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Corporate liquidity needs during Covid-19 crisis: a preliminary analysis of the response to the adoption of the Guarantee Fund for SMEs

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Firma dello studente

Cecilia Tino

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Introduction

A year has passed since the whole world has been affected by the Covid-19 pandemic, a completely unexpected event that demonstrates the interdependence of the human society – showing no one invulnerable to the spread of the virus. The health crisis rapidly turned into an economic and social crisis, making necessary a timely intervention from the governments. Intervention that, considering the non-linear behaviour of the shock – with outputs highly disproportionated to the known inputs -, demands for a huge deployment of resources. Over time, the rapid and widespread evolution of the outbreak has created the further requirement of structural policies, trying to "transform disruption into construction", as Mario Monti said at the end of November 2020.
Amongst the growing academic research about the pandemic and its relative consequences, my dissertation will seek to analyse the response to the adoption of the Guarantee Fund for SMEs by the Italian private eligible companies. The choice of the topic is driven by a personal curiosity about understanding what the real use of public resources has been and by the highly up to date nature of the topic. To draw a significant layout, the essay will be structured in four chapters.

The first chapter starts from the 30th of January 2020, the day it was declared Covid-19 as a "Public Health Emergency of International Concern", to describe how governments have dealt with the emergency. In particular, the main institutional measures in support of the companies enacted during the period from March to November 2020 in Italy, Spain, France, Germany, and the United Kingdom have been presented. It is worth mentioning that, for the first time since 2009, a generalized improvement in the access to public financial support was registered: from -3% to +14% (European Central Bank, 2009), showing that the government initiatives have fed through the enterprises at European level. In the context of the economic slowdown, it became crucial trying to commit as much effort to prevent the effects on the real economy from being transferred to the credit sector, to avoid a spiral likely to have further negative impacts on households, businesses, and local authorities. Therefore, several public measures have been implemented to provide liquidity at subsidized conditions for postponing and smoothing the impact of the Covid-19 crisis (Gobbi, et al., 2020). Specifically, for what concerns the Italian scenario, a budget of more than €750 billion has been allocated through the Liquidity Decree in the moratorium on loans and exceptional public guarantees – through the Guarantee Fund for SMEs and the "Garanzia Italia"

Scheme managed by SACE. Furthermore, by the Relaunch Decree additional €12 billion of liquidity have been allocated to Italian regions and local authorities.

Keynes (1936) identified the most urgent liquidity needs whenever a mismatch between costs and receipt of sale proceeds happens, reflecting exactly one of the main effects of the Covid-19 outbreak. The second chapter outlines the crucial role of Public Credit Guarantees in addressing the emerging liquidity requirements of the companies, in particular the near-term liquidity needs – as advocated by the International Monetary Fund (Brault and Signore, 2020). This type of intervention was established by all the countries considered and, as the academic literature suggests, it represents a prompt measure to support the access to bank credit thanks to the provision of publicly funded collaterals (De Blasio, et al., 2018). The Italian Government deployed 22% of GDP (Camera dei Deputati, 2020) for this measure, during the entire year. Furthermore, even not in crisis times, the mentioned Scheme represents an incredible instrument able to grant additionality to those benefiting from it. Financial additionality whether the company has become able to collect loans that would not have occurred without the Scheme, or economic additionality if the economic actor has experienced an improvement in performance.

Thereafter, in the third chapter, the State-backed Guarantee Fund for SMEs applying in Italy has been explained through the several amendments enacted as response to the downturn. Indeed, the provision has been significantly enhanced: the maximum loan amount granted has been doubled to five million euro per economic agent, the eligibility criteria have been expanded to include third-sector entities, assurance agents and sub-agents, professionals, and companies with up to 499 employees, moreover the full coverage rate has been favoured to loans up to €30,000. These remarkably favourable conditions resulted in five times as many procedures being activated by the Guarantee Fund for SMEs compared to the previous year, 2019. Furthermore, the allocation of the financing granted by the Guarantee Fund has been described, in terms of economic sectors and geographic areas differentiation, and also with reference to the time distribution. In fact, due to the many changes applied, the effective operativity of the Fund has been achieved from May.

Afterward, in the fourth chapter, the factors which determined the companies' choice in responding to the adoption of this Public Program have been analysed. Which company-specific variables matter most in influencing the uptake to the Guarantee Fund and whether there is a geographical

or sector effect, with the aim of understanding whether it is possible to outline a common pattern of guarantee allocation among private Italian companies. Moreover, it has been analysed whether having benefited from a public guarantee during the previous financial year or participation in the Redundancy Scheme may have influenced the demand. Finally, the differentiation of the characteristics of the enterprises that requested a partial or total guarantee was described, as well as the amount of financing requested diversified according to the latter. And, once again, whether it is possible to trace some sort of geographical or industrial effect or whether the amount is entirely influenced by company-specific features.

Chapter 1

The institutional framework implemented in response to the Covid-19 crisis

1. A general overview about the spread of the virus

From the first quarter of the year, the entire world has been hit by the virus of Covid-19 which has completely transformed the worldwide scenario. On the 30th of January 2020, following the recommendations of the Emergency Committee, the World Health Organization declared the Covid-19 outbreak as a "Public Health Emergency of International Concern". Then, the health crisis has quickly become an economic and social emergency with effects on every kind of business, individual, and institution. Therefore, testing the grade of resilience to adverse shocks of any economic agent and citizen, and nowadays it is still testing it.

Without questioning the seriousness of the situation, it is interesting to have a comparison with the last well-known pandemic: the Spanish flu. During the 1918 flu pandemic, about 500 million people fell victim, and one-fifth of those died. At the time, the world population accounted for less than 2 billion people, so the worldwide incidence rate was more than 25%. As of December, the 2nd, the cases of Covid-19 recorded all over the world were 63,995,700, with 1,483,227 deaths (Johns Hopkins Coronavirus Resource Center, 2020). The current world population corresponds approximately to 7.7 billion (United States Census Bureau, 2020), and to this extent, 0.83% is the portion of the population hit by the SARS-CoV-2 to date. Since the Spanish flu health crisis, the global scene has changed completely but some of the containment measures put in place at that time correspond to those implemented today. Bans on social gatherings, widespread closures, isolation to limit the diffusion, and measures to support the effort of the healthcare system. In a very short period, the Coronavirus outbreak has affected the worldwide production, investment, and consumption levels utterly. The high uncertainty characterizing the international scenario brought to weak confidence in the markets, share prices losing value, decreases in the employment rate, drop in the foreign demand, a cut in the customer purchase power, and the unavoidable identification of all the already existent market failures, more evident during downturns (OECD, December 2020). All these inevitable consequences have caused the crisis to shape a new playing field. In quantitative terms, what have been the main worldwide effects, and what are the estimates formulated for the near future? The World Economic Outlook Report published in October 2020 by the International Monetary Fund enounced that – while the Chinese economic recovery has been

faster than expected – the worldwide rise to pre Covid-19 levels of activity has remained prone to setbacks. Nevertheless, the global growth is projected at - 4.4% during the whole year of 2020, due to the – better than anticipated – development of GDP during the second and third quarters. The global growth for 2021 is estimated at +5.2%, as a result of the more moderate downturn estimated for 2020 and of the persistent government measures. After the rebound in 2021, global growth is expected to gradually slow down to +3.5% into the medium term, demonstrating progress in moving towards the trend for 2020-2025, forecasted before the advent of the pandemic. Keeping a global perspective, there have been few negative consequences, but what should concern us most is the improvement of living standards. Indeed, the pandemic has reversed the progress in reducing world poverty and inequality levels (International Monetary Fund, October 2020).
From a European perspective, several factors have interacted in determining the new playing field: interconnected production chains being transformed, government containment policies in relation to those implemented by the European institutions, and the degree of market competition threatened, depending on the different lockdown measures implemented. Also to be considered are changes in household consumption patterns, general behavioural adjustment actions, and implications for the European financial market. During the first semester, the economic activity has suffered a severe shock, then rebounded during the third quarter, concurrently with the release of some containment measures (Camera dei deputati, December 2020). The European Commission forecasted a contraction of - 7.4% in 2020, then followed by a positive trend of + 4.1% and + 3.0% respectively for the 2021 and the 2022. For both the Euro Area and Europe, a recovery to the pre-pandemic levels of activity is not expected in 2022. Furthermore, it is also worth noting that impacts differ widely across the European States: the spread of the virus, the efficacy of national policy measures, the structure and functioning of the national healthcare systems, and the sectoral configuration of national economies must be considered to have a more specific framework (European Commission, November 2020).

The focus of the outlook is now shifted to the first European country hit by Covid-19, Italy, since the dissertation will sharpen its topic on this country. On the 8th of December, Italy counted a total of 1,737,249 cases – 711,590 in the last thirty days (Istituto Superiore di Sanità, December 2020), in line with Spain, which counted a similar number of cases. Conversely, a lower number, around 1.2 million cases, characterized Germany, while France by a strong absolute incidence of about 2.35 million cases (European Centre for Disease Prevention and Control, 2020). Generalized

lockdowns and extended uncertainty are still damaging activities, halting some sectors and severely disrupting others, although government measures are mitigating the effects with huge packages of resources. The rise in infections and the consequent tightening of containment measures have brought the dynamics of Italian industrial production back to the downward territory during the fourth quarter. For the latter, during the month of October, a rise of + 1.2% - when compared to September – was measured, while in November a loss of - 2.3% was registered due to the demand contraction caused by the restrictions re-introduced in Italy and in its main trade partners (Censis & Confimprese , October 2020). The annual volume of orders in November, compared to the month of January, decreased by approximately 6.3%, according to the National Institute of Statistics. In November 2020, both the consumer confidence index and business confidence index fell, the worsening was widespread due to issues in supply chain management, in the drop of retail trade's expectations on future sales, and for the relevant decline in the traditional distribution for large-scale distribution. Lastly, in terms of GDP variation, during 2020 a drop of - 8.9% is estimated, then followed by a slight forecasted recovery of +4.0% in 2021 (Istat, 2020). Both the European Commission and the International Monetary Fund predict a worse decline: - 9.9% and - 10.6% respectively, whereas in terms of the 2021 recovery, forecasts are quite aligned (Camera dei Deputati, December 2020). Italy had the second-worst recession in all the European Union, just after Spain. The forecasts for 2020 and 2021 are mainly determined by the domestic demand – net of stocks and the foreign demand: dropped by -7.5% and -1.2% respectively in 2020, which will recover by + 3.8% and + 0.3% in 2021. Italy is now dealing with the second strong wave of spread and all the new public measures that follow. For the first wave, policies were more weighted to balance the protection of citizens' health and, in the meantime, the protection of economic activities. It has been estimated that the second wave of restrictions, added to the first one, would probably cost an annual collapse of €229 billion (-19.5%) to the level of consumption and a potential cut of 5 million jobs (Censis and Confimprese, October 2020). As demonstrated by these few data alone, the extraordinary nature of the event and the unpredictable trend of the health crisis has made it, and it is still determining the next normal truly challenging.

2. How Governments have dealt with the emergency

Given the new international scenario, all the States were called to put their strengths and operational levers on the table. The economic impact of the emergency has been conditioned by several

variables: a supply shock due to the disruption in supply chains and the relative difficulties in the provisions of raw materials, a demand shock both from a foreign and a domestic point of view, caused by lower consumer demand, potential difficulty at logistics or infrastructural levels, the labour market massively impacted and lastly, the inevitable negative effects on the investment plans and liquidity levels, both for companies and households (Camera dei Deputati, December 2020). The Governments had to decide quickly what to do, how, and through what type of resources. According to the International Monetary Fund, by mid-April the G20 countries had already announced direct measures amounting for 3.5% of their GDP, by that time similar to the amount allocated in response to the Global Financial Crisis (Banca d'Italia, May 2020). Therefore, the Governments confirmed their unquestionable ability of intervention. Concerning this, Giovanni Tria (2020), former Italian Minister of Economy and Finance, highlights three important issues that could arise during periods of crisis, with regards to the public role. Firstly, whether the State must enter the production system overtaking the unique supply of essential public goods and services or just offering a protection and support system. Secondly, the necessity of safeguarding the infrastructure needed for a competitive economy and guaranteeing the public investment capacity. And finally, the awareness that public pandemic deficits cannot be transformed into expenditure structural deficits. Therefore, the implementation of effective and well-balanced public policies became the priority for all the countries to reduce the contagion and strengthen the capacity to cope with the emergency. The responses implemented were characterized by similar patterns, divided into common macro-areas as labour market, equity replenishments, one-off revenues, debt guarantees, and funds for the export activities. Among them, non-repayable grants to small businesses, tax deferrals and tax relief, income support for families, funding dedicated to start-ups.

To cushion the impacts for households, firms, and the entire financial system, the field of application for public policies was so diversified:

- measures directed to the healthcare system to deal with the sanitary emergency,
- measures to strengthen the health workforce,
- fiscal measures,
- financial measures,
- social policies to deal with the epidemiological crisis,
- measures adopted for the education system and for Universities,
- measures for the sport world,

- measures for cultural goods, activities, and services,
- measures for all the means of transport, both at the national and international level,
- measures for the use of armed forces to control the respect of restrictions,
- measures directed to the Public Administration,
- local finance measures (Camera dei Deputati, 2020).

Therefore, institutions were engaged in enacting policies at multiple levels. Furthermore, the shocks were diffused with a diversified grade of intensity and so for policymakers, the role was deliberating targeted policies, both from a fiscal and monetary standpoint (OECD, December 2020). Different players have been called to act through their different roles: Central Banks took significant actions to reduce the systemic stress and support the markets' confidence, while Governments were addressed to make specific national choices. In both cases, the research of the right trade-off between short-time effectiveness and the long-time horizon became crucial to avoid the implementation of actions purely orientated to the current subsistence without considering the sustainability over time.

From the beginning, aggregated actions became necessary: at the European level, synchronized responses were fundamental to weather the crisis and guarantee a recovery. For this reason, on the 13th of October, the European Commission published the fourth amendment to the Temporary Framework for State Aid, which extends all measures, net of recapitalisation measures, until the end of June 2021. In March, the rapid progress of the pandemic led the European Commission to take official actions, starting with a process of adaptation of the European regulatory measures to the new health, social and economic context created by the Covid-19 outbreak. The Commission established specific provisions to allow Member States to derogate from the prohibitions of the EU Treaty. Under Article 107, the Commission approved the extension of State aid measures granted by the Member States, to repair the damage caused by the exceptional occurrence directly to specific undertakings or sectors. Indeed, Article 107 of the "Treaty on the Functioning of the European Union" regulates State aid to enterprises. The Commission immediately stressed that, beyond the health aspects, it was necessary to manage the economic shock. Therefore, the response measures were aimed at ensuring the supply of health systems, preserving the integrity of the common market, supporting people to avoid disproportionate effects in terms of income and jobs, supporting businesses to ensure the flow of liquidity, and ensuring that each Member State acted in line with the others and taking advantage of the flexibility offered. These modified rules support

the Member States to take measures to sustain the economic fabric by way of derogation from the normal state aid rules (Camera dei Deputati, December 2020). The framework determined some thresholds for aids to specific firms and set the possibility for national Governments to implement a category of measures without the Commission's involvement if they fell outside the scope of State aid rules. While other support measures request notification, such as liquidity schemes, guarantees on bank loans, or subsidized public loans, flexible export credit insurances. Given the exceptionality of the circumstance, the "one time-last time" principle, typically applied to avoid economically not viable firms being kept in the market artificially, is excluded. So, reintroducing the possibility of favouring some measures, from which the firm has already benefited recently. Therefore, the European State aid control helped to ensure an integrated internal market for a faster recovery, helped the national support schemes to be effective in helping affected undertakings (Camera dei Deputati, December 2020). Concurrently, at the European level, a certain acceleration process was addressed to meet the green and digital transition following the future objectives of the Union. Interventions mainly directed to the research and development activity, to the provision of relevant products to tackle the Coronavirus outbreak, to recapitalization schemes, to public support for micro and small companies, to the encouragement for investments in green energy and digitalization, and other forms of targeted support (European Commission, 2020). All aimed at supporting the principle of transforming disruption into construction, as previously mentioned.

So, the non-discretionary measures in response enacted by four European countries and the United Kingdom are summarised in the following presentation. The outline takes the company point of view and explores broad topics to lay the foundations of the analysis, the policies presented have national validity and are aimed at supporting companies and workers during the crisis. The measures have been collected from different sources, such as the International Monetary Fund Policy Tracker, the OECD Policy Tracker, the database about State Aids constructed by the European Commission, and the KPMG Government Stimulus tracker. Moreover, by referring directly to the official websites of the Ministries of Economy and National institutions. Because of the rapid evolution of the pandemic, and the relative pace of production of temporary policies, the framework is updated to the end of November – first half of December 2020. Except for the Italian framework, more up to date.

3. The institutional responses in Spain

Spain registered the first infection case just after Italy at the end of February 2020. During the first wave of contagion lockdown measures were repeatedly extended since March, specifically: from the 15th of March to the 21st of June restrictions to the citizens' mobility were imposed, while from the 30th of March to the 9th of April all the non-essential economic activities were shut down. Then concurrently with the gradual reopening, social distancing requirements, capacity limitations, and hygiene measures remained in place (KPMG, November 2020). On October the 25th, the Government declared a new state of emergency until May 9th, 2021 due to the incessant pace of diffusion of the second wave of contagion (International Monetary Fund Policy Tracker, 2020). During the entire period, several response measures have been put in place. Now starting from the labour and social security measures:

- ERTE scheme: the "Expediente de Regulaciòn Temporal de Empleo", processed under the Law Decree of the 17th of March, provides exceptional measures in case of suspension or reduction of the working hours contractually agreed due to the special occurrence represented by the Covid-19 outbreak. ERTE is a temporary collective dismissal, through which firms temporarily suspend the employment contracts, normally the scheme is used in case of temporary cessation of the activities or insufficient income. The procedure should be requested reporting the loss of activity measured, then the exemption for social security contributions amounts to the 100% for firms with less than 50 employees and 75% in case of firms with more than 50 workers registered,
- Extraordinary measures regarding unemployment benefits: grants were offered to workers, particularly to those who work with seasonal contracts, as in the tourism industry and all the related represented by the Horeca sector. The measure provided also in cases of non-compliance with the minimum contribution period. Moreover, the regulatory base for workers' payments in case of illness has increased to 75%, paid by the Social Security Budget,
- The prohibition of dismissals was imposed in case of reduction in the activities directly caused by the health crisis. For the firms benefiting from the Redundancy Scheme (ERTE) the commitment to reintegrating workers at the end of the scheme was requested for at least six months,
- The Solvency Support Fund has been established for strategic companies, through a €10 billion budget directly managed by SEPI – "Sociedad Estatal de Participaciones Industriales". The

Fund provides temporary support to non-financial firms in difficulties due to the Covid-19 pandemic. The eligibility criteria ask for companies not in financial difficulties on the 31st of December 2019. Recapitalisation is made through suitable instruments which do not cause distortions to the competition, such as convertible debts, share subscription or other types of equity instruments. The intervention takes place whether there is evidence that the activity interruption would negatively affect the macroenvironment, being strategic enterprises. In case of implementation, some conditions were requested to the beneficiary, such as the respect of a threshold to the amount restored, a ban on dividends and acquisitions, and a restriction to the bonuses enlarged,

- The Covid-19 Guarantee Facility: a huge intervention to strengthen the level of liquidity of companies and self-employed was granted through the Instituto de Credito Oficial (ICO). Clearly, the net indebtedness of the latter was raised in order to be prompted to sustain all the following measures. A budget of €100 billion for guarantees on new or renewal loans was allocated, and the guarantees were intended for the enterprises not in default on the end of 2019 and without banking procedures on the 17th of March. The maximum amount of the loans was set to 25% of 2019 sales or twice the 2019 salaries, as requested by the European regulatory. While the maximum maturity for guarantees amounts to five years. The scheme was divided into four tranches: the first package of €20 billion, halfway reserved for firms with less than 250 employees and freelancers, guarantees for up to 80% for SMEs, 70% for large companies' new loans, and 60% for large companies' renewals,
- The second and fourth packages amount to €20 billion each – fully intended for companies with less than 250 employees and freelancers,
- The third and fifth packages weighted for €40 billion and they have been fairly allocated between firms with less than 250 employees and large companies,
- The Investment Guarantee Facility: is an instrument to provide lines of guarantee offered through a budget of €40 million to support the capital expenditure for companies to adapt, extend and renew their production or service capacity. Although the main purpose of the measure is pushing for investments, funds may also be used for other purposes such as wages or financial and tax obligations. The guarantee amounts to up to 80% for SMEs and self-employed workers, while 70% for all the other companies. Also for this type of guarantee, the maximum duration is set to five years,

- Covid-19 Moratorium: by which the temporary suspension of contractual obligations was enacted. Indeed, to facilitate the operating activity, the payments on loans were postponed and the reimbursement of principal and/or interests on the current annual amount were readjusted. A three-month moratorium on mortgage payments for the most vulnerable, including households and self-employed was granted and then also extended,
- Extraordinary Insurance Cover Facility: the "Compañia Española de Seguros de Crédito a la Exportactiòn" (CESCE) administers an extraordinary guarantee to SMEs or unlisted companies engaged in the international trade, with at least 33% of sales from international deals or regularly carrying out export activities, and currently experiencing liquidity problems. The amount allocated is €2 billion and the coverage ratio for the guarantee is up to 80%. Firms in state of arrears, in default for Public Administration, or in crisis at the end of the previous financial year, were all excluded. In this case, the maximum duration is five years too,
- Loans to SMEs and self-employed in the tourism sector: loans have been granted at a fixed interest rate of 1.5% as maximum, no more than €500 thousand per loan and with a maturity of up to 4 years,
- The AceleraPyme: budgeted €250 million to push for SMEs digitalization, both in terms of support to the Research and Development activity and to finance the investment in equipment,
- Deadlines for tax filing, insolvency declarations, and the preparation of the Financial Statement were all extended,
- The postponement for contract obligations could be requested also for loans granted by Autonomous Communities or Local entities, and in general for Public Administration debts,
- Ad-hoc measures: some specific adjustments were made regarding the regulation governing certain sectors and activities, to increase the tolerated flexibility. Especially addressed to the most affected ones as the tourism industry, the hospitality sector, to agricultural workers.

