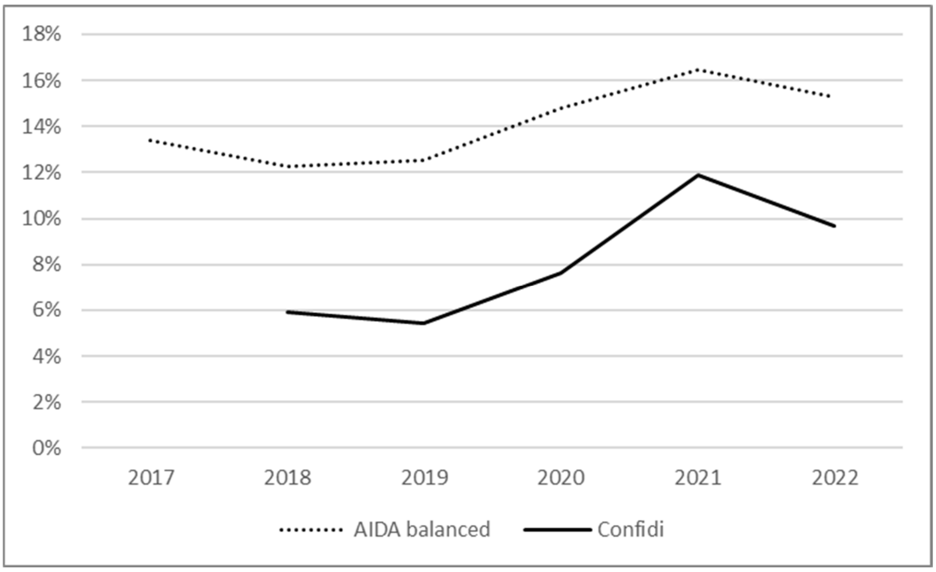

Figure 7. Liquidity ratio for the years 2017–2022.

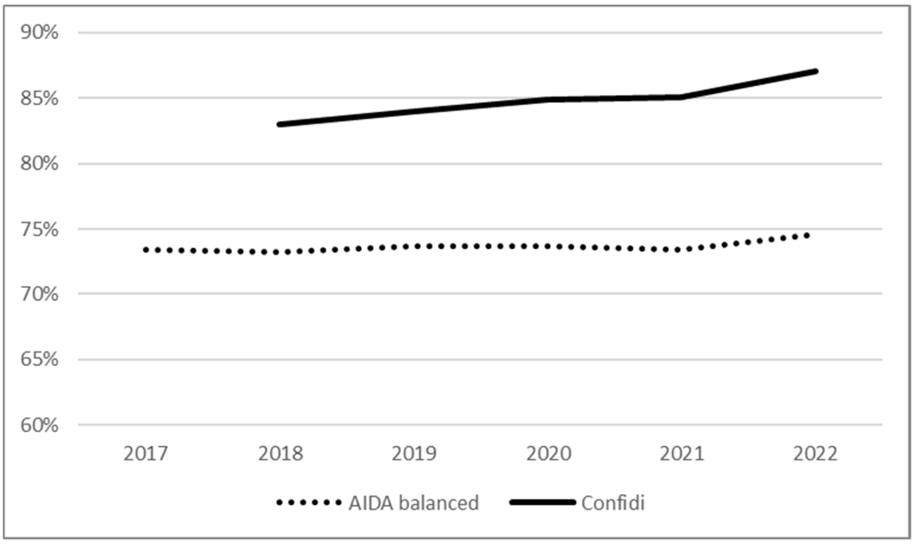

Figure 8. Debts/total assets, years 2017–2022.

The evolution of sales, as reported in Figure 9, shows a very interesting post-pandemic opportunity for the considered firms, with the general sample average ranging from EUR 330 to 400 thousand in the pre-pandemic years and reaching EUR 532 thousand in the post-pandemic, but even more for the confidi-supported sample, which ranged from EUR 600 to 700 th. in the pre-pandemic and almost doubled their sales volume in the post-pandemic period, around EUR 1200th in 2022.