4. Government measures enacted in France

As of December, the 16th, France is the European country counting the greatest number of Coronavirus deaths (European Centre for Disease Prevention and Control, 2020). During the first wave of contagion, the measures for mobility restrictions started on the 17th of March until the 11th of May, when the containment measures started to be eased. The French economy suffered a contraction of at least - 5.9% and - 13.8%, respectively in the first and second quarter, while in the

third one GDP grew by + 18.7% (International Monetary Fund Policy Tracker, 2020). Several support measures were addressed to meet companies' needs:

- The postponement of Social Security Contribution deadlines: became possible due to the restrictions to the economic activities, the requests must be directed to the "Union de Recouvrement des Cotisations de Sécurité Sociale et d'Allocations Familiales", the French Organization for the collection of social security and family benefit contributions. According to the crisis, the postponement could be for the entire amount or part of it, without any penalties. In case of large companies benefiting from the deferral, they were obliged to not distribute dividends or buy back shares for the entire financial year,
- The Partial Activity Scheme: in case of exceptional circumstances, the companies can apply for partial activity allowance. Multiple reasons arose due to the Covid-19: employees unable to work, closures imposed by the Decrees, drop in the activities, and difficulties at the supply level. Whether the employment contract is suspended, the receipt of a compensatory indemnity is offered to amount to at least 70% of gross remuneration, increased to the 100% in the case of provision of training. According to the sector and how much it has been affected, the percentage of reimbursement for employee compensation varies. To benefit from this measure no conditions of seniority or type of employment contract matters. The categories of beneficiaries have been extended and the allowance paid is considered as replacement income, so it is not subject to social security contributions,
- Economic dismissals were generally subject to increased scrutiny. Normally, they represent a possibility in case of a time persistent change in at least one economic indicator and following technological changes or a company reorganization. Certainly, Covid-19 does not constitute itself a layoff reason,
- Companies operating in the essential sectors do not follow the public rules about daily working time, daily rest period, and weekly working time to guarantee a full-time service,
- State-guaranteed loans: the volume of the loan is limited to the 25% of 2019 sales and the guarantees are offered at 90%-80%-70% depending on the turnover of the company. The financial sector is entirely excluded, certain real estate too and the defaulted companies on the 31st of December 2020. In the case of companies with fewer than 5,000 employees and a turnover smaller than €1.5 billion, the company can apply for multiple loans. Even in this case, the total amount cannot exceed 25% of 2019 turnover or twice the payroll in 2019 for start-ups,

- BPI Assurance Export: for the export companies public guarantees of up to 90% for SMEs and up to 70% for other enterprises are at disposal. For a period of six months in form of guarantees or pre-financing guarantees for export projects, moreover, the Cap Francexport reinsurance scheme for short-term export credits was extended,
- The possibility of renegotiating credit lines: for any company and of any size, the State and the Bank of France support the negotiation for rescheduling bank loans,
- Repayable advances: for Small and Medium enterprises with difficulties in achieving financing amounts, a budget of €500 million was earmarked directed to fragile firms in the need of cash,
- Tourism sector: **"**Caisse des Dépôts", a French public financial institution, deploys €3.6 billion in loans, quasi-equity, and equity instruments to support the sector until 2023. Moreover, specific interventions were implemented such as a web national platform dedicated to the digitalisation of tourism,
- Exceptional participating loans: for small and very small businesses, which do not obtain a State-guaranteed loan: equity loans of up to €10 thousand or €50 thousand according to the size may be granted for a specific period, the support may be used for working capital needs or the investment plan,
- The Fonds de Solidarité offered tax-free aid for micro-companies and self-employed to cover fixed costs. The player is eligible if it suffered a loss of at least 50% of the turnover, the aid amounts to €1,500, and the fund is financed through the State, the regions, local authorities, and private contributors,
- Régime Cadre Temporaire: is a scheme open to all the sectors, which offers a 15% bonus for cross-border collaboration for projects of Research and Development activity, relevant for the emergency support,
- The closing and approval of financial accounts: the time limit for presenting annual financial statements and approving accounts and documents attached has been extended by three months,
- Insolvency procedure: during the whole period of the health emergency, it is assessed based on the financial situation of the debtor on the 12th of March 2020 and the postponement can be asked, moreover the deadlines for the Safeguard plan and Restructuring plan have been extended.

On the 3rd of September, a new package, the Plan de Relance, to support the recovery of the French economy, hit again by the second wave, was enacted and it included measures dedicated to:

- The Green Economy: €30 billion allocated to speed up the investments and expenditures directed to industry decarbonisation, sustainable mobility, support the railway transportation, and for the development of green hydrogen,
- To support the competitiveness and economic resilience at the national level: a budget of €34 billion was allocated to boost investments in industrial innovation, to support export activities, to support the grant of equity capital to businesses strategically relevant for the country, but also to the strengthening of the healthcare system, to the Research and Development for goods and services essential to cope with the virus, professional training support. To the initial budget, an additional €36 billion were allocated.
- Direct support is offered to microenterprises, independent workers, and low-income households through grants and bonuses.

5. The actions of the German Federal Government

The Federal Government has released several packages of responses to the Covid-19 outbreak and the role of KfW, the German public bank born at the end of the Second World War, has been crucial for a relevant part of them. The State-owned bank KfW has been really facilitating the access of companies to the supply of short-term liquidity. Germany adopted different measures of lockdown, generally less stringent than in the other European countries (KPMG, December 2020). In addition to the Federal Government schemes, federal states have announced their own measures of support through direct or indirect channels. To fight against the second wave of infections, further measures were released and most of the schemes implemented were extended and re-budgeted. To have an idea, the overall support for Start-Ups and SMEs from June to December 2020 amounts to €25 billion (International Monetary Fund Policy Tracker, 2020). Starting from the employment-related measures, those are the main policies for enterprises:

- The Act of Short-Time Working (Kurzarbeit) has been extended until the end of 2021 and it is aimed to facilitate the access to short-time working compensation, also for temporary workers, and to release firms from the social security contributions. The compensation is paid for one year or two – in case of those requesting already registered on the 31st of December 2019 for reduced hour compensation. To obtain this measure, at least ten percent of the firm's employees must be affected by a reduction in working hours of 10%,

- The Refund of Social Security Contributions ensures for the companies, which fall within the scope of the latter measure, a full reimbursement until the end of the first semester of 2021 by the Federal Labour Office, successively followed by a semi-refund. For this measure, an initial budget of €5.3 billion was allocated,
- In case of an employee quarantined, the employer must pay the regular salary for up to six weeks, then at the seventh week 70% of the net salary is paid by the health insurance company,
- The Economic Stabilisation Fund was implemented through an overall budget of €600 billion. The Fund earmarked €100 billion to direct recapitalization measures to ensure the solvency of large companies, not in financial difficulties on the 31st of December 2019, without other funding alternatives and with a definite future perspective. Smaller companies and start-ups may also be eligible, if strategically relevant and financially sound, while ones from the financial sector and credit institutes normally not. Whether a company receives support from the Fund, some restrictions regarding management compensation, bonuses, dividends, and other profit distributions are imposed. The Fund also mobilized €400 billion for guarantees to help firms resisting liquidity restrictions, and €100 billion dedicated to KfW, the Public Development Bank, to facilitate the supply of liquidity to firms,
- KfW Entrepreneur Loan and ERP Start-Up Loan are schemes destined to companies on the market for longer or no longer than five years, respectively. Guarantees up to 80% for large enterprises or 90% for SMEs. The scheme has a maximum duration of ten years and is restricted to working capital loans up to €1 billion,
- VR Smart Flexible Promotional Loan is a measure destined to firms on the market for at least three years and German-based, without the necessity of provision of collateral and the interest rate varying depending on the creditworthiness. Loans accepted up to 25% revenues of 2019 and without any charges for two years,
- KfW Special Programme 2020 offers syndicated financing, with a minimum of €25 million and a maximum being the greater between 30% of total balance sheet assets and 50% total debt, where KfW assumes 80% of the risk. It is aimed to support investments and working capital needs of medium-sized and large enterprises, in this case, the distribution of profit or dividends was not allowed, and the maximum credit term is ten years,
- A co-investment in start-ups through KfW bringing forward a first tranche of an already planned Future Fund, €2 billion allocated for the recapitalisations of start-ups. And an

Immediate Assistance Programme envisages a direct grant, of up to €15 thousand per firm, to cover the operating costs, dedicated to self-employed and small firms with up to 10 employees,

- The KfW fast track loan for mid-sized companies offers a quick loan for operating costs, with a volume set at up to 25% of the firm's revenues in 2019 and fully guaranteed by the Federal Government. For this measure, the cumulative with other measures is not permitted except for the grants awarded under the emergency aid programs. The maximum term is a decade, provision of collaterals unnecessary, banks do not assess the level of risk of the firm, 100% risk assumption by KfW,
- To support the German export industry, a relief in fees for export credit guarantees was introduced. Some agreements on customer loans were released: between April and June 2020, all the payments were postponed by three months if they suffered a decline in income directly related to Covid-19,
- The suspension of the obligation to file for insolvency was retroactively suspended from March to September 2020, exclusively for firms suffering economic difficulties or becoming illiquid for the Covid-19 pandemic. If necessary, there is the possibility of extension in case of over-indebtedness while the condition to obtain the grant uniquely depends on the existence of a reasonable statement of recovery,
- "Securing training places": is a Federal Programme for which €500 million are allocated to support SMEs in terms of human resources. The aid consists in €2,000 for each vocational training contract completed in 2020/2021, €3,000 for each vocational training contract completed above regular number, €3,000 for each hired employed in vocational training from insolvent firms due to Covid-19,
- Restart Culture Programme: funds, totally amounting to €1 billion, were destined to support cultural activities, the biggest portion of €480 million to preserve various cultural institutions and projects, other packages destined to pandemic related investments, alternative digital offers, private radio,
- Financial support for consultancy services: a maximum grant of €3,200 from the Federal Government is designated to the SMEs based in Germany, for which more than 50% of their turnover is generated from consultancy. The measure applies even if the SME is a distressed company,
- Aid for SMEs which suffer at least 30% of revenue decline or 50% for two consecutive months, reimbursement of fixed operating costs varies in accordance,

- KfW Special Credit Programme for non-profit organizations and municipal enterprises,
- Corona aid package by the Federal State Baden-Wuerttemberg for an amount of €1.5 billion dedicated to different players such as public transport network, hotel industry and catering trade, restaurants,
- November Aid through a budget of €14 billion for companies directly or indirectly affected by the closures, up to €1 million the reimbursement amounts to 75% of the average daily revenue generated in November 2019,
- The Public Investment Plan for 2020/2021: €60 billion allocated for digitalization, security and defence, to the enhancement of the transportation infrastructure, the reinforcement of the healthcare system, and technological innovation.

6. The public schemes in the United Kingdom

On December 8th, the United Kingdom became the first Western country administering the Pfizer-BionTech vaccine (CNN, 2020), ahead of the United States and the European Union. Since the first wave of Covid-19, lockdown measures in the United Kingdom were mostly driven by a laissez-faire approach, then partially abandoned due to the increasing trend of the contagion rate. The measures of restriction, for which part of the non-essential economic activities were stopped, have been applied from the 23rd of March to the 13th of May. While slight restrictions to the citizens' mobility and the closure of some non-essential retail stores were preserved until July 4th. As a result of the second wave, a national lockdown was determined on November 5th (OECD Policy Tracker, 2020). Similar restrictions and interventions in Scotland, Wales, and Northern Ireland.

- The Job Retention Scheme (JRS) was established to help employers maintain their workforce during the downturn. The employers can claim a subsidiary for labour costs of individuals who are temporarily not working, having a part-time contract, or are on leave, up to a maximum of £2,500 per month per employee. The measure was planned to end at the end of November 2020, conversely it has been extended until the end of March 2021. This aid is also available for start-ups: employers can ask for a share of the furlough's monthly wage costs up to a fixed threshold,
- The Kickstart Scheme is a measure of employment support targeted for young people at risk of long-term unemployment, not applied in Northern Ireland. To support the introduction of young

people (16-24), the Government has undertaken to pay the first six months of wages, the National Insurance contribution, and pension contributions, up to the end of 2021,

- Apprentice Scheme and Traineeship Scheme are two measures both in support of the young workforce, available only in England. The first one provides grants – £2,000 if 16-24 aged or £1500 if aged 25 or over – to the companies committed to hiring young people for apprentice periods. Whereas the second program provides £1,000 for each new traineeship position created. In addition to these efforts, an increasing public engagement was reserved to augment resources for skills enhancement and to facilitate the reinsertion in the job market,
- Statutory Sick Pay (SSP) refund granted to small firms and start-ups to cover all types of expenses for employees, in the event of up to two weeks of absence caused by Covid-19,
- Self-Employment Income Support Scheme (SEISS): a scheme offering grants to self-employed workers adversely affected, the taxable grant worth 80% of the average monthly earnings over the last three years. The scheme has been extended until April 2021, in response to the second wave, for those continuing to actively trade but facing reduced demand. From November 2020 to January 2021, the taxable grant has been reduced to 40% of the monthly earnings. Furthermore, during the month of November, the Government launched a new program to support job research people receiving unemployment benefits for at least thirteen weeks. While businesses once again are required to close due to the restrictions, the Government pays two-thirds of the employees 'salaries and covers social contributions,
- The Future Fund has been established by the Government as a £500 million loan scheme to support high-growth companies in their development. The Fund is composed of public funds and private contributions and it is made in partnership with the British Business Bank. The companies based in the United Kingdom can receive an amount of up to £5 million and loans will be automatically converted into equity. Besides, unlisted companies can request it, provided that in the last five years they raised at least £25,000 in equity investments.

To manage the necessity of liquidity for companies, the Government has launched three separate schemes to facilitate access to credit, through the British Business Bank:

- The Coronavirus Business Interruption Loan Scheme (CBILS) is dedicated to the support of SMEs carrying out a public guarantee of 80% for loans up to £5 million and with interest costs covered for the first year. The financing is for maturity of up to six years and made through term loans, overdrafts, invoice finance, and asset finance,

- Coronavirus Large Business Interruption Loan Scheme (CLBILS) that is destined to firms with greater turnovers, it offers a public guarantee of 80% for loans up to £25, while the loan guaranteed could reach £50 million, for companies with turnover greater than £250 million,
- The Bounce Back Loan scheme is dedicated to small businesses offering a full guarantee and any interest or fee payments for the first year, for loans up to 25% of the sales, up to £50,000,
- Pay as you Grow has been added in September 2020 to allow firms to extend the period for the repayments and to stop the repayment schedule entirely for certain periods or just paying the interests and tax reliefs for businesses, following their size,
- The Covid-19 Corporate Financing Facility (CCFF) managed by the Bank of England and dedicated to buying a commercial paper of large companies, to fund those in good financial status before the outbreak,
- Guarantee Scheme of up to £10 billion has been established to support Trade Credit Insurance for business-to-business transactions, limited to cover the credit originated until the end of 2020,
- Targeted support through grants and loan payments for the SMEs directly committed in the RandD activity, as part of a wider package of support for innovative firms, a green stimulus of £3 billion to encourage environmental initiatives, such as the improvement of energy efficiency,
- £750 million have been allocated for frontline charities across the United Kingdom, which have had a crucial role in the fight against the disease, and almost £2 billion was allocated to support cultural and arts industries,
- In the United Kingdom, Three-Tier Coronavirus alert levels have been established and local restrictions vary according to them. The businesses in Tier 3 can request a grant of £3000 per month,
- Lastly, grants were disposable for businesses in the hospitality, accommodation, and leisure sectors in high alert areas: grants worth up to £2,100 a month.

7. The Italian institutional context

On the 31st of January 2020, the Italian Council of Ministers declared the State of Emergency for the entire nation. Italy was the first country in Europe to suffer heavily from the Covid-19 outbreak and consequently the first one to introduce institutional responses. The action of the Government

began in March 2020 through the "Cura Italia" Decree which provided immediate measures to protect the citizens and the labour market – with an effect of about €20 billion. A few weeks later, the Liquidity Decree envisaged broader measures to protect the liquidity of households and businesses. *"With this decree, we are implementing an unprecedented intervention to support the liquidity of the Italian production system, helping it to overcome the crisis",* said the Minister for Economic Affairs and Finance – Roberto Gualtieri. To ensure the necessary liquidity for households and businesses, the Government allocated more than €75 billion, with reference to the loans moratorium and the exceptional guarantees granted through the Guarantee Fund for SMEs and "Garanzia Italia" managed by SACE (MEF, 2020). Subsequently, in May the Relaunch Decree was enacted, and it represented the most extensive economic response in Italian recent history, being worth €155 billion (Camera dei Deputati, 2020). The latter Decree allocated €12 billion of liquidity to regions and local authorities to support them as well in the liquidity shortages incurred (MEF, 2020). Concerning the restrictions to mobility, in Italy, lockdown measures started for some specific areas where the first contagion cases were discovered, and then since the 9th of March 2020 the entire country was subjected to personal mobility restrictions. All the non-essential economic activities were shut down from March 25th to April 27th, those activities accounted for about one third of the Italian total value added; at least two thirds when considering only the Horeca sector (Banca d'Italia, May 2020).

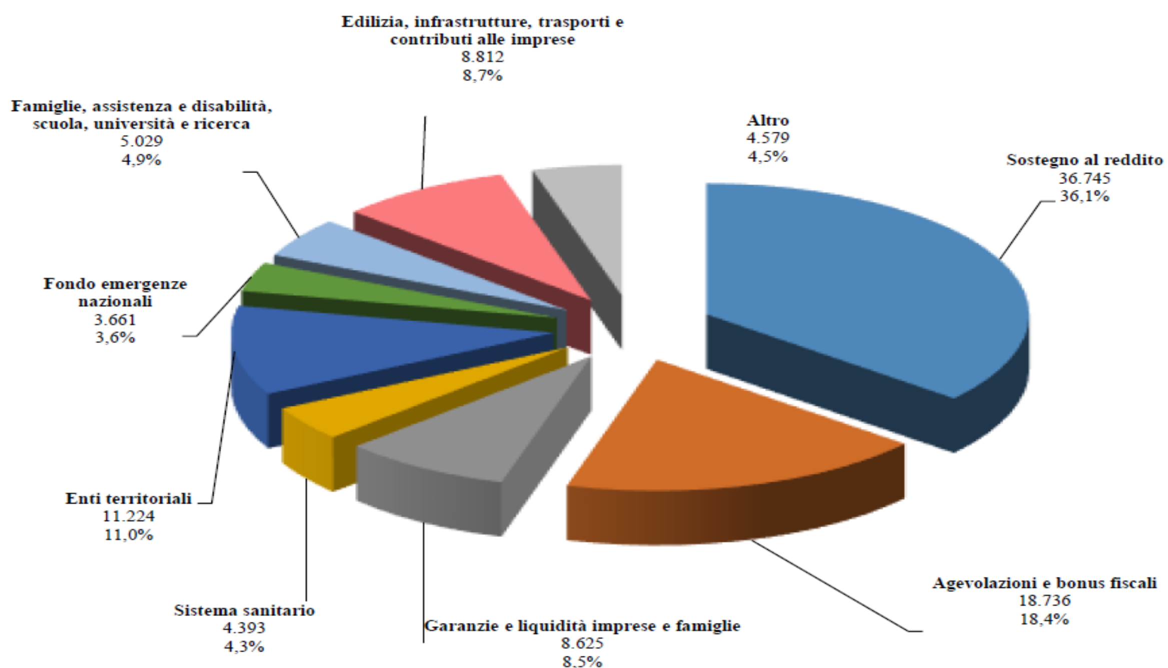
The Government commitment continued with the August Decree, for which a budget of €25 billion was earmarked, determining new sector-specific policies, and allocating additional resources (Senato della Repubblica, 2020). Moreover, it ensured the continuity over time of the Guarantee Fund for SME and extended the duration for the moratorium on loans and mortgages. Subsequently, as the second wave of contagion stemmed out, the Government enacted the four amendments "Decreto Ristori" in a few weeks, for a total of €18 billion in terms of net indebtedness. From the latter, a set of rapid measures for the sectors most impacted by the new restrictions were released, including non-repayable contributions, new weeks of redundancy scheme, reduction, and suspension in taxes. Therefore, during the entire year 2020 the Italian Government and Parliament have been committed to allocating an unprecedented budget to address the emergency: more than €108 billion in terms of net indebtedness, through flexible budget variances. The ordinances issued were several, as typically the measures were released with limited effectiveness to graduate the response following the evolution of the epidemiological situation:

- Law Decree n.18/2020 – Cura Italia

- Law Decree n.23/2020 – Liquidità
- Law Decree n.34/2020 – Rilancio
- Law Decree n.104/2020 – Agosto
- Law Decree n.137/2020 – Ristori
- Law Decree n.149/2020 – Ristori bis
- Law Decree n.154/2020 – Ristori ter
- Law Decree n.157/2020 – Ristori quater

The main sectors affected by the first four packages of measures issued and the relative percentages of incidence are shown in Figure 1.