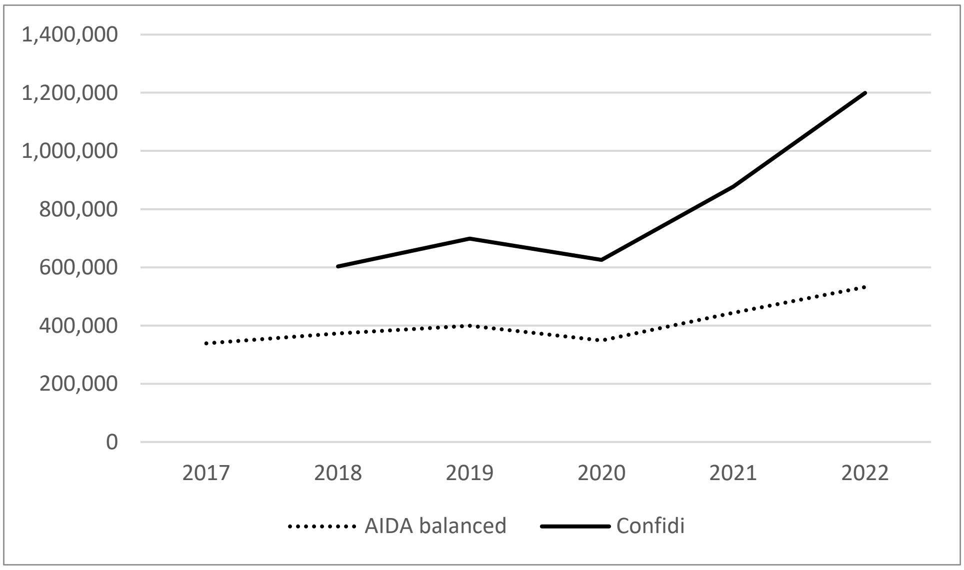

Figure 9. Average sales per firm, years 2017–2022 (EUR).

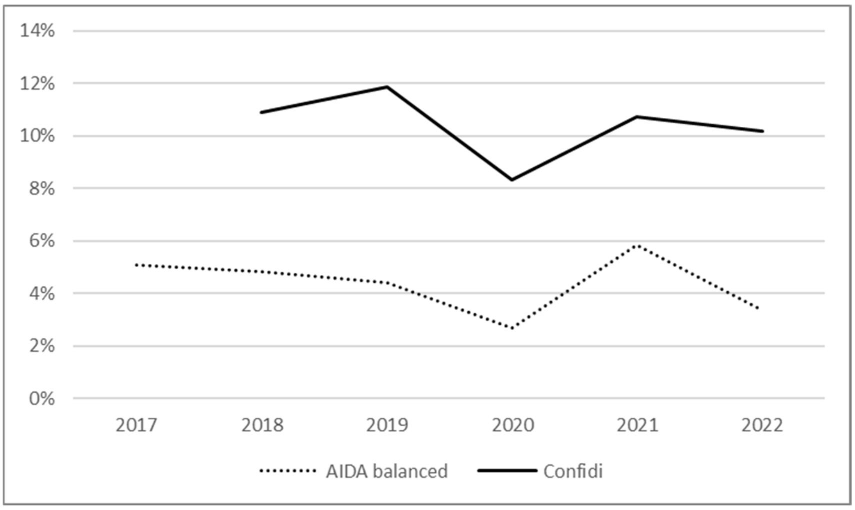

Figure 10. ROI, years 2017–2022.

The ROI evolution (Figure 10), computed as the EBITDA over the total assets, shows two sides of the considered phenomena. On the one side, the general evolution of the ROI is that of a significant reduction during the most dramatic pandemic year, 2020, reducing the return on investment from 5% in 2019 to 2.6% in 2020 considering the Aida sample, and even more for the confidi-supported sample, going from 11.9% to 8.3% in the same years, but bouncing up in 2021 for both groups nearly to the previous levels and suffering a new reduction in 2022. On the other hand, the confidi-supported firms reported higher ROI levels in all years, showing an interesting return and income capability, which contrasts with their weak financial situation, evidencing their weakness in the bank–firm relationship.

The average cost of debt (Figure 11), computed as the total financial charges over the total debt, confirms the confidi-supported firms' weakness in the bank–firm relationship, reporting higher costs than the general sample, while both samples evidence a significant reduction in debt costs related to the government's financial support during the pandemic years.