Figure 1 – Sectors targeted by the first four packages of measures



(Source: Dossier October 2020, Camera dei deputati)

The support measures dedicated to the companies, as in many other countries, can be grouped under the headings of liquidity support, measures for export and internationalisation, support for capitalisation, non-repayable grants, suspension of certain tax obligations, temporary relief on fixed costs, interventions for companies in crisis, industrial reconversion, and support for growth and development. “Cura Italia”, “Rilancio” and “Agosto” decrees have allocated a total amount of

€35 billion to support the labour market, preserve the employment level and guarantee adequate levels of income for workers and families (MEF, 2020). Starting from employment-related measures, the main responses enacted by the Italian Government are summarised as follows:

- Cassa Integrazione Guadagni (CIG): €4 billion have been allocated to the extension of the fund to supplement the earnings of employees. The Government has expanded the possibility of accessing, whenever Covid-19 has been the reason for which business activity was suspended or reduced. The employees are entitled to 80% of their salary as a monthly amount. At a first time, the period for granting was set only at nine weeks, then repeatedly extended. Employers requesting for the second tranche, as the emergency period was extended, should pay an additional contribution determined on the comparison between 2020-2019 revenues of the first semester. That is not the case if revenues were contracted by twenty percent or more, and for those on the market for no longer than one year. The measure is directed to all sectors, also in the case of firms already benefiting from the Extraordinary Redundancy Fund.
- The New Skills Fund was set up by the National Agency for Active Labour Policies (ANPAL) for covering the expenses incurred to guarantee training courses, to fulfil social contributions, to support associations and trade unions redefining the working hour scheme, allocating part to the training and the improvement of new skills, following both the organizational and production needs,
- Social security contributions exemption for companies, in the first period some turnover thresholds imposed in relation to the impact on the economic activities. Those who do not request for extension of support wage schemes shall be exempted for up to four months until the end of the year. Moreover, in the case of hiring employees with permanent agreements or transforming the contract from temporary to permanent, the total exemption is released for up to six months from the day of the contract stipulation.
- Ban on termination for employment agreements: both in case of an individual or collective agreement. Preclusions not applicable in case of cessation of the activities or in the case of presentation of a collective agreement of incentive to leave. All layoff procedures started after the 23rd of February must be suspended.
- Several additional measures were implemented to preserve the labour market: a 30% relief on pension contributions for companies located in Southern Italy between October and December. An agreement between the Italian Banking Association, INPS and Trade Unions for anticipation of both ordinary and exceptional "CIG". Different forms of allowances have been

set up dedicated to certain categories and during different periods, in most cases amounting to €1,000. For instance, seasonal workers in tourism, entertainment, maritime workers, artisans, traders, occasional workers, VAT holders with a substantial decrease in monthly income. The emergency income was granted to families in difficulty, an amount ranging from €400 and €800. Subsidy from local authorities to contribute to wage costs of companies to avoid redundancies, the renewal of fixed-term contracts granted once for a maximum of one year, even without specific motivation. Lastly, the specific measures for parental leave and care for disabled family members were extended at the maximum duration permitted, and tax credits for the sanitation of the workplaces.

- The moratorium on financing for micro-companies and SMEs operating in Italy without deteriorated exposures on the 17th of March 2020. Applicable to overdraft facilities, loans for advances on credit instruments, maturities of short-term loans and instalments of loans and instalments of leasing instalments falling due for a total value of loans above €300 billion. Covid-19 is interpreted as an exceptional event, so firms that have already obtained debt suspension or restructuring measures may also apply. The enterprises must self-certify that they have suffered a temporary shortage of liquidity. The measure was initially in place until the 30th of September 2020 but then extended to the 31st of January 2021. For businesses as the tourism sector, further extended to the 31st of March 2021.
- "Garanzia Italia" – SACE: directed to medium-large enterprises, and in any case for those that have exhausted their capacity to access the SME Guarantee Fund. SACE S.p.A grants guarantees in favour of qualified entities to exercise credit in Italy. For any form of financing, enterprises of any size after having fully utilised their capacity to access the Guarantee Fund for SMEs as well as to the guarantees provided by ISMEA. The entire commitments assumed must not exceed €200 billion, of which at least €30 billion earmarked for SMEs. Within the 31st of December 2020, at the following conditions: duration not exceeding six years, the enterprise not classified as in difficulty on 31st December nor having impaired exposures to the banking sector. Companies admitted to the arrangement procedure with business continuity, entered debt restructuring agreements or with a plan suitable to allow the rehabilitation of the company's debt exposure may still benefit. Conforming to the State Aid Temporary Framework, the amount of guaranteed loan must not exceed the greater between 25% of the 2019 annual turnover and twice the personnel costs for 2019. The coverage ratio ranges inversely to the size of the companies: 70% for companies with turnover greater than €5 billion,

and 90% for the firms with turnover up to €1.5 billion and less than five thousand employees. In the latter case, a simplified procedure is granted. Lastly, the 80% of coverage is ensured for the middle turnover range and more than five thousand employees. Specific commitments are required to the beneficiaries: not approving dividends or buy back, manage employment levels, and to allocate the funding to certain kinds of business expenditure, such as personnel costs, investment expenditures, or working capital of businesses located in Italy.

- Guarantee Fund for SMEs renewed the offering of simplified procedures, increased the guarantee coverage, and enlarged the pool of beneficiaries. Companies and professionals who wish to obtain guarantees from the fund must apply to banks or accredited Confidi, a consortium of other guarantee funds. The guarantees are addressed to SMEs, natural persons engaged in business, arts, or professions, brokers, insurance agents and sub-agents, and third sector entities. Guarantees are distributed automatically and can be applied to operations already disbursed, but not more than three months before the application. The intervention covers with 100% guarantee for small loans up to €30,000 with a maximum repayment time of ten years, while normally it amounts to six years, and without the assessment of creditworthiness. Loans may not exceed 25% of revenues or twice the salary costs in the last financial year, in accordance with the Temporary Framework. Whereas, for greater loans up to €5 million, the coverage is 90%. The maximum amount can be reached also by adding several smaller applications one after the other. If the amount is up to €800 thousand and revenues up to €3.2 million: 90% through the Guarantee fund and 10% through Confidi. The guarantee is free of charge. The aim of the scheme is to enable guarantees for more than €100 billion. In the case of agricultural, fishing, and other specific forms of enterprises, ISMEA guarantees were granted for loans up to €30,000.
- Support measures for export and internationalization: SACE promotes the internationalisation of the production and business Italian sector, giving priority to those which are strategic for the Italian economy. SACE is a society wholly owned by Cassa Depositi e Prestiti S.p.A and in turn State-controlled. SACE holds 76% of SIMEST and together they constitute the export and internationalisation hub of the Cassa Depositi e Prestiti Group (CDP) (Camera dei Deputati, 3/12/2020). Fund for integrated promotion towards foreign markets has been set up, with a final endowment of €763 million (MEF, 2020). The fund is aimed also through ICE, the Italian Agency for the Promotion of Business Internationalization, at an extraordinary communication campaign, the enhancement and co-financing of activities to promote the country, and the

provision of non-repayable co-financing for companies operating in foreign markets. Moreover, since "August Decree" a section is dedicated to the internationalisation processes of trade fair organisations.

- SIMEST supports the companies in their internationalization efforts through subsidised loans, capital participations and export credit support. Firms can access liquidity without the need of guarantees and obtain up to 40% non-refundable. Subsidised loans became even more favourable in terms of scope and eligible beneficiaries. The facilitated financing is distinguished in interventions for: capitalisation, fairs, and exhibitions, to enter the International Markets, Temporary Export Manager, E-Commerce, Feasibility Studies, Technical Assistance Programmes.
- A non-refundable grant is provided to persons engaged in business, self-employment, and agricultural income, holding a VAT number, with a turnover of up to €5 million and a drop in turnover in April 2020 compared to April 2019 of at least 33%. The size of the contribution varies in relation to turnover, minimum value of €1,000 for individuals and €2,000 for firms and entities. The contribution is paid by "Agenzia delle Entrate" applying a percentage of 20% for persons with revenues or proceeds up to €400,000; 15% for persons with revenues or proceeds from between €400 thousand and €1 million; 10% for persons with revenues or fees higher than €1 million and up to €5 million.
- Fondo Patrimonio PMI is aimed at companies that decide to invest in their own relaunch. For companies with a capital increase of at least €250,000, it operates through the purchase of bonds and debt securities issued by the firm. The budget allocated to the fund is 4 billion euro and bonds must be purchased by the end of 2020. Bonds or other newly issued debt securities must: be reimbursed at the end of the sixth year after subscription, nominal value not less than €10,000; the subsidised annual rate being 1.75% for the first year, 2% for the second and third years and 2.50% for the remaining years. Interest may be capitalised and paid in a lump sum at maturity. The maximum amount to be subscribed in securities is the lower between three-times capital increase and 12.5% of 2019 turnover. The funding received must be for personnel costs, investments or working capital use. In no case it may be used to pay past debts. There could be a bonus in the reimbursement, provided the firm achieve one or more of the following objectives: maintaining employment, investments for environmental protection, investments in enabling technologies for Industry 4.0 for given amounts. Applications are evaluated on a first-come, first-served basis until funds are exhausted. Ban imposed on the distribution of reserves,

on the purchase of own shares, or quotas and on repaying loans until the financial instruments will be fully repaid.

- "Fondo di Rilancio": capital enhancement for medium and large enterprises for turnovers of €5 million < X < €50 million and decreased by at least 33%, a tax exemption on capital increases and financial support are carried out for the operations made within the end of 2020: 20% tax credit for a capital increase, 50% for losses exceeding 10% of equity. While, in the case of turnover €10 million < X < €50 million, for capital increase of at least €250 thousand, a co-investment by the State in financial instruments issued by the company ad hoc, with six years duration and no payments before maturity. They clearly help to strengthen the solvency and capacity to cope with the shock. In the case of companies with a turnover greater than €50 million and operating in Italy, not belonging to the financial, banking, or insurance sector, support for recapitalisation through dedicated "Cassa Depositi Prestiti" funds: interventions at market conditions or according to defined criteria are carried out: preferably subscription of convertible or subordinated loans. In the assessment of intervention, the technological development, strategic infrastructure, crucial production chains, the labour market and environmental sustainability are considered.
- Guarantee for insurers of trade receivables: a scheme administered by SACE to ensure the trade credit insurance availability. The State acts as the ultimate guarantor, so creating a 'reinsurance' instrument allocated to the insurance companies of short-term trade receivables to prevent losses leading to a contraction of credit lines to companies,
- A budget of €4 billion was allocated for the interruption of regional production tax IRAP for those companies with an evident economic damage and turnover up to €250 million, excluding the banking and insurance sector. The tax has been suspended for the entire financial year of 2019 and the first rate of 2020.
- Venture Capital Support Fund: refinanced to support innovative start-ups in the measure of relief granted and of soft loans, too. The measures are aimed to strengthen the capital of those innovative institutions.
- Smart and Start Italia: €100 million for 2020, allocating resources to subsidised financing for start-ups, for the granting of non-repayable contributions aimed at the acquisition of services provided by incubators, accelerators, innovation hubs, business angels and other public or private entities operating for the development of innovative enterprises.

- Fund to support liquidity: increased for €1.67 billion for the operation of local and regional authorities, the one for the operation of the regions and autonomous provinces has been increased by €2.8 billion. Measures for the payment of commercial debts and to compensate lower revenues from tourist tax, Tosap and Cosap, IMU and to support public transport.
- Technology Transfer Fund has been set up with a budget of €500 million for 2020, aimed at promoting initiatives and investments to exploit and use research results in local companies, with reference to innovative start-ups and innovative SMEs.
- Fund to safeguard employment levels and the continuation of business activity has been established at the Ministry of Economic Development, with a budget of €300 million for 2020. Initially, the fund was aimed at rescuing and restructuring companies with historic brands of national interest and companies with historical trademarks of national interest and joint stock companies with at least 250 employees, in a state of economic and financial difficulty. In addition, the Fund directed also to the rescue and restructuring of companies which, regardless of company size, have assets and relationships of strategic importance for the national interest.
- Nuova Marcora: the "August Decree" refinanced with €10 million the fund established to foster the creation of cooperative companies and their development. The measure provides for subsidies loans, all the cooperatives registered and not in voluntary liquidation or in bankruptcy proceedings are eligible. Loans have a maximum duration of ten years, granted for an amount not exceeding €1 million, whether they are granted for investments, they might cover up to 100% of the project,
- Nuova Sabatini, refinanced by €64 million from the August Decree, is a measure to support the granting to micro, small and medium-sized enterprises of subsidised financing for the investments in new machinery, plant, and equipment, capital goods investments for productive use, as well as digital technologies.
- The entry into force of the Crisis and Insolvency Code has been postponed until September 2021, and the rules on compulsory capital reduction to cover losses have been suspended during the entire emergency period. All the appeals for declarations of bankruptcy or insolvency are not admissible. The deadlines for the fulfilment of preventive agreements and restructuring agreements already approved have been extended. The 2020 Financial Statements can be written on a going concern basis if the business was treated in this way when the pandemic broke out,

- Funding companies producing medical devices and personal protective equipment: through INVITALIA, an Italian Government agency 100% owned by the Ministry of Economy and Finance, aimed at investment attraction and enterprise development, as managing entities. For this purpose, €50 million were authorised, for the granting of concessions to investment programs aimed at increasing the national disposability. The subsidies consist of a soft loan of up to 75% of the eligible costs.
- Other measures worth note: €1.5 billion were allocated for measures to strengthen the assets of state-controlled companies through capital increases or alternative forms of capitalisation to support soundness and revitalisation and development programs. Furthermore, temporary reductions in the cost of electricity bills for SMEs, and the rent relief at 60%, deferment for the payments of Public Administration debts. Non repayable grants: to restaurant businesses if the turnover for the period between March-June 2020 was less than three quarters of the 2019 turnover. The exemption from IMU for bathing establishments and properties belonging to the D2 cadastral classification, exemption from IMU until 2023 for cinemas and theatres. Tax credit from 30% to 65% for investments for improvement expenses for businesses in the hospitality and spa tourism sector. Exemption from Tosap and Cosap for holders of public land concessions. Development contracts: €500 million were allocated for Development Contracts, €50 million for the Voucher Innovation Manager.

Since the second wave started to spread out, new restrictions were imposed and another contraction in the activities impacted the economic sectors, already particularly affected. To protect these segments and the workforce, a new Decree providing simpler, faster, and more effective measures was enacted. To the first version of "Ristori Decree" three more versions have been added during the month of November 2020, with additional modifications each time. Totally, about €18 billion were allocated through those provisions:

- a new tranche of contributions to firms which have been forced to close or limit the activity, due to the exceptional occurrence. For those with a turnover greater than €5 million, a grant of 10% of the decrease experienced in sales is released; the total maximum amount reaches €150,000,
- additional €410 million were allocated to the budget of €265 million previously allocated, for the Fund in support of Tourism Agencies and Tour operators,

- the Fund aimed at compensating the losses incurred by trade fair and the congress sector was enhanced by €350 million,
- a fund with a budget of €100 million euro was set up to support companies in the agricultural, fishing and aquaculture sectors affected by the restrictive measures,
- €190 million for the Fund in support of cinema and the audio-visual sector,
- €50 million for the Fund dedicated to cultural enterprises and institutions,
- tax credit on rents was extended, for those affected by the restrictions, to the months of October, November, and December 2020, and for companies with revenues greater than €5 million, and a sales drop of at least 50%, in relation to 2019,
- the Ordinary Redundancy Fund has been extended up to six additional weeks, for which an additional contribution will be paid measured on the total wage that would have been due to the employee. The rate for it varies on the reduction in turnover: 18% for employers without any reduction, 9% for a reduction in turnover smaller than 20%, and no contribution if the reduction in turnover has been by 20% or greater,
- individual dismissal procedures as well as the collective ones remain precluded, and those started after the 23rd of February have been suspended, except for the reason of definitive cessation of the activities,
- some non-repayable contributions were granted to support the affected economic activities operating in the so called "Red Regions", those regions characterized by the higher contagion rates. The list of Ateco codes has been broadened, to further extend the eligible beneficiaries of a contribution up to €150,000, differentiated by economic sector,
- the second payment of IRPEF, IRES, and IRAP have been postponed for companies operating in "orange" and "red zones", for all the enterprises with a turnover not greater than €50 million recordings a 33% decrease in turnover in the first six months of 2020 compared to the same period in 2019,
- the payment of social security contributions, withholding taxes and VAT for November and December 2020 were suspended for all the businesses with sales up to €50 million and which have recorded a 33% drop in turnover in November 2020 compared to November 2019,
- a new one-off allowance of €1,000 is available for categories of workers such as seasonal workers in tourism, in thermal establishments and in show business, and other types of seasonal

workers not related to the tourism activity but whose activities have been affected by the epidemic emergency.

The general outlook about the main national support schemes implemented by four European countries and the United Kingdom has shown the prompt response of each State and the evidence that some common patterns were followed by each of them. Considering concurrently the measures implemented to support the labour market, guarantee a minimum income for workers, different subsidies and suspension of payments, financial instruments to recapitalise companies, non-repayable grants, and other different interventions to guarantee the going concern.

One of the most crucial aspects of the crisis corresponds to the state of liquidity at the household, corporate, and macroeconomic level. In a period of economic contraction, all the possible efforts to prevent the real economic effects to be transferred to the credit sector are needed. Indeed, both the households and the businesses are at risk of seeing their income eroded, affecting their ability to meet financial commitments and this may lead to difficulties in access to credit (Ministero dell'Economia e delle Finanze, 2020).

Henceforth, the focus of the dissertation will be on the public responses to the liquidity crunch experienced by the Italian companies. In particular, the focus will be on the Public Guarantee Schemes, seen through the point of view of academic literature, and then on the analysis of the Italian Guarantee Fund for SMEs. Public guarantees represent a measure strongly used to promptly respond to liquidity shortages (Gobinath, 2020). At the company level, the interruptions to the supply chains, the foreign demand contractions, and the drop in sales may have fewer substantially the corporate cash inflows and the generation of income.

In the next chapter, the Public Credit Guarantee Schemes will be explained through the help of some academic literature, starting with an overview of the concept of liquidity.

Chapter 2

Addressing liquidity needs through Public Credit Guarantees

1. Liquidity at corporate level

The concept of liquidity is easier to recognize than to define. At root, it represents the ease through which value can be created from assets: either by using creditworthiness to obtain external funding or by selling assets in the marketplace (Crockett, 2008). Liquidity defines the ability of an asset to transform itself into purchasing power without any loss of time or value (Neppi Modona and D'Adda, 1985). To provide a clearer distinction for this elusive notion, the European Central Bank Working Paper (Nikolaou, 2009) defines:

- *market liquidity* as the ability of trading in both the interbank market and the asset market,
- *funding liquidity* as the notion regarding how easily economic agents can obtain external finance and how financial institutions perform their intermediation functions,
- and *Central Bank liquidity* explaining the "Lender of last resort" function of the Central Bank.

All the above interpretations are interrelated, but one last should be considered: *corporate liquidity.* The latter refers to the extent to which a business has access to cash or items readily exchangeable for cash (Weetman, 2006). Firms commonly own assets characterized by different degrees of liquidity (John, 1993), and the cash positions held could vary from firms constantly focused on liquidity to firms with a solid safety cushion able to absorb and mitigate any mismatches between cash forecasts and actuals (European Banking Association, 2018). The level of corporate liquidity is clearly affected by some internal and external factors and – assuming disparate motivations of frictions – liquidity management may represent a key issue during periods of crisis (Almeida, et al., 2014). In fact, among the drives to hold liquid funds for a company, one considers the liquidity buffer as a business lever able to mitigate the financial shocks (Baki Yilmaz, 2016). Whereas another reason could be the capacity of timely seizing growth opportunities: *"*Finance theory would advise this firm to evaluate the investment opportunity as if it already had plenty of cash in hand" (Myers and Majluf, 1984). Keynes (1936) identified the most urgent liquidity need whenever a mismatch between costs and receipt of sale proceeds happens, reflecting exactly one of the main effects of the Covid-19 outbreak. As just mentioned, the so-called *precautionary motive* (Keynes, 1936; La Rocca, 2016; Lozano and Yaman, 2020; Opler, et al., 1999; Pinkowitz and Williamson, 2002) to hold liquid assets stands for the capability of facing future unforeseeable events that may

require the availability of resources. So, holding a safety-cushion, a sustainable buffer, to draw upon in case of economic downturns. To carefully monitor the level of liquidity of an enterprise, the financial statements represent the indispensable knowledge base, and the ratio analysis the appropriate tool to identify potential issues (Weetman, 2006). The most common ratios used, are: the *Current ratio*, the *Quick ratio*, the *Net Working Capital to Total Assets ratio* and the *Cash ratio*. The *Current ratio* is widely used for a prompt evaluation of a firm's creditworthiness, it explains to which extent short-term assets are available to meet short-term liabilities. The principle behind this consists in the fact that a company can survive if able to meet the financial obligations as they fall due. The *Quick ratio,* also called Acid-test, is calculated by the rate of current assets net of inventory over the current liabilities. So, it provides a more illustrative indicator, especially during times of crisis. The *Net Working Capital to Total Assets ratio* points out the percentage of remaining liquid assets, net of current liabilities, and provides how much of the asset side is composed of net working capital. In relation to it, the time requested to transform corporate net working capital into cash is called the *Working Capital Cycle*, typically managed by an active inventory rotation, always trying to cash in quickly and extending deadlines as possible. As of last, the *Cash ratio* is calculated by the sum of cash and marketable securities over current liabilities, thus uniquely considering the most liquid assets of a company (Weetman, 2006).

2. Fulfilling the liquidity shortages caused by the downturn

Liquidity shortages arise whenever a financial institution or an industrial company scrambles for and cannot find the cash to meet the most urgent needs or to undertake valuable projects (Tirole, 2008). Therefore, the liquidity risk is experienced every time a firm is not able to meet the expected payments and short-term obligations due to the incapacity of collecting new funds or liquidating its own assets on the market. Shocks occur whenever coordination failures happen among the economic players, and a reduction in confidence takes place. These are determined by a trigger variable, which may be internal or external to the corporate system. As extensively explained in the previous chapter, the Covid-19 outbreak represented a real shock that affected the overall economic system. To overcome the liquidity shortage at the firm level: selling assets, bring in additional revenues, and find any alternative ways to reduce the discrepancy between available cash and debt obligations, but also limiting the investment portfolio to strictly necessary operations, optimize the inventories, and focus the relationship with banks on credit lines and liquidity funding

is what a firm must do (Bellini, 2020). Nevertheless, during periods of recession, the State can supply liquidity to companies issuing securities – backed by publicly owned assets, or through State-contingent injections (Tirole, 2008). In the new context shaped by the outbreak, the policies issued by the Governments were fundamental in determining the speed of recovery of the economic tissue and in finding the appropriate allocation of losses among the different economic agents (Gobbi, et al., 2020). The Italian Government has deployed substantial resources to ensure as far as possible business continuity for the companies, as follows the legislative measures enacted.

Table 1 – The employment level and social policy responses

<table>
<tr><td>“Cassa Integrazione Guadagni”</td><td>Support wages to employees of all the sectors. Also for companies with less than 5 employees, if activity suspended or reduced due to Covid-19</td><td rowspan="9">Several measures have been issued, balancing the support to the companies- to reduce the worsening of the margins, and to the workers – as support in income, jobs protection and rules for managing the transformed work-life balance.

To lighten the corporate cost structure, some wage expenses have been frozen for those suffering from the reduction or the suspension of economic activities.

Tax reductions assured to incentivize the efforts for ensuring safe workplaces and the purchase of protective equipment for workers, demonstrating that citizens’ safety has always been the first purpose.</td></tr>
<tr><td>Contribution Payments Exemption</td><td>If turnover up to € 50 million and relative loss of at least 33% in March and April 2020/2019 or revenues above € 50 million and loss of 50%: social security contributions suspended for April and May 2020. For those who do not require the extension of the previous scheme extended for 4 months.
In the case of new permanent contracts concluded, exclusion up to 6 months.</td></tr>
<tr><td>Support for Southern Italy</td><td>The 30% relief of pension contributions for the period October-December 2020.</td></tr>
<tr><td>Dismissal Procedures</td><td>Suspended unless the event of definitive cessation of the economic activities.</td></tr>
<tr><td>Wage Subsidies To Prevent Layoffs</td><td>Local authorities can help companies with personnel costs –for one year to prevent job losses. Not above 80% of gross monthly salary.</td></tr>
<tr><td>Renewal Of Fixed Term Contracts</td><td>Possible to renew or extend once even without reason and up to one year.</td></tr>
<tr><td>Parental Leave Or Possibility of Smart Working</td><td>Parental leave for parents employed in the private sector amounts to a total of 30 days - allowance of 50% of salary.
Or the right to work from home, even without an individual agreement.</td></tr>
<tr><td>Assistance to Family Members “ex. Law 104/92”</td><td>In March and April – paid leave for additional 12 days for assisting disabled family members.</td></tr>
<tr><td>Tax Credit For Workplace Sanitisation And Safety</td><td>The 60% for any expenses incurred to reopen safely to the public, up to € 80,000 for the beneficiary. In case of expenses for sanitisation of working place, up to €60,000 for the beneficiary.</td></tr>
</table>

(Sources: “Cura Italia” n.18/2020; “Liquidità” n.23/2020; “Rilancio” n.34/2020; “Agosto” n.104/2020; “Ristori” n.137/2020; “Ristori bis” n.149/2020; “Ristori ter” n.154/2020; “Ristori quater” n.157/2020)

Table 2 – One-off revenues and different forms of subsidies

<table>
<tr><td>Tax Credit For Rent Payments</td><td>If revenues up to €50 million, dropped by 50%: 60% of monthly rent payments for non-residential properties for March, April, and May.</td><td rowspan="8">To foster the going concern of economic activities: some reductions in Treasury expenses and suspension for some operating costs. Also in this case, the actions are taken in order to mitigate the already suffering economic flow of the companies.

Protection granted to the firms while carrying out projects of strategic importance, and non-repayable contributions or facilitated conditions to sustain the investment activities – also relevant to deal with the crisis.</td></tr>
<tr><td>IRAP Payment</td><td>With turnover up to €250 million – cancelled the regional income tax</td></tr>
<tr><td>Non-Repayable Grant</td><td>If turnover up to €5 million and decrease of at least 33%.
Grant measured with respect to loss [10%-20%], minimum €2000</td></tr>
<tr><td>Reduction in Energy Bills</td><td>For SMEs fixed amounts reduced to guarantee this essential service</td></tr>
<tr><td>“Nuova Sabatini”</td><td>Subsidies to SMEs for investments in PP&E equal to interests calculated on a 5-year loan.</td></tr>
<tr><td>Innovation Manager Voucher</td><td>Non-repayable contribution to SMEs to make use of consulting and innovation services</td></tr>
<tr><td>IPCEI Fund – refinanced</td><td>Support companies operating in important projects of European interest</td></tr>
<tr><td>Development Contracts</td><td>Support to large-scale investments in industrial, tourism and environmental protection sectors.
Through: non-repayable contribution facilitated financing or interest rate subsidies.</td></tr>
</table>

(Sources: “Cura Italia” n.18/2020; “Liquidità” n.23/2020; “Rilancio” n.34/2020; “Agosto” n.104/2020; “Ristori” n.137/2020; “Ristori bis” n.149/2020; “Ristori ter” n.154/2020; “Ristori quater” n.157/2020)

Table 3 – Measures dedicated to the equity replenishment

<table>
<tr><td>Tax Credit</td><td>For companies with a turnover between €5 million and €50 million: 20% for recapitalisation, 50% of capital losses exceeding the 10% of shareholders’ equity</td><td rowspan="3">To avoid the erosion of capital due to the huge losses supported, some measures have been implemented to recapitalise.

Trying to prevent that the drop in revenues leads to permanent effects.

The occurrence of operating losses may alter the company's condition of economic equilibrium.
Tax credits, facilitated conditions, funding dedicated to the restoration of business stability.</td></tr>
<tr><td>SME Capital Fund</td><td>For companies with a turnover between €5 million and €50 million: to subscribe to newly issued bonds or debt securities to help strengthen capital positions.</td></tr>
<tr><td>“Patrimonio Rilancio”</td><td>For companies with a turnover above € 50 million, managed by CDP, to support recapitalisation of SPA registered in Italy or restructuring activities.
Interventions preferably carried out through standardised procedures: signing convertible or subordinated loans.
Considered: level of innovation, presence of critical and strategic infrastructure, strategic production chains, environmental sustainability, employment levels.</td></tr>
</table>

(Sources: “Cura Italia” n.18/2020; “Liquidità” n.23/2020; “Rilancio” n.34/2020; “Agosto” n.104/2020; “Ristori” n.137/2020; “Ristori bis” n.149/2020; “Ristori ter” n.154/2020; “Ristori quater” n.157/2020)

Table 4 – Measures implemented for the companies level of liquidity

<table>
<tr><td>Debts Moratorium</td><td>For SMEs, an extraordinary moratorium on overdraft facilities, financing for advances on debt instruments, maturities of short-term loans and instalments of loans and rents falling due. To access: "in bonis".</td><td rowspan="4">To sustain companies in their operational liquidity needs, some huge interventions have been made.

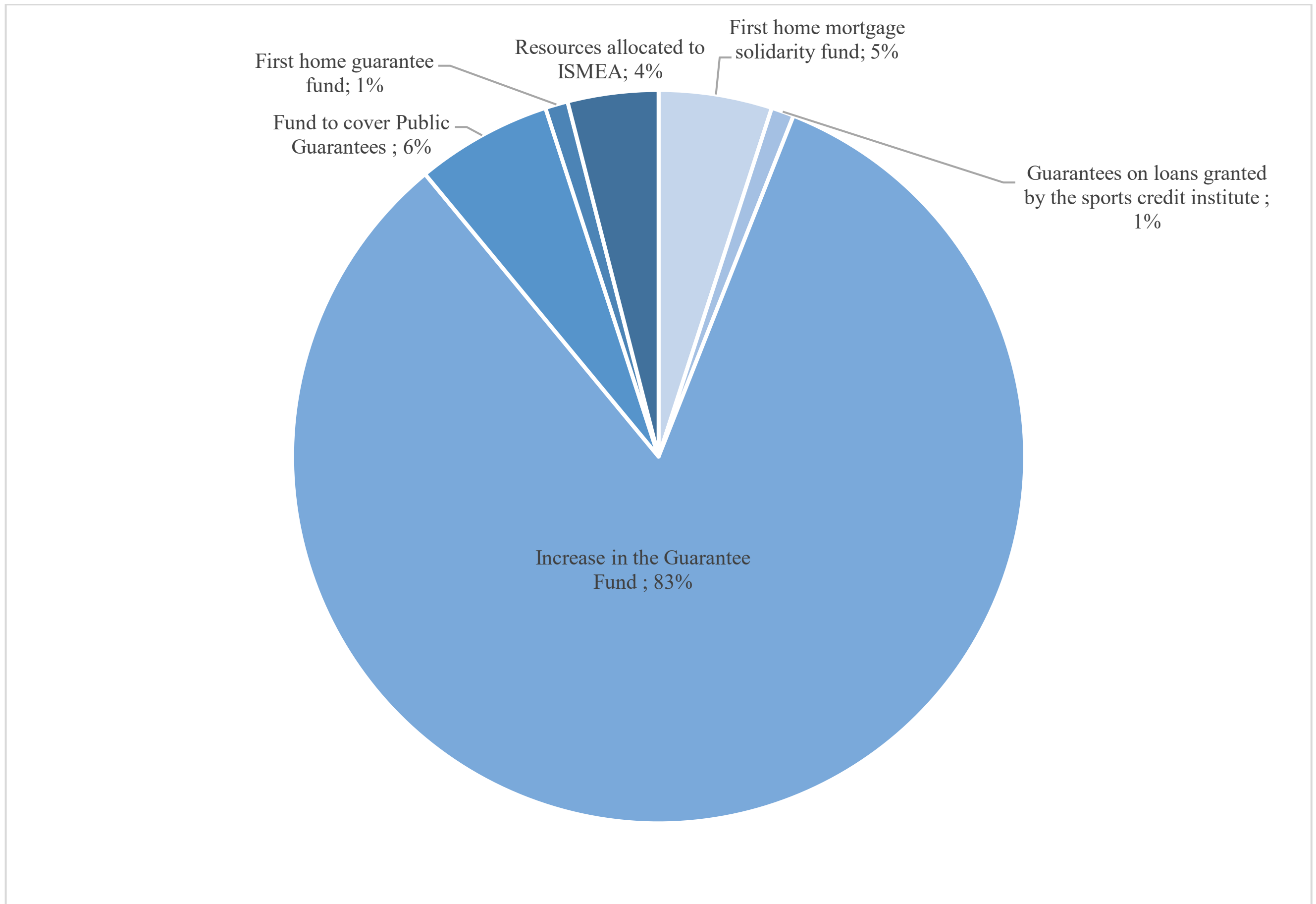
The payments of loans suspended to lighten the obligations side during the crisis.

Advantageous public guarantees were offered to all the types of companies through convenient conditions, higher amounts of financing and with reduced credit assessment.</td></tr>
<tr><td>“Garanzia Italia” - SACE</td><td>For large enterprises, 6 years, pre-amortisation up to 3 years.
Amount greater of 25% turnover and twice wage costs of 2019.
Guarantees range inversely to the firm’s size [70%,90%].
<u>Financing guarantees</u> - in the case of SMEs and those with access to ISMEA guarantees - they must have exhausted the ceiling. Fees limited to cost recovery, cost must be lower than in guarantee’s absence.
<u>Lease guarantees</u>
for instrumental investments for business activity. Guarantee not greater than 20%.
<u>Guarantees for factoring</u>
Permitted on new financing transactions with or without the granting of an overdraft facility. No more than 20% guarantee, dedicated to liquidity for personnel costs, rents, company leases.
<u>Guarantees for debt securities</u>
for all the firms issuing bonds or other debt securities, registered in Italy, rating at least BB- and not in difficulty at the end of 2019.</td></tr>
<tr><td>SACE Guarantee For Exports</td><td>Co-insurance system: 90% by the State, 10% by the company to ensure strategic transactions.
Insurance for trade receivables: 90% guarantee</td></tr>
<tr><td>Guarantee Fund For SMEs</td><td>Maximum amount granted up to €5 million, eligible criteria extended, operating features improved, coverage ratio increase.</td></tr>
</table>

(Sources: “Cura Italia” n.18/2020; “Liquidità” n.23/2020; “Rilancio” n.34/2020; “Agosto” n.104/2020; “Ristori” n.137/2020; “Ristori bis” n.149/2020; “Ristori ter” n.154/2020; “Ristori quater” n.157/2020)

With regards only to the fiscal measures, in relation to the additional expenditures during 2020, more than 80% were allocated to the Guarantee Fund for SMEs, for the “Gasparrini Fund”, the solidarity fund for first home mortgage, the budget was increased by €400 million and € 380 million were allocated to ISMEA to provide guarantees in favour of agricultural and fishing enterprises (Camera dei Deputati,2020).

Figure 2 – The additional expenditure in 2020 for fiscal measures in Italy



(Source: Dossier October 2020, Camera dei Deputati)

Large programs of fiscal measures have been established by all the countries to fill liquidity shortages, finance the working capital, and support the necessary investments; self-employed workers, SMEs, and large companies were all supported to protect their professional activities, cover their working capital needs, and keep up the production (International Monetary Fund, 2020).

In short, measures dedicated to providing liquidity at subsidized conditions for postponing and smoothing the impact of the Covid-19 crisis over a longer time horizon (Gobbi, et al., 2020). Fiscal responses can be distinguished in immediate fiscal responses, deferrals, and other provisions or credit guarantees (Camera dei Deputati,2020), these latter measured as a share of the 2019 GDP and updated to the end of November 2020, are shown as follows.

Table 5 – Fiscal responses in relation to 2019 GDP

	Immediate fiscal responses	**Deferrals**	**Other provisions and guarantees**
France	5.1%	8.7%	14.2%
Spain	4.3%	0.4%	12.2%
UK	8.3%	2.0%	15.4%

Source: (Anderson, et al., 2020)

Within the broad spectrum of possible institutional responses, the Public Loan Guarantee Schemes represented a key policy to support businesses, ensuring a sufficient supply of liquidity (Calice, 2020). Indeed, in a situation characterized by high uncertainty, companies see loans as an instrument able to build up precautionary liquidity buffers and/or adapt the business (Anderson, et al., 2020), but difficult to obtain in case of loss in creditworthiness. The schemes are, in fact, aimed at transferring some of the credit risk and potential credit losses from banks to the Governments (Falagiarda, et al., 2020), so making the banking channel more prone to this type of intervention.
De Blasio, (et al., 2018) observed that guaranteed loans in recent years have been representing a tool widely used to finance the working capital of companies, as capable of mitigating urgent liquidity requirements. Hence, also in this event, they have been chosen as a prominent policy to prevent businesses from becoming illiquid. Public credit guarantees aim to improve the access to credit for firms that do not have adequate collateral to participate in private credit markets because of asymmetric information (Stiglitz and Weiss, 1981; Holmstrom and Tirole, 1997; Core and De Marco, 2020).
This policy played an important role during the financial crises because of the provision of a higher degree of confidence in the financial system (Beck, et al., 2009). Since 1998, the European Union has guaranteed over €50 billion of loans, mainly to individual companies through multiannual financial programs (Brault and Signore, 2020). As follows, *Table 6* will show the main features of loan guarantee schemes applied across the countries, as a response to the Covid-19 outbreak.

Table 6 – Main features of the Public Guarantee Schemes implemented

STATE	GUARANTOR	EXPOSURES COVERED	TYPE OF THE LOAN	COVERAGE RATE
Spain	Ministry of Economic Affairs and Digital Transformation and ICO	Self-employed, SMEs and others. Excluded: defaulted and insolvent obligors	New lending and renewed in the case of extended term or increased amount	80% for SMEs for large companies: 70% new credit lines 60% renewal
France	French State	All companies excluded credit institutions, financing firms, certain real estate, defaulted companies at 31/12/19	New loans	Depending on turnover: >5B 70% 1.5B<x<5B 80% <1.5B 90%
Germany	KfW	Commercial firms	New loans	80% -90% -100% depending on KfW Corona-Loan Programme assigned
United Kingdom	British Business Bank	SMEs and other firms – three separate packages	New loans	80% - 100% depending on the package

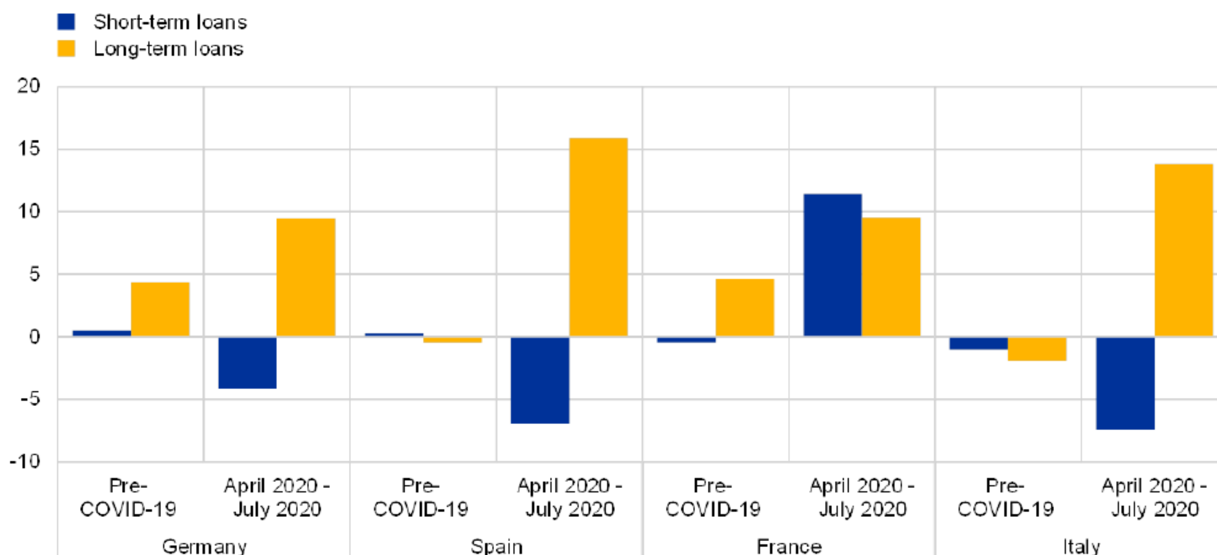
(Sources: IMF Policy Tracker 2020 and OECD Country Policy Tracker 2020)

This organized distribution of credit guarantees by a public institution aims at supporting undertakings not in financial difficulties at the end of the previous financial year and self-employed persons. The guarantees are mostly applied to new lending and typically on medium and long-term loans, with an average maturity of five years. The maximum amount is normally the greater between 25% of the beneficiary's turnover of 2019 or twice the wage bill of the same financial year, as requested by the Temporary Framework (European Commission, 2020). The coverage ratio mainly varies between 70% and 90%, although 100% is available in few countries for SMEs and self-employed, at specific operational conditions. In some cases, few conditions have been imposed on the beneficiary enterprises, such as the prohibition to distribute dividends, limits on the remuneration of managers, or commitments to retain employees during the period of benefit of the scheme. One of the main reasons why this measure was applied by most of the affected countries is that it responds to the trade-off between responding quickly to the trigger event and maintaining an adequate level of prudence to mitigate undesirable banks' behaviour or on the part of firms (Falagiarda, et al., 2020).