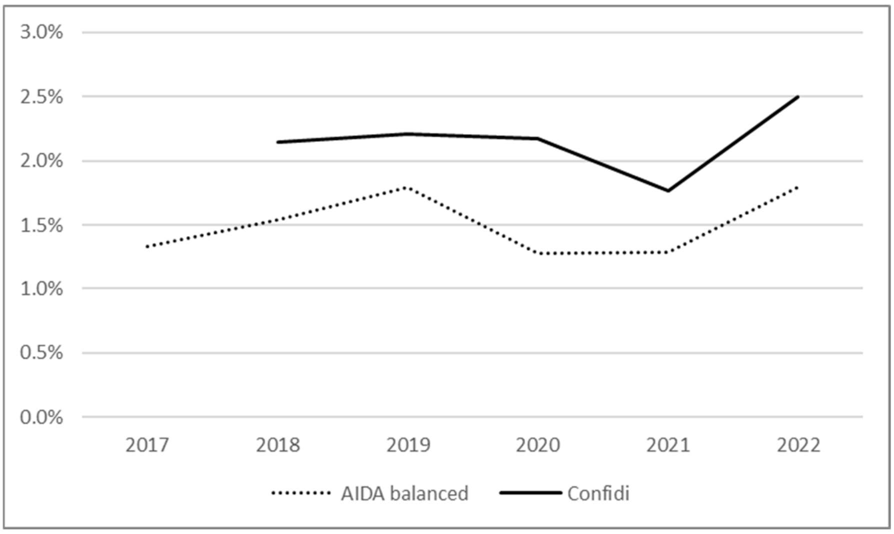

Figure 11. Average cost of debt, years 2017–2022.

5.3. Economic Significance: A Summary of the Analyses on the Role of Confidi

A comprehensive overview of the previous analyses' economic and financial significance provides a synthesis of the confidi's role and their combined effect with the counter-guarantee of the Central Guarantee Fund in supporting businesses during the pandemic period.

Such an overview highlights the general action of the government and private guarantee entities aimed at mitigating the risks of a credit crunch associated with the economic crisis brought about by the COVID-19 emergency and the lockdown measures.

Specifically, the analysis focused on comparing the resilience and performance of businesses supported by confidi versus those external or not associated with guarantee consortia revealed that businesses affiliated with confidi entered the pandemic period generally less liquid (Figure 7), weaker in their ability to generate cash flows, and less capitalized in absolute terms and relative to their liabilities (Figures 6 and 8). These characteristics depress creditworthiness, leading to adverse rating outcomes and, thus, reducing these businesses' independent abilities to secure financial leverage. The confidi's intervention proved essential to ensuring these businesses' survival in the market. Moreover, these companies demonstrated greater receptivity to fixed-asset investment strategies, enhancing their corporate structures (Figure 5).

From a strictly economic perspective, the confidi's support for these (financially fragile) businesses significantly contributed to revenue growth (even doubling in some cases, Figure 9) and achieved profitability. Although subject to para-physiological cyclical fluctuations, this profitability remained significantly higher than the external sample's (Figure 10).

In short, the confidi's role positively impacts businesses characterized by viable and scalable business models, albeit financially and patrimonially weak, less resilient to systemic crises, and more dependent on credit support. The confidi's guarantees enable these businesses to maintain their market position even during turbulent periods while facilitating their development in terms of assets, production value, and operational profitability.

6. Discussion and Conclusions

Credit consortia are essential in mitigating the asymmetry in the bank–firm relationship. Acting like a debtors' union, they help small and financially fragile firms find credit coverage for their investments and negotiate conditions. Our data confirm that the confidi-supported firms are smaller, less capitalized, and less liquid but capable of high returns. This is the typical profile of small firms needing support in the firm–bank relationship, allowing confidi to help them obtain more credit in better conditions.

During the SARS-CoV-2 pandemic crisis, credit consortia played a significant role, supporting Sardinian SMEs with guarantees and helping them obtain government financial support.

As highlighted by our study, debt financing has proven to be a critical resource for SMEs during challenging economic periods. Specifically, during the SARS-CoV-2 pandemic, we observed a decrease in equity levels alongside an increase in debt financing. This finding is supported by the studies of Halling et al. (2020), Acharya and Steffen (2020), Li et al. (2020), and Gopalakrishnan et al. (2022), which underscore the critical role of debt for firms during periods of uncertainty. Similarly, Khurana et al. (2024) note that SMEs often prefer debt over financial autonomy during crises, a conclusion confirmed by our research. This trend aligns with our findings that the availability of inexpensive debt, facilitated by public intervention, significantly encouraged its use as a financing mechanism during the pandemic. As our study highlights, government interventions aimed at enhancing credit access for firms played a critical role in reducing the cost of debt. Wang et al. (2024) similarly observed that such measures alleviated liquidity pressures and enabled businesses to sustain operations.