The European Central Bank Economic Bulletin of June 2020 analysed the Public Guarantee Schemes and related impacts during the downturn. The report states that the amount of medium

and long-term loans have generally notably increased during 2020, as shown in *Figure 3*, in contrast to what normally happens when acute liquidity needs arise, that is a higher demand for short-term loans. Besides, substantial new lending flows have been recorded for small loans (below €1 million), especially in Spain, France, and Italy, in line with the take-up of guaranteed loans by SMEs and the convenient conditions applied in these countries (Falagiarda, et al., 2020).

Figure 3 – Guaranteed loans to non-financial companies broken down by maturity



Note: Pre-Covid-19" period ranges from March 2019 to February 2020 (Sources: ECB 2020)

The Economic Bulletin explained that the great recourse to long-term guaranteed loans in Spain was primarily due to the restricted offer of alternative fiscal measures, such as debt moratorium or direct grants. While, in France, the high take-up, both on short-term and long-term maturity, reflects the favourable conditions offered by the public schemes. In Germany, the restricted use of credit follows the lower financing needs of firms compared with other countries, due to the less stringent lockdown measures imposed from April to July 2020 (the period considered in *Figure 3*), combined with the solid availability of alternative support measures. Lastly, in Italy, a low recourse was recorded since July 2020, mainly for the operational bottlenecks that initially existed on the supply side, such as the total amount of requests directed to long-term loans uniquely (Falagiarda, et al., 2020).

In November 2020, the European Commission and the European Central Bank, published the twenty-third edition of the "*Survey on the Access to Finance of Enterprises*", collaborating on this

project since 2008. The report is based on a sample of more than eleven thousand enterprises to describe the source of financing used in the European scenario; the reported version refers to the period from April to September 2020 (European Central Bank, November 2020). In the Euro Area, an increase of 20% in the demand for bank loans from SMEs was registered during the first period of the Covid-19 outbreak. The guaranteed loan financing was found as a primary tool for inventories and working capital needs, rather than for fixed investments. Furthermore, an improvement in the access to public financial support was registered, from -3% to +14%, for the first time since 2009 (European Central Bank, 2020). These results indicate that government initiatives to provide public guarantees for bank loans during the Covid-19 pandemic have fed through to these enterprises. Conversely, large and medium-sized enterprises conveyed a more negative view of the business environment influencing their access to external funds. Indeed, for 48% of large enterprises and 41% of medium-sized companies, the economic outlook might have represented an impediment to access to external finance (European Central Bank, November 2020).

The volume of credit guarantees pledged across European countries is significantly larger than what has been observed normally (Brault & Signore, 2020). However, the effectiveness of these schemes might vary in relation to industrial landscapes' characteristics, the amount employed and the capacity of withstanding the potential future defaults of the guaranteed loans. Other relevant specificities about Credit Guarantee Schemes from the existing literature will be explained in the as following paragraphs.

3. The nature and Operationalizations of the Credit Guarantee Schemes

Credit Guarantee Schemes (CGSs) appeared in Europe for the first time during the 19th and early 20th centuries (OECD, 2010). The first application took place in Holland in 1915, while in 1937 a regional State-run credit guarantee scheme was established in Tokyo, then followed by several countries promoting these schemes in the 1950s (Gozzi and Schmukler, 2016).

The basic principle behind the scheme consists of third-party risk mitigation to lenders, with the object of increasing access to credit. If the third-party coincides precisely with the State itself, the measure becomes a Public Credit Guarantee Scheme (PCGS). The latter is an instrument enacted by the State to support companies' access to bank credit through the provision of publicly funded collaterals (De Blasio, et al., 2018). Therefore, it might represent a mechanism to extend the access

to credit for certain subjects usually underserved by private financial intermediaries, as Small and Medium-sized Enterprises, or companies new to the market.

Currently, the Public Credit Guarantee Schemes amount to about $1.8 trillion worldwide, approximately 2.0% of the global GDP (Calice, 2020). A significant rise in popularity has been experienced during the past few decades, in the aftermath of the 2008-2009 Global Financial Crisis; indeed, in that period, several Governments relied on this tool to offset the reduction in private bank lending (Gozzi & Schmukler, 2016).

The target of the scheme is determined *a priori*: distinct sectors, regions, or specific categories, such as innovators or exporters, considering that choosing for a too specific target might increase the bureaucratic costs and limit the take-up (Green, 2003). In ordinary times, it is addressed to those unserved market segments to correct market failures, to overcome the obstacles to successful enterprises, and to fostering investment growth. As previously mentioned, the guarantee is provided by a third-party committed to repaying a share or the entire amount of the loan to the lender, in the case of the borrower's default. So, through the guarantor, the risk faced by financial intermediaries is significantly reduced and the scheme acts as insurance (CervedKnow, 2020).

In the event of public intervention in the scheme, it is usually caused by the coordination failure among private intermediaries and/or to the huge efforts that the first mover must support. The incurring costs, the underdeveloped financial system characterizing some players, and the relative high-risk judgment to those attributed, continuously arrest the private providers from pooling resources to some specific riskier segments. Thus, the public role becomes clearer (Mariani, et al., 2013). Although rigorous evidence about the impact of public credit guarantee schemes, with respect to alternative instruments, is still scarce and the difficulty implied in a cost-benefit analysis, public credit guarantee schemes have been typically boosted or implemented ex novo, during periods of crisis (Gonzalez-Uribe & Wang, 2020). If existing schemes are enhanced, the improvement is done by increasing the funds available, extending the criteria for eligible applicants, in most of the cases contingent on the firm's financial soundness before the crisis, and offering a greater coverage rate for higher loan sizes. But what are the reasons behind this choice? The rationale can vary according to the view of the PCGS as a potential instrument to:

- acquire information and experience about how to lend to a specific segment,
- overcome information asymmetries,
- spread risk across time and space.

The first item explains that public guarantees could overcome the lack of incentives that normally characterize the financial intermediaries in the approach of a new segment of borrowers, due to the incurring costs involved in the learning process requested for additional lending relationships. Therefore, the scheme can address information problems, acting as a subsidy offered to cover the efforts sustained when a particular segment is approached for the first time (Gozzi & Schmukler, 2016). So, the Government plays a crucial role in channelling private financial intermediaries towards new players, hence extending the receiver base (Green, 2003). In short, the public sector fosters innovation by the subsidization of the initial costs involved to reach a new group of firms (Gozzi and Schmukler, 2016).

The second explanation for public intervention stands for the reduction in the principal-agent problem, that needs the Government to dispose of informational or enforcement advantage over the lenders, in order to be valid. In the case of informational advantages of the guarantor over the lender, the scheme can in fact facilitate filling informational asymmetries and reducing the costs of borrowing (Beck, et al., 2009). So, Public Credit Guarantees can help banks to overcome the information asymmetries improving the ability to make appropriate lending decisions (Levitsky, 1997). In relation to this explanation, one opportunity consists in providing funds to mutual guarantee associations that hold close information about their members, but low capital to set-up the scheme on their own. In this case, the Government acts as a fund provider. Nevertheless, in the latter case, if not properly treated, a potentially negative effect could arise as the mutual guarantee association would be less incentivized to control as fewer own resources would be involved (Green, 2003).

Finally, the third motivation considers that State guarantees are called to boost private investment or lending to high risk or high-risk aversion (Gozzi & Schmukler, 2016). The Government has an intrinsic power of spreading risk across space and time, rather than players acting singularly. Credit guarantees may represent a mechanism able to transfer and diversify risk.

4. Different typologies of Guarantee Schemes

The Public Credit Guarantee Schemes represent the focus of the dissertation, but they do not represent the unique category of Credit Guarantee Schemes. The latter normally involves three parties which may be involved in a stable relationship: the borrower, the lender, and the guarantor; following this metric of classification, five typologies can be identified (Green, 2003).

- The *Mutual Guarantee Associations* (MGAs) consist of a solidarity group composed of enterprises excluded from access to credit (Green, 2003). Thanks to the strict relationship occurring between the lenders and the borrowers, the level of asymmetric information is significantly reduced, thus improving lending decisions and relative costs. Normally, they are administered by a separate legal entity, members are firstly evaluated and then recommended to the lenders. The guarantees are financed through the capital of the mutual guarantee association, provided by the members themselves, and through a risk fund (Zecchini & Ventura, 2007).
- The *Public Credit Guarantee Schemes* represent most of the guarantee schemes worldwide, and they correspond to the case when a Development Agency, a Ministry, a publicly owned bank, or a separate Credit Institution run the guarantees (de Blasio, et al., 2018). Those are typically implemented to enact access to credit to unserved segments, to foster economic growth, or to protect the employment level.
- The *Corporate Guarantee Schemes* are programmes managed by private players. In this case, building confidence for repayment abilities is clearly more difficult and less immediate (Green, 2003), but the presence of a well-endowed fund can stimulate the generation of credibility.
- The *International Guarantee Schemes* represent a form of bilateral or multilateral cooperation (Beck, et al., 2009). Funds and general assistance in designing and implementing the scheme are provided from different parties, and a local entity is needed to run the programme: it could be a financial institution, a private organization, a public institution, or a non-governmental organization.

In all the cases briefly illustrated, the fund to implement the scheme might be composed of contributions from private owners, public sources, and donations (Calice, 2020). Even in the situation where a public Institution is not the main owner of the scheme, however, it plays a key role as it is responsible for the legislation behind, any possible tax waivers, and to monitor the proper functioning.

5. The concept of financial and economic additionality and proper design of the scheme

In the description of this measure, a crucial point should not be overlooked: whether the guarantee leads to any financial or economic additionality (Gozzi and Schmukler, 2016). A Credit Guarantee

Scheme is not only sustainable, but also creates financial and economic additionality for the beneficiary (OECD, 2010).
Public Credit Guarantees could represent an instrument through which obtaining better terms of borrowing and continuing the relationship with the lender, even after the public incentives run out. So, allowing beneficiaries to collect additional loans or portfolios of loans that would not have come about without the scheme or collecting at better conditions, thus granting *financial additionality*. Moreover, the concept of additionality can refer to an enlargement of the loan size, to a longer repayment period, a decrease in the interest rate, to lower collateral requests, or – again - to a more rapid procedure, resulting from the increase in the experience of the bank with the guaranteed borrowers (Green, 2003). Unless generating additional or enhanced loans, the analysis of *economic additionality* refers to the potential performance improvements induced by the scheme in the supported firms, such as developments in terms of growth, investment, employment, new products developed, productivity, or innovation (Beck, et al., 2009). Whereas, when dealing with a period of crisis, the improvement can uniquely be determined by the possibility of overcoming the shock.

Additionality is not easy to prove, given the numbers of variables under discussion. For instance, when financial additionality is investigated, some bias could be generated by the lenders who might substitute guaranteed loans for other loans and borrowers who might switch across lenders from unguaranteed to guaranteed loans (Gozzi & Schmukler, 2016). However, in any case, guarantees allow loans to be made to segments of borrowers that otherwise would have been excluded from the lending market, permitting them the establishment of a repayment reputation that in the future can act as collateral (OECD, 2010). In conclusion, to achieve a form of additionality for a Guarantee Scheme three main conditions must be considered: a *learning process* for the lenders about the creditworthiness of borrowers, an *increase in the institutional capacity* of lending to normally underserved businesses, and finally an *increased competition* due to new profitable segments accessing (Green, 2003).

The success and financial viability of Credit Guarantee Schemes rely heavily on appropriate design choices: the management structure, the regulation behind, the coverage ratios; they all have direct effects on the outcome effectiveness (Honoan, 2010). For instance, a coverage rate smaller than 100% may reduce the risk of conflict of interests between the guarantor and the lender: the latter

in fact would be more encouraged to scrupulously screen the loans covered. Otherwise, the incorrect design of the scheme may also imply side effects, such as incentives for excessive indebtedness or imprudent risk allocation, consequently requiring necessary close monitoring (Falagiarda, et al., 2020). Even if the structure of the scheme requests to be tailored for each situation, identifying good practices is essential to clearly define the objectives of the scheme. So, good practices that might drive to success, and hopefully ensure both sustainability and additionality, are described as follows.

Table 7 – The organizational and operational issues of Guarantee Schemes

Funding	Establish a fund from public or private sources to obtain the amount needed to ensure viability. Enough capital to permit effective launch and subsequent activity, potential voluntary private contributions
Administration	Skilled and prepared representatives of borrowers and lenders in the management of the Scheme
Targeting	Determination of specific segments based on their size-location-industry-access to finance. So, establishing a selective approach for potential beneficiaries
Risk Distribution	The risk is distributed and shared among the parties
Types of measure offered	The max loan size and limits on exposure set. Guarantees for working capital, investment, or leasing
Monitoring	Clear division of responsibilities; it is important that CG could meet certain minimum legal conditions to profile as a credit risk mitigation technique
Regulatory and Institutional Framework	The need for a credible institution or program is easily scaled up or adapted, or - if not existed -, creating a guarantee fund, or managed by a private entity
Fees	Application of fees to ensure economic feasibility adapted to the risk
Additional services	Potential outsourcing to third parties, banks-staff training, or consulting for borrowers

(Modelled by the author following A. Green (2003) and P. Calice (2020))

- *Funding:* the financing requested to run the scheme can be collected uniquely through public contributions, or by a mix of private, public, and donor contributions, or by uniquely private

sources. The different sources might be diverse in giving lenders the proper incentives to avoid excessive risk-taking, and thus minimizing the potential loan losses (Beck, et al., 2009).

- *Administration*: in the management of the scheme, skilled and prepared representatives of borrowers and lenders can encourage success (Green, 2003). The presence of a plateau of people with the right competencies to assess and approve the applications, control their functioning, collect information, review the claims, and just in case, pursue defaulting borrowers is needed.
- *Targeting:* represents the segment to which the measure is specifically oriented; it can be identified in the size of the company, the geographic area, the industry, or the specific sector, and for instance, in relation to the grade of access to finance. Therefore, resulting in benefit for specific unserved groups of economic players (Levitsky, 1997).
- *Risk Distribution:* in case of a scheme inadequately designed, moral hazard can arise and increase among the parties. For this reason, proper design and implementation are crucial to divide the risk of loss among lenders, borrowers, and guarantors. For instance, in the case of a 100% guarantee, the banks' incentives to assess and monitor risk are reduced, and so greater moral hazard might arise (Beck, et al., 2009). While, below a certain threshold, the potentiality of moral hazard can be reduced, however reducing the banks' incentives to participate in the scheme. For instance, a guarantee coverage smaller than 50% is insufficient to induce banks to participate since overall costs will remain too high (Green, 2003). Therefore, the point consists in finding the well-balanced percentage which ensures the right trade-off between incentives to assess and monitor the risk and to participate in the fund. Avoiding moral hazard for borrowers means ensuring their partly supply of collateral (Zecchini & Ventura, 2007).
- *Types of measures offered:* an individual approach or a portfolio approach for loans can be followed. In the first case, applications to the scheme are approved directly by the guarantor and the assessment is done individually, permitting more careful risk management, and reducing the probability of moral hazard (Lapachi & Ormotsadze, 2012). In the second case, a less accurate screening process is done, and the guarantor negotiates only the eligibility criteria for the portfolio: targeted to particular company size, to a particular location or a specific sector, or other characteristics.
- *Monitoring:* whether the lender or the guarantor who performs this function depends on the operational structure. In the case of the *portfolio approach,* screening and approval are entirely performed by the lender, while for a *selective approach* the approval by the guarantor is

requested. Some well-defined eligibility criteria and standardised appraisal procedures help in facilitating this function. No matter which approach is adopted, a clear division of responsibility between guarantor and lender in approving applications and monitoring borrowers, is always requested. Generally, the players which select the borrowers assume most of the risk. The basic principle behind this is that guarantee schemes are not aimed at providing finance for projects of doubtful viability, even if this is not always ensured. The rejection rate represents how many applications have been refused after the request. Although it is certainly advisable to reject some unjustified or too risky applications, overly conservative approvals could weaken the ability to create additionality (Green, 2003).

- *Regulatory and Institutional Framework:* a well-regulated scheme contributes directly to its level of credibility and so to the banking sector's confidence towards the measure. The institutional framework helps for the reduction of obstacles to the creation, promotion, and growth of the scheme. It regards the establishment of minimum capital requirements, an appropriate insolvency ratio and transparency criteria (OECD, 2010), the level of control, the maximum duration of the measure. In fact, a critical point consists of the fact that guarantee schemes could be used as substitutes for structural reforms, as the first-best solution to the problem (Green, 2003) not always followed by any actions with a longer-term perspective.
- *Fees:* to ensure economic feasibility, commissions to be charged represent an important design aspect that impacts the entire financial sustainability of the fund. The incentives to participate for lenders and borrowers directly depend on the level of fees. Thus, the crucial point is finding the right balance in the commissions required: high enough to cover the administrative costs but reduced to ensure an adequate level of participation (Lapachi & Ormotsadze, 2012). The percentages established and how fees are applied vary among the schemes: in some cases, there is a registration fee, to deter not justified applications and an annual fee. Otherwise, a per-loan fee. The amount can be established either on the amount of the guarantee or on the underlying loan. Accordingly to a World Bank study, subsequently explained in more detail, only 15% of the schemes impose a membership fee, 30% an annual fee and finally 48% a per-loan fee. Fees signal that the guarantee and the services provided have a value and they inform of the fact that the scheme is operating at market conditions. Commissions on outstanding guarantee schemes are typically around 2% per annum (Green, 2003). Under the portfolio approach, the implementation requires less administrative work from the guarantor, so the fees should be lower than those approved individually. In addition, it is relevant to underline that three main

typologies of costs can be distinguished in running the scheme: the set-up costs, the costs of funding and the additional costs incurred by the financial system to run and participate in the program (Levitsky, 1997).

- *Additional services* can be offered such as training for the bank's employees or consulting activities for the borrowers, trying to reach the most viable management of the scheme. Besides providing guarantees for loans, additional services might consist in several aspects such as project appraisals, business plans, accounting, management, and marketing training. Given the greater value offered through the services, an additional commission should be charged for their use. In most cases, the supplementary assistance is provided at more advantageous prices compared to the market offers (Green, 2003). The perspective about technical assistance may be significant for lenders and borrowers during the initial choice. Finally, attention should be put on the right balance between the two proposals, since offering several services requires resources: decreasing the quality of the guarantee scheme in favour of supplementary services should be avoided.

The grade of the leverage ratio has an impact on the overall sustainability of the scheme. It refers to the share of outstanding guarantees over the total size of the guarantee fund (Green, 2003): a high rate can contribute or threaten sustainability, depending on how many borrowers will default and, on the commissions collected. Potential economies of scale in terms of fixed costs can be reached, but a maximum threshold of leverage should be specified depending on the ability of managing operations.

During 2008, as previously mentioned, the World Bank structured a survey on forty-six countries to see how the structure of Public Credit Guarantee Schemes could vary around the world (Beck, et al., 2009). It was found that many of the schemes were created for specific goals and with detailed specifications in terms of sector-type or geographic area. Particularly, 45% of the schemes implemented were addressed to SMEs. In terms of the type of measure offered: only 14% of the schemes were founded to use a portfolio method, instead of an individual approach. The median coverage rate was 80%; such a value is able to encourage lender participation and low enough to limit moral hazard (OECD, 2010). A marked separation between governmental or private sector administration was discovered: the role of the Government was mostly linked to the funding side and the management, whereas less dedicated to the credit risk assessment or the recovery. A credit

risk assessment by private parties can improve the quality of risk decisions and minimize loan losses, while the recovery is made by the lenders, rather than the Government, is facilitated due to the more information available about the borrower and potentially stronger incentives to recover the loans (Beck, et al., 2009).

In conclusion, Public Credit Guarantee Schemes can help companies to handle liquidity crises, but their role should not be overemphasized (Calice, 2020). Since these measures are carried out, some advantages and disadvantages became evident. Firstly, they require low budgetary implications, at least before credit losses materialize, since a large volume of loans can be guaranteed with a comparatively small capital base (Gozzi & Schmukler, 2016), and whenever they are already in place, the request for quick deployment. Furthermore, public guarantees seem to be more effective and less costly in expanding access to external finance than directed lending, and the schemes help to diversify risks across lenders in different sectors and geographical areas (Beck, et al., 2009). While, at the same time, they are a first-moment intervention that requests complementary policies and investments to sustain the long-term recovery. This might be the case if additional injections of liquidity turn into higher levels of debts and potential future capital erosion. During the crisis, the intervention corresponds to a replacement of revenues with debts, making the firm risk growing. Another crucial point is developing adequate incentives to ensure that, once private financial intermediaries understand how to deal with new players, the relation can continue even without further subsidies. Clearly, terminating the schemes prematurely may risk precipitating severe liquidity squeezes for firms and triggering bankruptcies (Falagiarda, et al., 2020). Finally, another critical issue must be considered in the evaluation of this measure: if the policy support provided were to lead to a permanent expansion of the role of Government in driving economic outcomes, it may hamper allocative efficiency and reduce the productive capacity of the economy over a longer horizon, keeping afloat firms not viable or sufficiently profitable (Falagiarda, et al., 2020).