Our study further reveals that the level of debt increased during the crisis as borrowing costs declined due to government-supported credit initiatives. Additionally, we noted that firms utilizing credit consortia experienced higher debt costs than other firms. Gómez et al. (2016) also observed that credit consortium intermediaries were generally more expensive than direct bank financing due to additional layers of intermediation. However, public support programs promoting SME growth made credit consortia a vital financing channel for specific firms, particularly for those unable to access direct banking due to their small size and vulnerability. Our study also highlights the heightened vulnerability of firms supported by credit consortia, characterized by limited liquidity levels, higher average costs of debt, and significant debt exposure. This increased risk for firms relying on credit consortia was also noted by Gai et al. (2016).

In terms of performance, our analysis shows that SMEs benefiting from credit consortia exhibited more significant increases in sales and asset levels attributed to public intervention compared to the general sample. Additionally, these supported firms demonstrated higher and sustained ROI levels during the crisis than the general sample. Similar findings were reported by Khurana et al. (2024), Corredera-Catalán et al. (2021), and Briozzo and Cardone-Riportella (2016), who demonstrated a positive correlation between firm performance and the financial support received during crises. These studies collectively emphasize the untapped potential of SMEs, which can only be realized when they have access to essential financial resources to strengthen their operations and drive growth.

The pandemic was an exciting chance to study the effect of liquidity injections in small and nonliquid firms. The capability of higher investment and positive returns, which is expected by theoretical deduction, is confirmed by the evidence. The liquidity provided by the government support, filling the main gap in their financial structure, lighted a restart of the confidi-supported firms, firstly just providing higher liquidity, which, from the subsequent year, was transformed not only into higher investment but also resulting in a positive jump on sales.

The demographics of Sardinian companies in 2019–2022 and the volumes of loans and savings showed a strengthening of debt capital payments, increased collections, and a progressive improvement of the companies' aggregate net financial position in Sardinia. In short, the credit support provided by the government, banks, and credit consortia resulted in the overcoming of the crisis. It improved the real economy framework with respect to the pre-pandemic scenario.

The evolution described here suggests that the credit restrictions SMEs suffer from can be due to a market failure, such as the credit system's incapability and banks' ability to allocate credit resources properly.

This incapability to select good customers is often due to the need for more hard information from balance sheets and bank account records. The opacity of accounting information is due to the small firms' possibility of a simplified accounting system and the significant use of cash, which reduces the information coming from the bank account. The lack of hard information is becoming more significant over time as the banks' progressive use of credit scoring quantitative models actually relies on hard information. Hence, the unavailability or mistrust of these information sources reduces the scoring model's capability to allow for firm financing.

In this sense, the role of credit consortia is very significant, as on the one side, their credit assessment mainly relies on the soft information provided by the close contact and specific knowledge of each firm, and, on the other side, backing the financing request by specific guarantees, which increase the firm scoring, allows the bank to finance the firm.

The guarantee support, which is fundamental in this framework, is the primary constraint for the credit consortium activity, as it must be covered with capital or counter-guarantees. The analysis of credit consortium activity in Sardinia shows instead a progressive reduction in their activity, partially substituted by direct public guarantees. It shows a higher efficiency of larger confidi, which are also the ones under stricter supervision by the Banca d'Italia, being monitored by quantitative risk measurement and management models.

The higher efficiency of larger confidi is critical in policy terms, as it shows that a smaller number of larger credit consortia can provide more substantial support to Sardinia's small and financially fragile firms. In operative terms, the opportunity to merge or acquire the smaller ones into one or a few larger ones is a possible way to improve their capability to help Sardinia's smaller firms and to support them in their investment and growth.

The main limit of this analysis is in the small number of cases of confidi-supported firms, which are not publicly available. Future studies based on more data could extend the analysis to encompass the entire Italian context, considering firms supported by MGSs across all regions, not just Sardinia. A broader examination would allow for an assessment of regional differences in Italy and offer a more comprehensive understanding of firms' responses on a national scale.

The role of confidi could be better understood outside the context of financial distress, focusing instead on a more typical economic setting. In such an environment, evaluating their effectiveness in supporting financially stable firms and comparing their performance with direct financing channels could provide more insights into their value proposition. Given the limited research on credit consortia within the Italian economy, new studies would help improve our understanding of their function and impact in the broader financial landscape.

Author Contributions: Conceptualization, M.D. and S.Z.; methodology, M.D.; validation, M.D. and E.S.; formal analysis, M.D.; resources, S.Z.; data curation, M.D. and E.S.; writing—original draft preparation, M.D.; writing—review and editing, S.Z. and E.S.; supervision, S.Z.; project administration, S.Z.; funding acquisition, S.Z. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Fondazione di Sardegna, progetti biennali annualità 2021, grant n. F73C22001410007.

Data Availability Statement: The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

Conflicts of Interest: The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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