Once the Public Credit Guarantee Schemes have been explained from a theoretical point of view and through some data about their application in countries other than Italy, also describing the basic concepts about their design and implementation, the next two chapters will describe the specific case of the Guarantee Fund for SMEs in Italy during the Covid-19 crisis. Furthermore, the response by the economic system to this adoption will be analysed through the data of the private Italian firms.

Chapter 3
The State-backed Guarantee Fund for SMEs in Italy

1. The operational changes applied

European Institutions have been quick to anticipate the key role of banks and of the other financial intermediaries in coping with the effects of the outbreak and in fostering the credit flow to the economy. All Member States should be able to enact measures to encourage credit institutions and financial agents to continue their role of support to the economic activities (Camera dei Deputati, December 2020). Particular attention was reserved to the segment of economic players which probably could have suffered the most from the situation. So, a series of instruments and facilities have been dedicated to them, also in derogation of the State Aids rules of the European Commission. In the Italian scenario, a scheme for extraordinary and transitional guarantees on bank loans to enterprises, centred on the role of SACE S.p.A. and the Guarantee Fund for SMEs was enacted. Among the various facilities, the extension of the Central Guarantee Fund functionality certainly played a major role.

On the 14th of April 2020, the Aid Scheme authorized the enhancement of the guarantee intervention through the Fund, and a further authorisation, after the conversion into law, came on the 16th of June 2020. The Guarantee Fund for SMEs is an instrument which has operated in Italy in the past twenty years, firstly established by Article 2, comma 100 – letter a) of Law No. 662/96 and Article 15 of Law 266/97. The fund is managed by Mediocredito Centrale, a banking institution fully owned by Invitalia, which in turn is owned by the Ministry of Economy and Finance. The Art. 2, comma 100 – letter a) of the Law *"Misure di razionalizzazione della finanza pubblica"* states: *"Within the resources referred to in paragraph 99, the CIPE may allocate a) an amount up to a maximum of 400 billion lire for the financing of a guarantee fund set up at Mediocredito Centrale SpA to ensure partial insurance for credits granted by credit institutions to small and medium-sized enterprises".* The public resources mentioned refer to those which may be used by the Inter-ministerial Committee for Economic Planning (CIPE) for the implementation of public investments to finance immediately executable projects, even for purposes other than those envisaged by the respective legislation. While Article 15 *"Razionalizzazione dei fondi pubblici di garanzia"*, states that in addition to the resources mentioned, others were allocated by subsequent amendments and that the guarantees of the Fund can be granted to banks, financial intermediaries,

and financial companies for innovation and development in relation to loans to small and medium-sized enterprises. Furthermore, the criteria and modalities to operate and manage the fund, as well as the possible reserves of funds for specific sectors or types of operations are regulated directly by the Ministry.
As the crisis started, the first Decree "Cura Italia" immediately ensured more lean and fast procedures, quick response times, enlarged the eligibility and allocated funds in its favour. In short, strengthening and extension of the Fund's intervention took place. Through the "Fondo di Garanzia per PMI" the European Union and the Italian Government support companies and professionals who normally have difficulties in accessing bank credit, so public guarantees substantially replace the guarantees requested to obtain the financing. In the section of the Fund about the "Operational Modalities", the requirements and conditions to access the guarantee are defined, as well as the management procedures for the financial operations benefiting from the guarantee. Nevertheless, the instrument is intended for different categories of economic subjects.

Those who are eligible:

- SMEs registered in the Italian Business Register, including artisan enterprises,
- professionals registered with professional bodies or members of professional associations,
- consortia and consortium companies.

Furthermore, in accordance with the "Liquidity Decree" the eligible beneficiaries have been extended to:

- third sector entities, including recognised religious entities,
- professionals organized in associated offices,
- insurance agents and subagents, and brokers.
- companies with up to 499 employees.

The measure is destined to firms operating in all the sectors, except the financial, but including brokers, insurance agents and subagents, as just mentioned covered by the extension.
In accordance with Movimprese Report, due to the Chambers of Commerce, the sole proprietorship in Italy at 2020 amounts to 3,131,611, while the corporations amount to 1,791,853; therefore the extended eligible criteria significantly increase the scope of the scheme. In addition, the agricultural businesses can utilize the re-insurance scheme approaching a Confidi, which is operating in the same sector. Basically, the company or the professional do not have to submit the demand directly

to the Guarantee Fund, as the bank itself - whenever converges in the financing request -, will take care of it. The beneficiary applies for the guarantee and the financing concurrently, or it can refer first to an accredited Confidi which guarantees and then the counter-guarantee will be supplied by the Fund. Whereas normally the firm needs to file a standard loan application, the bank has to verify the eligibility through a scoring system and then the firm has to do another application directly to the Fund. All those three steps have been removed for loans up to €30,000. The classification of the type of operation on which the guarantee can be requested is in the section of "Operational Provisions" of the Fund. In relation to that, the intervention is granted on all kind of operations, aimed at both short and medium-long term business activities, designed to inject liquidity or to permit investment activity and the guarantee can be granted through a direct guarantee, or reinsurance, or a counter-guarantee, or jointly on the same financial transaction. Moreover, it is relevant to note that the fund does not intervene directly in the bank-client relationship, since the interest rates and repayment conditions are left to the negotiations between the parties. The concession is typically joined to collaterals brought by the firms or sometimes totally substituting them, sometimes the fund can guarantee some amounts without further commitments by the enterprises.

The economic crisis brought significant changes to the Guarantee Fund for SMEs, in the first instance through the "Cura Italia" Decree and then through the "Liquidity Decree" and the "August Decree". The Government has indeed modified the instrument to deal with the economic shock and protect those most at risk. The Liquidity Decree introduced important innovations:

- the intervention is free of charge (without the payment of commissions),
- the maximum guaranteed amount per firm is raised from €2.5 million up to €5.0 million,
- mid-cap companies with up to 499 employees are also eligible for guarantees,
- guarantee is allowed also in case of renegotiation of existing loans (80% direct guarantee and 90% in case of reinsurance), provided that the new financing provides at least 10% of the outstanding debt. (25% according to Decree-Law 23/2020),
- automatic extension of the guarantee for loans suspended due to the occurrence of Covid-19, suspension for the amortisation rates or the capital amount payments,
- guarantee for loans up to €30,000 granted without the assessment of the beneficiary: no application of the credit assessment model, but companies with exposures classified as non-performing are excluded,

- the Fund only approves the applications submitted by banks, Confidi and other financial intermediaries after the verification about the applicants' eligibility and that they do not exceed the prescribed aid limits,
- fees for failure to complete the transactions submitted are cancelled,
- guarantee for short-term loans for individuals whose professional, artistic activities are damaged are admitted free of charge and without assessment for an amount up to €3,000 (80% direct guarantee and 90% in case of reinsurance),
- guarantee also in favour of entities reported in "Centrale dei Rischi" as "likely to default" and with operations classified as "past due" or "impaired overdrawn" after the 31st of January 2020,
- guarantee granted also to companies admitted to the arrangement procedure of arrangement with business continuity, or entered into restructuring agreements after the end of 2019,
- the interest rate for 100% guarantees is determined through a weighted average of government bond yields plus the spread with sovereign 5-year CDS spreads, with a cap set at 2%; for not fully guaranteed loans, the interest rate is at the bank's choice,
- possibility of cumulating the guarantee with other forms of guarantee for operations of more than €500,000 and a minimum duration of 10 years, in the tourism and real estate sectors,
- increase in the coverage percentages for individual loans included in the portfolios and for the total amount of the portfolio (as shown in *Table 6*),
- the guarantee may be cumulated with an additional guarantee of up to 100% coverage for beneficiaries with turnover not exceeding €3.2 million.

Furthermore, in addition to the extraordinary and transitional measures, the "Liquidity Decree" intervened on the functioning of the Guarantee Fund for SMEs structurally, stipulating:

- in some regions, an anticipation of the cessation date for the limited intervention including uniquely the possibility of counter-guarantees,
- the permission for contributions from private parties, not only from banks, regions, and other public entities,
- the resources for issuing guarantees on portfolios of loans and portfolio of minibonds come from the part residual to the one dedicated to loans on individual transactions,
- for companies that access the scheme, when the anti-mafia documentation is not immediately forthcoming, the aid is granted subject to a resolutive condition,

- an 80% guarantee for microcredit operators, free of charge and the maximum amount for microcredit operations increased to €40,000.

The modifications presented are into force since the 31st of December 2020. Now, the new framework which has been created by the enhanced operability, in terms of increased coverage rates, extended guarantee duration, and a greater amount of financing is outlined:

Table 8 – The new application framework

COVERAGE	INTERVENTION TYPE	TYPE OF OPERATION	CONDITIONS
100%	Both direct guarantee and reinsurance	New financing amount of the loan up to 30,000 euros (before it was 25,000)	The maximum term of repayment is ten years, provided it does not begin earlier than 2 years after disbursement
90%	Both direct guarantee and reinsurance	For any financing up to 800,000 euros, you can combine with Confidi	Maximum term of loan repayment is six years, to obtain a total guarantee: +10% from Confidi can be combined
80% for direct guarantee 90% for reinsurance	Both direct guarantee and reinsurance	For all procedures not listed above, with a maximum secured amount of five million	To obtain a total guarantee: the fund +20% from Confidi can be combined

(Created following Fondo di Garanzia website)

In all the cases, the amount of the financing may not exceed 25% of the beneficiary's revenues during the last financial year or twice the wage bill of the same period, as regulated by the Temporary Framework of the European Commission. While, for beneficiary companies established after the 1st of January 2019, it must be demonstrated through appropriate documentation. The investigations are simplified: the company self-certifies its data and tax loyalty. Also, it is worthy to underline that the coverage ratio is the maximum envisaged by the European regulation (European Commission, 2020). The various decrees issued allocated different packages of resources, in particular: €1.7M by Liquidity Decree, €3.9M by the "Relaunch Decree" and €7.3M by the "August Decree" for the three-year period from 2023 to 2025, respectively: €3.1M, €2.6M and €1.6M (Camera dei Deputati, 3/12/2020). Furthermore, there exist several

special sections of the Italian Guarantee Fund dedicated to specific sectors or geographic areas and sometimes some portion of resources have been allocated to some objectives. For instance, among those allocated during the Covid-19 crisis, an amount up to €100 million, is earmarked for guarantees on loans to non-commercial entities, including third sector entities and civilly recognized religious entities. Other extensions in terms of operability are shown by the fact that the guarantee may also be requested on financial transactions already finalised and disbursed, no more than three months after the date of submission, after the 31st of January of 2020 and that the eligibility criteria were extended also to persons carrying out activities corresponding to the section K of the Ateco Code and Start-ups. For the latter, the necessity of presenting the Business Plan and the provisional budget does not exist no more.

2. The Special Section in accordance with Article 56 of "Cura Italia" Decree

On October 5th, through the Circular 18/2020, the Special Section set up in accordance with Article 56 of the "Cura Italia" Decree, came into force. The section operates in favour of businesses and professionals who benefited from the measures provided by the article: prohibition of revocation for revocable credit facilities and loans against credit advances, an extension of loans, and suspension of instalments on mortgages and other loans repayable by instalments. In fact, Article 56, then modified by Article 65 of the "August Decree", provides for the companies which suffered from the Covid-19 crisis, the possibility of obtaining one of the following:

- Prohibition of revocation: for revocable credit lines and loans granted against advances on credits existing on the 29th of February 2020, the amounts granted, both for the part used and for the one not used, cannot be revoked at the date of termination, neither totally nor partially,
- Extension: for loans with contractual maturity before the date of termination of the measures, the contracts are extended, under the same conditions until the date,
- Suspension: for mortgages and other loans repayable by instalments, including those made by issuing agricultural bills, the payment of instalments or leasing instalments falling due before the date of termination of the measures is suspended and the repayment schedule is drawn up in such a way to ensure no new or increased charges for both parties.

For these kinds of measures, SMEs and professionals operating in Italy and any sector, which claims to have temporarily suffered from liquidity shortages, are eligible. Nonetheless, they do not

have to present impaired exposures at the date of publication of the Decree. The Special Section guarantees:

- for 33% of the higher utilisations, at the date of termination of the measures, compared to the amount utilised at the date of publication of the Decree,
- for 33% of loans and another financing whose maturity is extended,
- for 33% also for the suspended individual loan payments, another financing repayable by instalments or of leasing instalments.

For obtaining the subsidiary guarantee of 33% no creditworthiness assessment is requested, the provision is free of charges, but the Section's intervention concerns solely the financial transactions not already covered by the guarantees of the Fund. The August Decree introduced the extension for the measures of the prohibition of revocation, extension, and suspension of the existing loans until the 31st of January 2021 (31st of March 2021, for the companies belonging to the tourism sector). Considering the above, it is specified the "Date of the end of the measures", indicated in the Operational Modalities of the Section.

3. The application to "Fondo di Garanzia per PMI" during the Covid-19 period

In accordance with the act of Data Transparency for Public Administration, according to the Legislative Decree no. 33 of the 14th of March 2013, the data regarding the total access to Guarantee Fund for SMEs shall be made public. The database presented on the website of the Fund provides the information collected at the loan level with the relative amount of financing and the type of process through which the guarantee has been released. The specific profile of the beneficiary is made available together with the tax identification number. Other variables presented, and publicly accessible are:

- the type of intervention,
- the maximum guaranteed amount,
- the type of operation,
- the specific reserve or Special section,
- the date of approval,
- the amount of financing,
- the region and province of use, related to the beneficiary,
- the type of process.

Henceforth, a descriptive analysis of the activity of the Fund during the crisis period will be done through the data collected up to the 1st of December 2020. So, results will be presented for the period between January 2020 and the first days of December.

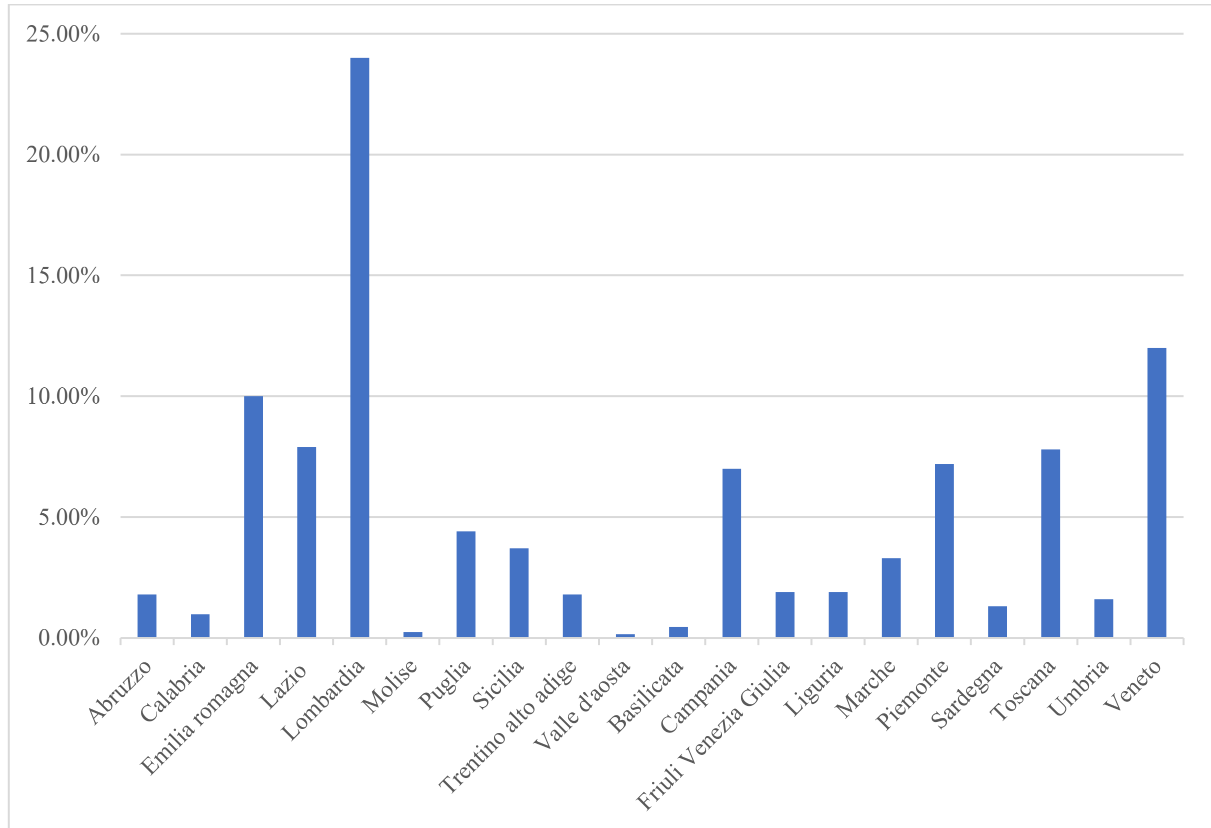
The total number of procedures activated sums up to 675,765, while the economic agents who benefit were 536,235, since some of them requested guarantees more than once. In comparison with 2019, where the procedures were 121,940 and the economic agents who benefited 33,881, the number of guarantees issued in 2020 was more than five times the ones in 2019 (Fondo di Garanzia, 2019). Within the last two figures, not only small and medium enterprises are considered but also the newly eligible players such as professionals, third sector organisations, bigger companies, and assurance agents. Among the information released, the type of intervention refers to which type of measure the client asks for: the company or the professional can apply to a bank for financing and concurrently request a direct guarantee on it. Otherwise, the applicant can turn to an accredited Confidi, which guarantees in the first instance and then requires a counter- guarantee to the Fund.

During 2020, in most of the cases, a direct guarantee was provided, specifically the 96.11%, through 649,502 requests. That is in line with the great intervention of guarantees for loans up to €30,000, due to the extremely favourable conditions of this measure of full coverage, such as the absence of creditworthiness enhancement and of any charges. Conversely, the counter-guarantee issued was 3.89% with 26,263 requests. Different coverage ratios are related to the two measures: in the sample analysed, in the case of counter-guarantee, 76% of the financing is covered on average, while in case of direct guarantee it is covered for 86%, on average.

The amount of financing clearly represents the volume of the loan for which the guarantee has been established. This quantity has been distinguished in three specific tranches to which a coverage ratio is attached. Loans up to €30,000, up to €800,000 or greater than €800,000, in the third tranche. In our sample, the average size of the loan guaranteed is €116,698.

As shown in *Table 9,* Lombardia, Veneto, and Emilia Romagna were the Italian regions receiving the higher amounts of financing guaranteed concerning our sample, up to the 1st of December 2020.

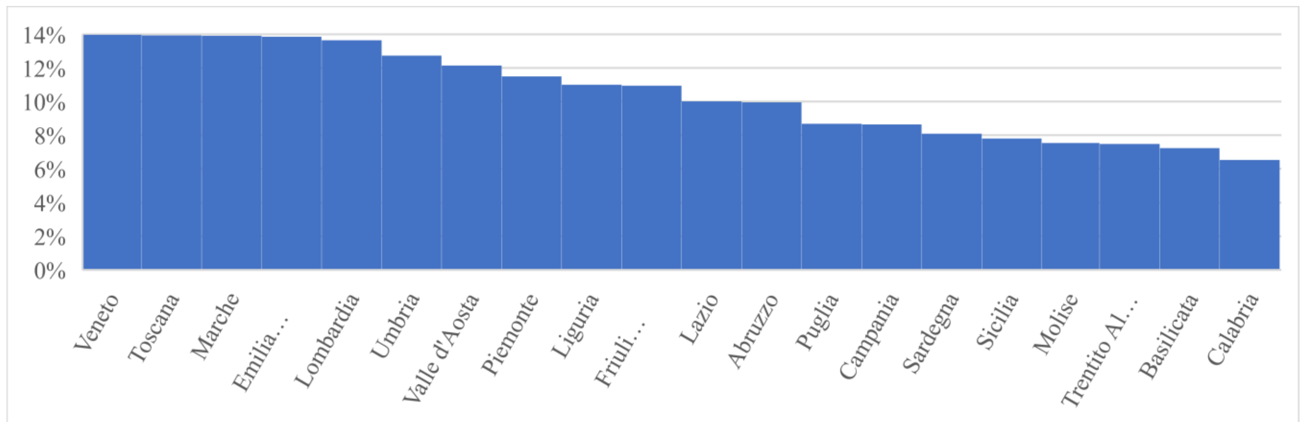
Table 9 – The amount guaranteed, by Regions



(Source: Fondo di Garanzia database)

Furthermore, gathering the data from Movimprese, the report about companies in Italy written by the Chambers of Commerce, we extract the total number of registered firms, distinguished by region, on the 31st of December 2020 and obtain the table below:

Table 10 – The Regional uptake during 2020



(Source: Fondo di Garanzia database)

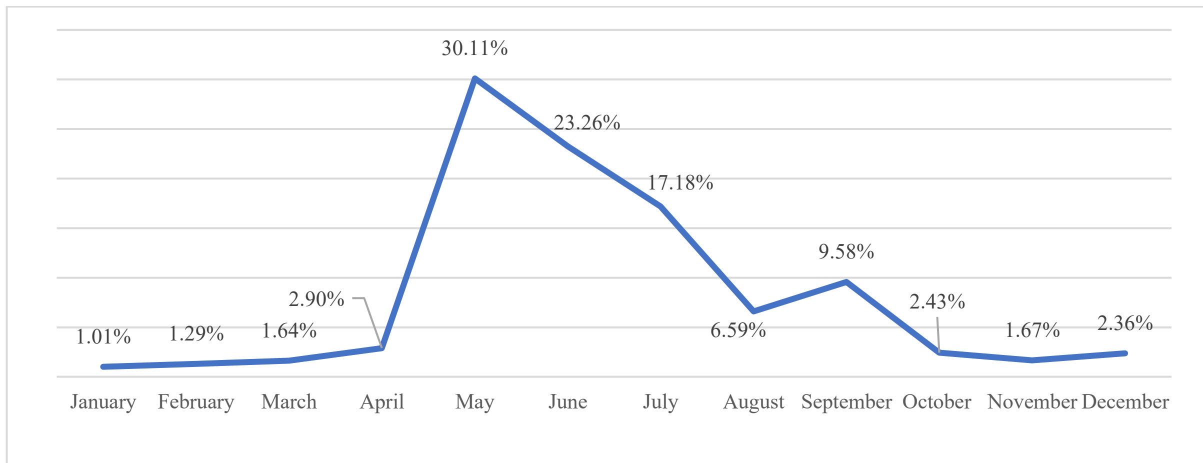
The maximum guaranteed amount depends on the coverage ratio and so it is directly linked to the previous figure. Therefore, if the graph above would have been made based on the maximum amount guaranteed, it had probably show up very close to the latter. The total maximum amount guaranteed during the given period amounts to about €9 billion. In our analysis, the maximum guaranteed amount reached €5,000,000, as envisaged by the new Guarantee Fund, which enlarges the maximum amount per firm from €2.5 million up to €5 million.

More specifically, for a counter-guarantee the maximum amount reached is €3,600,000, while for the direct guarantee it is €5,000,000, as expected. The information about the type of operation states whether it refers to a *risk capital operation*, or a condition of *duration not less than 36 months*, to a *quasi-equity investment* or an *underwriting transaction mini bond*. Up to the 1st of December 2020, 99.9% of the cases correspond to "Other financial operation", with no other additional information.

The Guarantee Fund, as previously explained, counts for different sections and reserves, corresponding to which different targets are encountered, different conditions must be respected, and different resources have normally been allocated. The Special Section established on the 5th of October 2020, has been highly relevant since the date of implementation. Indeed, looking at the data, the different sections to which guarantees account for amount to seventeen, and the two most relevant correspond to the Guarantee Fund itself and, in the second instance, to the Section in accordance with Article 56 of the Cura Italia Decree. The 96.65% of the total amount of guarantees refer directly to the Fund, whereas the 2.49% refer to the newly created "Sez. Art.56 DL Cura Italia". The portion could be so restricted, as the measure has been implemented in the last three months, while for the other sections' percentages they are so small so not representing any significant portion. Considering the type of intervention: 93.2% of the total counter-guarantee have been granted through the section of the Guarantee Fund; nonetheless, the counter-guarantees correspond just to 3.7% of operations made through the "Fondo di Garanzia" Section. This shows how little use has been made of the counter- guarantee. Whereas, considering the direct guarantees, 96.8% of them have been made through the Guarantee Fund.

Concerning the date of approval, our sample ranges from the 8th of January 2020 to the 1st of December 2020, presenting all operations admitted to the Guarantee Fund at the loan level. *Table 6* represents the distribution of the adoptions during the period of 2020.

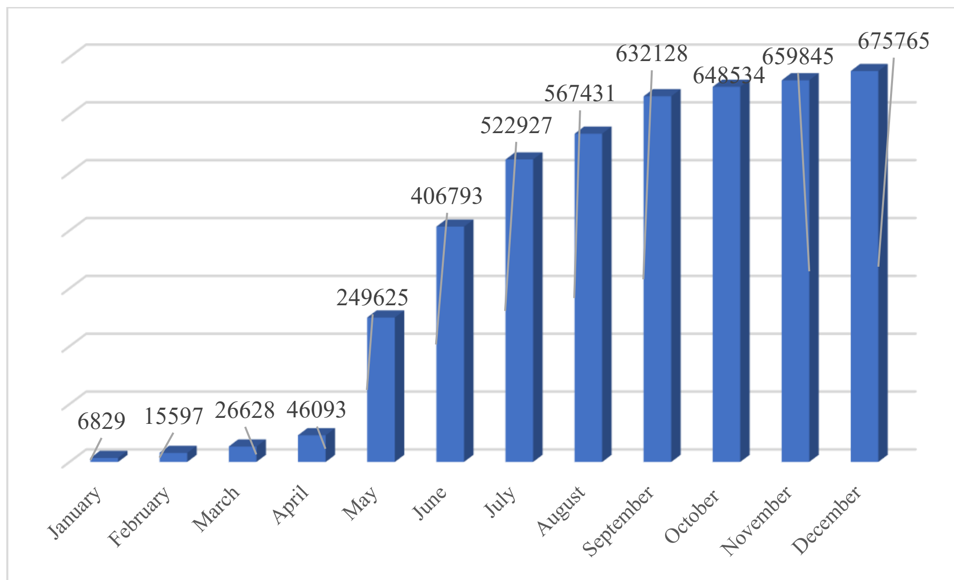
Table 11 – The time distribution of the interventions



(Source: Fondo di Garanzia database)

As shown in *Table 11,* the peak of guarantees took place between May and July 2020, with a short decline in August, before growing again in September 2020.

Table 12 – The cumulative number of guarantees



(Source: Fondo di Garanzia database)

In the first period of implementation, the timeframe necessary to accept applications was affected by a large number of requests and by the time of adaptation to the new procedures, whilst in May 2020 the situation has much improved. As shown in *Table 12*, during the first four months (the first

two not affected by the crisis), a small number of guarantees has been released. To ensure efficient and quick management of the measures, enacted to grant liquidity to the companies, a task force was set up by the Bank of Italy, the Ministry of Economy and Finance, the Ministry of Economic Development, the Italian Banking Association, Mediocredito Centrale, and SACE (Banca d'Italia, May 2020).

Considering the type of process through which the guarantee is approved and provided, it might vary with respect to different categories.

Table 13 – The type of process

Decreto Legge 8th of April 2020, Art.13 Lett. M	452,294 → **66.93%**
Modello di rating	183,845 → **27.21%**
Decreto Legge 17th of Marh 2020, Art. 56	16,813
Importo ridotto	8,630
Portafoglio	1,552
Resto al Sud	517
Microcredito	426
Start-up contabilita ordinaria	5,896
Start-up contabilita semplificata	401
Start-up SGA	3,711
Start-up Innovative	1,132
Tripartito	548

(Source: Fondo di Garanzia database)

The two cases worth mentioning are those corresponding to the highest shares. In accordance with the new type of process enabled during the period of the Covid-19 crisis, the most widely used categories are:

- the Decreto Legge 8th of April 2020 Art.13 Lett. M, for the 69.15%,
- Modello di rating, for the 27.68%.

In the first case, it refers to all the conditions previously explained as introduced by the Decree in April 2020. It refers to the provision of guarantees by the Fund with a 100% coverage ratio for both direct guarantees and reinsurance, eligible for new loans to SMEs and professionals whose business activity has been damaged by the COVID-19 emergency. While in the second case, the rating model refers to the calculation of the probability of default of the beneficiaries putting them into several classes describing the rating scale. In addition to these results, some general regulatory criteria must be considered. The model of assessment is based on an economic and financial module with information about any presence of judgmental events. The result defines the final class of merit. On this basis, both the eligibility and coverage ratio for guarantees are determined. Normally, under certain conditions, innovative start-ups and incubators are eligible without the assessment and the same for other types of operation characterized by small amounts of financing. The third most used type of process is the one related to the Article 56 of the Cura Italia Decree, in relation with the specific Special section.

In the overall amount of loans, 488,150 were up to €30,000, representing the 72% of the guaranteed loans, whilst in 187,615 cases the portion of loans was greater than €30,000. This result is due to the very favourable conditions, such as the lack of assessment, the enlargement of the potential beneficiaries, the speed through which the loan is disbursed, without waiting for the Fund's response. The operational modality to request for this kind of loan is the “Allegato 4 bis, ex Legge di conversion of Decreto Legge 8th of April 2020”. So far, the fundamental intervention of the Guarantee Fund during the Covid-19 crisis period has been outlined, but further analysis requires an understanding of the major variables influencing the specific company requests, for this type of Public intervention. That is the topic of Chapter 4.

Chapter 4

Companies' response to the Guarantee Scheme

1. Sample definition

After a general overview about the changes to the Guarantee Fund for SMEs and the relative participation during the first year of the Covid-19 pandemic, a deeper analysis is conducted to understand if a sort of local effect or sectoral effect is embedded in the choice of applying for a public guarantee. Moreover, in case of adoption, the amount of the loan guaranteed versus some company-specific features will be assessed.

The investigation will be done matching the unique tax code of the borrowers who benefited from the Fund with the tax code of the private companies whose financial accounts of the last year have been collected. The financial statements of 2019 of Italian private firms have been collected through Aida, a database belonging to Bureau van Dijk, which contains comprehensive information about private companies in Italy, with up to ten years of history. The dataset being used is made of the companies with Financial Statements closed on the 31st of December 2019, and not in financial difficulties at the time. The data were gathered in six different tranches, from May to November 2020, to update the collection step by step, in accordance with the scattered publication of the balance sheets, due to the extension of the approval period during the downturn.

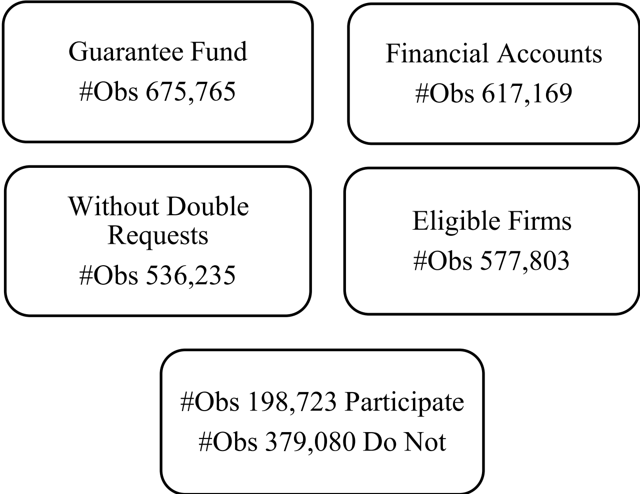
The guaranteed financing has been collected at the loan level, up to the 1st of December 2020 and, since the same beneficiary may apply more than once until reaching the maximum loan amount guaranteed, the dataset contains duplicate information. Specifically, it counts for 139,530 duplicates, representing the second or third requests of some specific borrower. To consider only the real number of beneficiaries, duplicates will obviously be excluded, as shown in *Figure 4*. Through the provision of the unique tax code, the merge with company-specific data is possible. On the other side, the collection of financial accounts of the Italian private firms amounts to 617,169 observations, hence only 577,803 of them were eligible to apply to the Guarantee Fund, since they are companies with employees up to 499 and sales up to €50 million, in accordance with the new criteria of eligibility. Without the current modification, eligible companies would only be SMEs, i.e. with up to 250 employees.

Finally, the merge between the two "cleaned" databases, among the eligible players, only 198,723 of them applied to the Fund, while 379,080 did not. The latter will form the control group in the

regression analysis – as they do not obtain any guaranteed loan, despite probably being eligible. Therefore, in our sample, only 34.4 % of the total eligible economic agents have participated in the Fund. Thus, showing a lower level than expected, given the convenience and immediacy of the measure. Nevertheless, this last result is in line with the findings of Core & De Marco (2020), analysing the Guarantee Fund's adoption during the period of Covid-19.

Over the 536,235 actors who benefited from the fund ("without double requests" in *Figure 4*), the information contained in our dataset refers to only 208,417 of them, showing the probability of having a relevant share of third sector entities, listed companies, associations or self-employed.

Figure 4 – Sampling procedure



(Sources: Aida and Fondo di Garanzia)

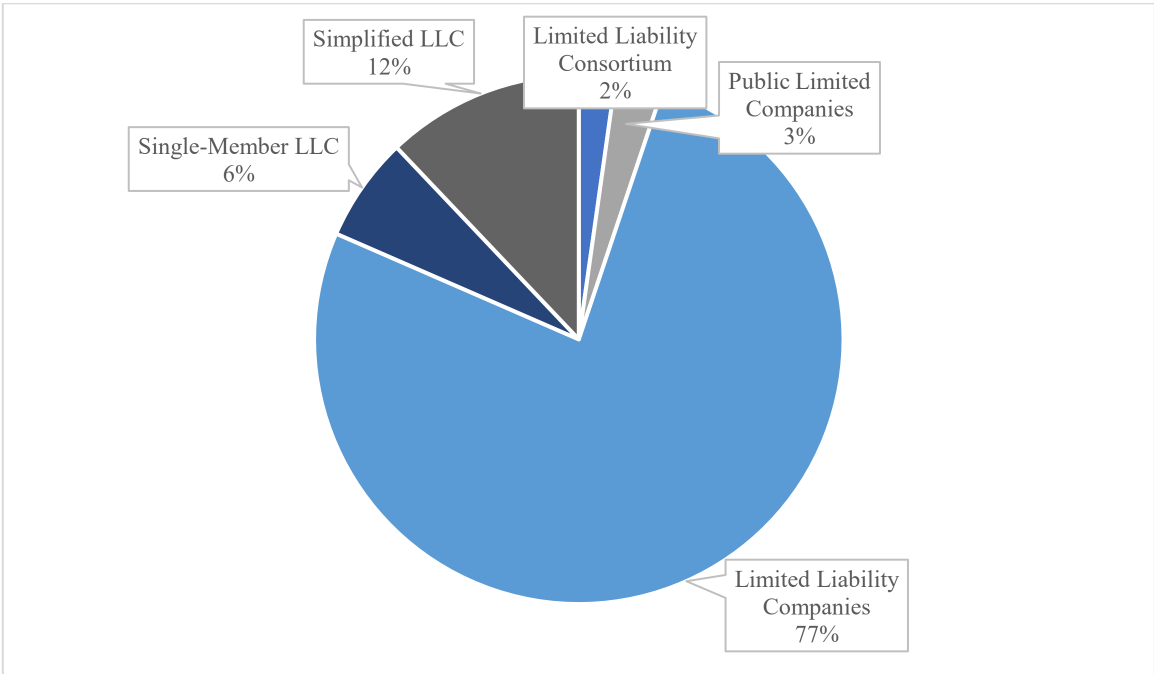
The focus of the study are small and medium enterprises, with extended eligibility criteria in terms of employees, up to 499. These categories, to which normally the scheme of public guarantees is dedicated, seem to benefit the most from Public Loan Guarantees (Angelino, et al., 2020). Their higher take-up registered at European level may reflect the greater liquidity needs and their direct dependence on bank financing during the downturn (Falagiarda, et al., 2020). To better understand the habitual conduct of the companies to which the guarantees have been released, with respect to the just mentioned reliance on bank financing, their precedent recourse to bank credit has been investigated. The presence of financial charges in the last balance sheet available has been taken into account as a signal. It was found that among all the eligible companies, both taking advantage of the public guarantees or not, 14% did not use the banking channel, during the last financial year.

Whereas looking only to those which adopted the public guarantees, only the 5% of them did not have recourse to the banking credit market during the last year of 2019, thus showing that the companies benefiting from the scheme were, mostly, already used to resorting to the banking channel.

Which companies have benefited most from public guarantees?

With reference to the business structure, the prevailing legal form within the beneficiary enterprises is the "limited liability company", which amounts to 77% of the sample considered of the 198,723 beneficiaries, as shown in *Figure 5.*

Figure 5 - Legal form of the companies who receive guaranteed loans

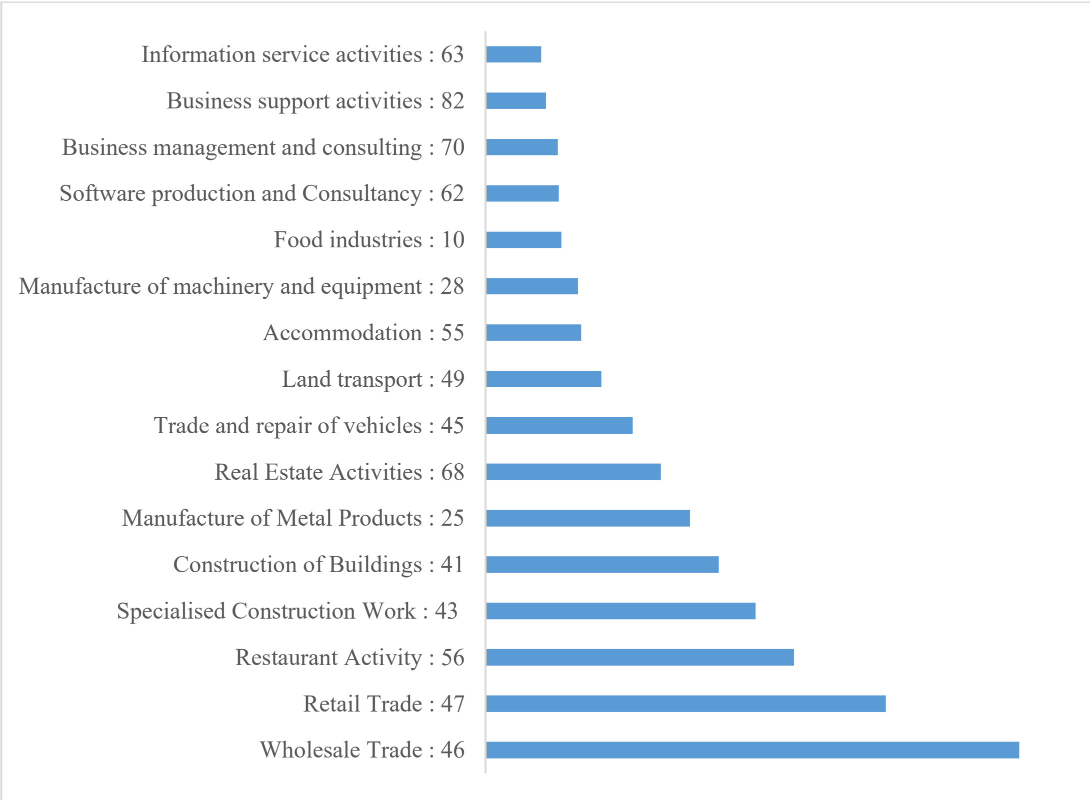


(Sources: Aida and Fondo di Garanzia)

Therefore, if the distinction is made in terms of industrial sector, wholesale trade and retail trade have been those categories benefiting the most from the public scheme, as reported in *Table 8*. The classification, made with respect to the 2-digits ATECO code, highlights that the restauration sector, together with the construction industry are the next two categories in the ranking of applicants for guarantees. These findings can be explained by the fact that restaurants were the first economic activity to be closed and the ones that remained closed the longest, while construction is a sector characterised by the need for large capital expenditure and by a long-term vision, in

contrast with the uncertainty characterizing the crisis times. So, the resilience of both the categories has been severely tested by the pandemic. Conversely, in our sample, the sectors characterized by smaller participation rates are the textile industries, leather goods manufacturing, wood industry, or the national press industry.

Table 14 – 2-digit ATECO sectors of the companies obtaining the guarantees



(Numbers reported correspond to the Ateco Code – Sources: Aida and Fondo di Garanzia)

2. Variables description

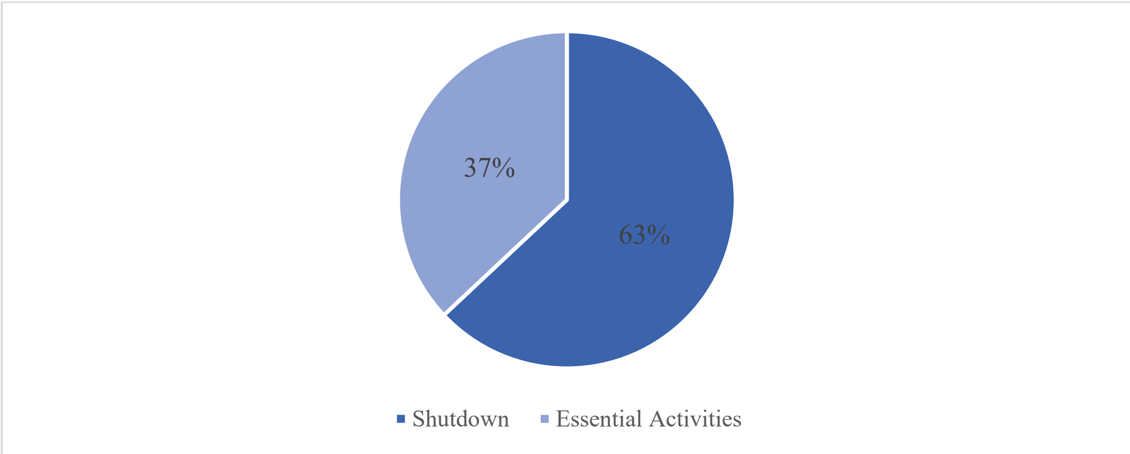
Since the Scheme presents large differences in the take-up rate across geographic and sectoral areas, being still a lot of room for application (the enterprises which were subjected to lockdown but did not require for Public Guarantees are 221,744 in our sample), the following analysis aims at understanding what characteristics matter the most in the choice of applying. In particular, the "location effect" or "industry effect" will be assessed, analysing the firm-level evidence. Several variables will be considered in running the regression to explain those factors. The drivers considered might be divided into external and internal variables, whether they refer to some

macroeconomic aspects about the Italian scenario during the Covid-19 crisis or to some firm-specific features.

The shutdown of the economic activities

Firstly, it has been considered whether the enterprise belongs to one of the ATECO codes which have been shut down by the decree enacted on the 25th of March 2020, and so whether the company corresponds to an essential or non-essential sector. The identification has become more and more crucial to follow the several regulations enacted during the entire year through the several decrees. On the 25th of March 2020, all the economic activities considered as non-essential were requested to close and stop the production. Such a severe restriction did not occur any longer during the pandemic (at least so far). In our sample, 63% of the enterprises which granted public guarantees were subject to lockdown at that time.

Table 15 – The shutdown of economic activities that received Public Guarantees:



(Source: Aida Database)

Covid-19 Incidence Rate

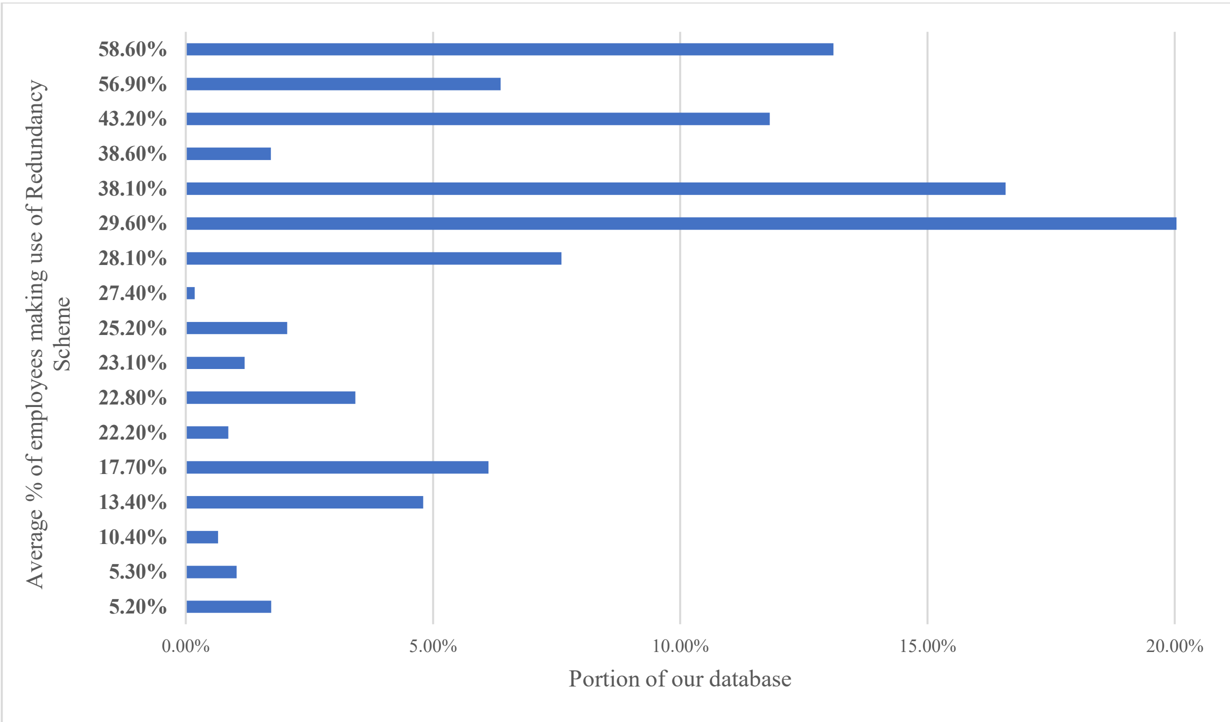
Thanks to the information daily collected by Protezione Civile, the Institution charged with the coordination of policies and activities in the field of defence and civil protection, the incidence rate distinguished for provinces has been calculated. Specifically, the share of positive cases in each Italian province on three different dates have been extrapolated to derive the local impact of the pandemic. The time thresholds chosen are the 31st of May, the 30th of September, and the 1st of December 2020, as three different stages which can be considered as crucial in the distinction of three different phases of the spread of the virus. Then, the portion of infected people has been

compared to the total provincial population obtained from the National Institute of Statistics (ISTAT). Thus associating the area in which the firm is located to the highest incidence rate measured among the three different points in time, the specific incidence rate to be considered is matched.

Application to the Redundancy Fund

Among the factors, the recourse to the Redundancy Fund has been taken into consideration. Specifically, the data of the average share of employees who have made use of the fund, distinguished by ATECO code, have been taken from the National Institute for Social Security (INPS). This variable has been considered to understand if the uptake to the two separate public schemes could be related. *Table 16* shows the average percentages of employees making use of the Redundancy Fund, and how widespread these data are in our sample. In most of the cases, the average percentage are high (70% of the companies belong to sectors where the average percentage of employees on lay-off is above 30%, in our sample). While 86% of the companies take part in sectors where the average percentage is above 20%.

Table 16 – Industry breakdown to the Redundancy Fund



(Source: Aida Database and INPS)

Drop in revenues

During the year 2020, almost all the companies and industries have been subjected to a significant drop in revenues, especially in some sectors and for different periods of time. Thanks to the greater availability of data that characterises them, and their degree of update, the drop in revenues has been inferred through a sample of listed firms located in the same European countries considered in the First Chapter analysis. The results have been associated with the unlisted companies for which real data about 2019 are at disposal.

Drop in the cost structure

With respect to the cost structure necessary to run the activity, a distinction between fixed costs and variable costs must be considered. Given the speed of the spread and the relative immediate measures for closures, the possibility of preventing the costs from being incurred, especially in the case of fixed costs, was impossible for companies. Indeed, fixed costs remain constant, unless some relief or postponement, while some of the variable costs were able to be suspended, but most of the time not as quick as required. The same procedure as for revenues was followed for the collection procedure, thus the result has been associated with the level of firm-elasticity measured historically.

Uptake to the Guarantee Fund during the financial year 2019

The account was taken of whether the company benefited from the Guarantee Fund during the previous year, clearly at different operative conditions, and with restricted eligibility criteria. The information has been collected by the database publicly available (Fondo di Garanzia, 2019).

Amount of financing

The amount of financing can reach the total amount of €5 million/company, according to the new regulations. Subsequently, the amount of financing will be used to distinguish the fully and partially guarantee granted in the analysis. The amount of financing corresponds to specific conditions and the relative coverage ratio. But what determines the amount of financing? That is what will be analysed through our second regression. Furthermore, its correlation with the *Incidence Share of Covid-19* amounts to 0.046, while with *Equity2019* to 0.37. The correlation between the *Amount of Financing* and the *Total Assets* is 0.52, showing what might appear to be a relevant relationship, further explained by the regression.

Internal Variables

The variables referring to the financial accounts of the company express the liquidity status, the capitalisation, and the size of the company in relation to the end of 2019. For all of them, the data considered are those belonging to the financial year of 2019. *Net working capital on total assets, Cash Flow generation, Total Debt* are all used to understand the previous liquidity status of the company and its debt behaviour. Furthermore, the *Equity level* and the *Total assets* to differentiate in terms of size and capitalisation, have been considered.

3. Development of hypotheses and model estimation

As a first step, we want to test if any geographical effect or industry effect is influencing the adoption of the Public Guarantee.

So we will investigate if the belonging to a given sector eventually been locked - down due to the Decree -, and/or being in a certain province for which a higher or lower incidence rate has been measured, matter to explain the uptake in the 2020 Guarantee Program. Common sense would lead us to think positively, therefore, the analysis wants to prove two main hypotheses:

i.a Being a firm in a non-essential sector positively affects the probability of adoption the public guarantee of the Fund.

ii.a Being a firm located in a province with a higher infection rate positively affects the probability of adopting the public guarantee of the Fund.

Those two hypotheses will be tested through the determination of a null hypothesis:

H0i: β_1, which expresses the effect of being in a non-essential sector, is not statistically different from zero

H0ii: β_2, which expresses the variation experienced when operating in a province with a higher infection rate, is not statistically different from zero

A linear regression, at the firm level, will be conducted in relation to “Guarantee”, a dummy variable that expresses the uptake or not to the scheme:

$$Guarantee=\alpha+\beta_1 Lockdown+\beta_2 CovShare+\beta_3 CIG+\beta_4 Size+\beta_5 DropRev+\beta_6 DropCog+\beta_7 NWCTA$$

Secondly, we will try to better understand the relation between the amount of financing covered by the Guarantee Programme and both the geographical and industry effects, just discussed, considering the specific features of the company. The following hypothesis will also be discussed:

i.b	*Taken for granted the uptake to the Fund, being a firm in a non-essential sector, positively affects the amount of financing requested.*
ii.b	*Being a firm located in a province with a higher infection rate positively affects the amount of financing requested.*
iii.b	*The worse the decline in Ebitda 2020, the more the amount of financing required increases.*

These will be tested through the determination of a null hypothesis:

H0i: β_1, which expresses the effect of being in a non-essential sector, is not statistically different from zero

H0ii: β_2, which expresses the variation experienced when operating in a province with higher infection rate, is not statistically different from zero

H0ii: β_4, which expresses the effect of Ebitda variation on the amount of financing, is not statistically different from zero

The following regression will be run:

$$Financing=\alpha+\beta_1 Lockdown+\beta_2 CovShare+\beta_3 CIG+ \beta_4 DropEbitda + \beta_5 NWCTA+ \beta_6 Debt+$$
$$+\beta_7 CF+\beta_8 Equity+\beta_9 Guarantee19$$

4. Discussion of the results

Since the “Guarantee 2020 Uptake” is a dummy variable that expresses if a firm has adopted the public guarantee, a Linear Probability Model was used. Indeed, for a binary dependent variable,

the OLS model would lead to biased parameters, as the main assumptions of the model would not be respected. So, a logistic regression model, a particular form of linear regression, has been applied through the Stata Software. In particular, a Probit Model ensures that the predicted probabilities will be between 0 and 1 and through an interference process analogous to that of the OLS model. In that case, the coefficients obtained are not directly interpretable as marginal effects, nevertheless, through Stata, the actual marginal effects are obtained, as reported in *Table 18*.

Table 17 shows the Regression results allowing the investigation of the direction of the variables' relationships.

Table 17 – First regression

Guarantee 2020 Uptake	
Lockdown	0.09***
	(0.004)
Covid Share	-2.32***
	(0.18)
Use of CIG	0.59***
	(0.017)
Size	0.068***
	(0.00)
Drop Revenues	-1.99***
	(0.026)
Drop COG	2.03***
	(0.03)
NWCTA	0.12***
	(0.007)
Intercept	-1.04***
	(0.01)
N. Observations	421,354
Pseudo R-Squared	**0.0242**

*(Notes: Standard error in parentheses. Statistically significant at 10% *, 5% **, 1% ***)*

All the coefficients tested through the *test z* result as statistically significant at 1% level, so rejecting the null hypotheses and the Pseudo R-Squared, which expresses the goodness of fit of the model, is quite low but this is, by definition, typically observed in the Probit Model.

Table 18 – The marginal effects

Guarantee 2020 Uptake	
Lockdown	0.03***
Covid Share	-0.86***
Use of CIG	0.218***
Size	0.025***
Drop Revenues	-0.73***
Drop COG	0.75***
NWCTA	0.045***
Intercept	0.38***

*(Notes: Statistically significant at 10% *, 5% **, 1% ***)*

From the analysis of the coefficients resulting from the regression, two variables were found to be negatively correlated to the Guarantee Uptake: the incidence of cases at the provincial level (Covid-Share) and the percentage reduction in revenues. Therefore, the first hypothesis *(i.a)* has been confirmed, for which a firm belonging to a non-essential sector positively affects the probability of adopting a public guarantee. In particular, belonging to a non-essential increase by 3% the probability of accessing public guaranteed credit.

While the second *(ii. a)*: "*Being located in an area more affected by the virus positively affects the probability of accessing the Fund*" was refused. The same controversial result has been found by the analysis conducted by Core & De Marco (2020). This result might be interpreted since the period in which the analysis is conducted ranges from the first moments of the spread to those where the pandemic was characterized by boundless effects. Thus, this wide period of time may have meant that the real effects recorded in the early months of the scheme - where we would have expected the higher infection rate to lead to greater participation in the fund - were lost. Moreover, the last result regarding the first months of the outbreak could be confirmed by looking at the distribution of guarantees among Italian regions, the timeline followed, and a differentiated regression considering the three periods separately. In fact, through a highly conservative analysis by which the respective observations collected during the period between March and June 2020 were matched with the incidence rate at the province level, the Covid-19 Share resulted positively related to the Fund uptake at that time. Confirming that the funds, initially, flowed to the most

affected areas. Furthermore, considering a company that belongs to a sector where - on average - the employees are using the extraordinary Redundancy Scheme at a given percentage, the probability of benefiting from the Public Guarantee increases by 0.21% for a unit increase in the share of employees applying, for each company. With regards to the relation between the firm dimension and the probability of accessing the Fund: a 1% increase in the size of the company boosts the probability of 2.5%. Lastly, for a greater share of net working capital on total assets, the probability of adopting a public guarantee increases, as a tool to make possible the disposal of liquidity to cover the operating activities. Examining the company economic flow, as common sense suggests, an increase in the drop incurred at the level of cost or revenue structures has a relevant direct effect on the probability of participation in the Programme: positive and negative, respectively. This latter finding is confirmed by the evidence for which short-term loans are typically used to fulfil operational needs (Gozzi & Schmukler, 2016).
For the sake of completeness, as the operational conditions widely change in the case of *Fully* or *Partially* guaranteed loans, the same regression has been applied, separately for the two cases.

Table 19 – First regression with distinctions for coverage ratios

Guarantee 2020 Uptake	***Fully***	***Partially***
Lockdown	0.11***	0.06***
	(0.005)	*(0.006)*
Covid Share	-2.24***	-1.96***
	(0.21)	*(0.26)*
Use of CIG	0.61***	0.48***
	(0.02)	*(0.02)*
Size	-0.07***	0.28***
	(0.001)	*(0.001)*
Drop Revenues	-1.72***	-2.05***
	(0.029)	*(0.037)*
Drop COG	1.67***	2.22***
	(0.03)	*(0.042)*
NWCTA	0.11***	0.12***
	(0.008)	*(0.01)*
Intercept	-0.53***	-3.05***
	(0.012)	*(0.017)*
N. Observations	360,742	322,460
Pseudo R-Squared	**0.0253**	**0.1303**

*(Notes: Standard error in parentheses. Statistically significant at 10% *, 5% **, 1% ***)*

Table 20 – The marginal effects

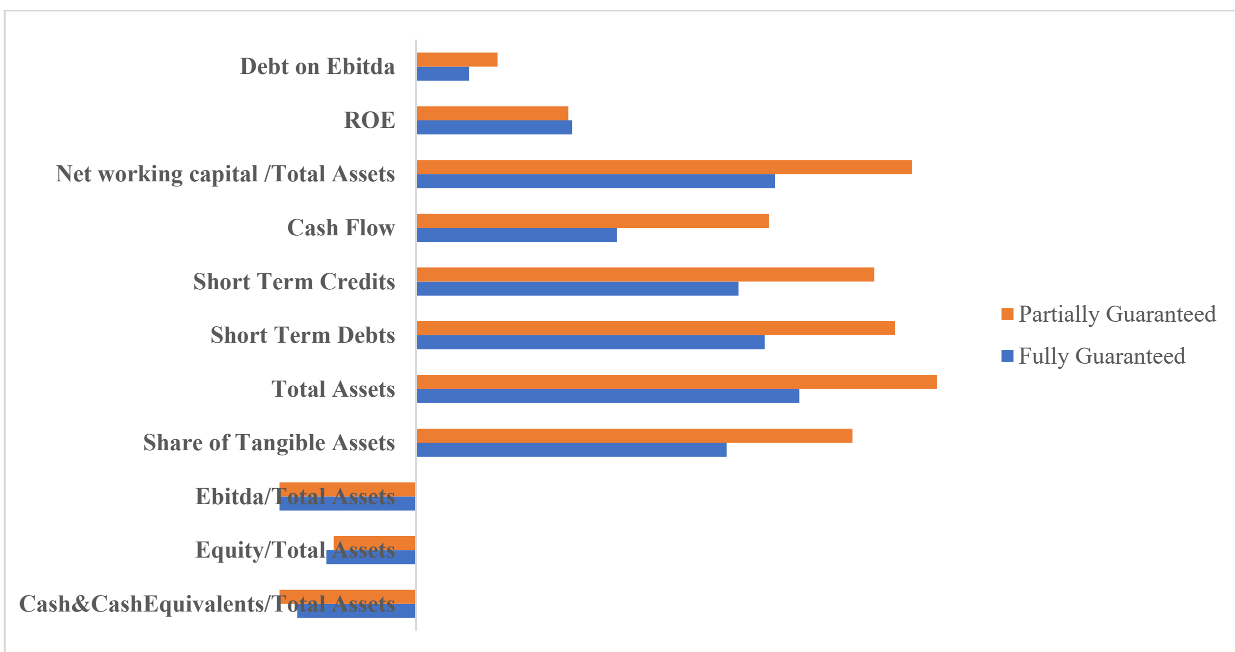
Guarantee 2020	*Fully*	*Partially*
Lockdown	0.034***	0.016***
Covid Share	-0.72***	-0.45***
Use of CIG	0.19***	0.11***
Size	-0.02***	0.064***
Drop Revenues	0.55***	-0.47***
Drop COG	0.54***	0.52***
NWCTA	0.034***	0.028***
Intercept	0.27***	0.18***

*(Notes: Statistically significant at 10% *, 5% **, 1% ***)*

Being a Probit Model, the second table shows the real marginal effects. The results obtained with regards to the first *(i. a)* and the second hypothesis *(ii. a)* coincide with the previous findings. In this case, the overall fit of the model is greater for both the specifications, in particular for *Partially guaranteed loans*, demonstrating that the control variables explained more in these cases.

Considering our sample, 66% of the total loans guaranteed are fully covered. The latter seems to present the probability of adopting – in this case -, the full covered loans, more affected by the condition of being shut down or not, by the incidence rate registered and by the industry-level of recourse to "Cassa Integrazione Straordinaria", as the magnitude of the effects is greater. With regards to the Net Working Capital share and the drop registered in revenues and costs, the scenario is likely the same for both cases. With respect to the size: being a larger enterprise decreases the likelihood of applying for a full guarantee. This finding might be explained by the operating conditions of the Fund: the full coverage is granted for small loans and not to all the firms, even if the eligibility criteria have been extended. In *Table 21,* the average firm characteristics experienced have been diversified for the two scenarios.

Table 21 – Average characteristics of firms obtaining fully and partial coverage



(Source: Aida Database)

Table 21 shows that on average asking for a Fully or a Partially Guarantee is highly affected by the company's size – as shown by the differentiation in "Total Assets", result also confirmed by the regression. Furthermore, a clear diversification is drawn by the liquidity ratios: "Cash Flow", "Short Term Debts", "Short Term Credits" and "Net Working Capital". Nonetheless, for the latter a less relevant diversification was found by the regression.

The second regression is aimed at studying the effective amount guaranteed by the Fund. In this case, the linear regression is run through the OLS method as the dependent variable "(amount of financing/ total-assets)/1000" is continuous. Thereby, the coefficients obtained represent the true marginal effects and R-Squared expresses the goodness of fit of the model. The level of R-Squared is quite good: approximately 40% of the variance of the model is explained.

All the coefficients tested through the *t-test* result as statistically significant at 1% level, so rejecting the null hypotheses. Considering the two first hypotheses (*i. b* and *ii. b*) concerning those tested by the first regression, the model confirms only the second one (*ii. b*). Therefore, a company that belongs to the non-essential sector when ompared to one in the essential sector, will require a 0.2% lower financing, thus showing that greater amounts of loans were requested by companies that

were not closed. While a company located in an area more affected by the virus will request a 0.75% higher amount of financing. Considering the uptake to the Redundancy Scheme or the uptake to the Guarantee Fund by the firm during 2019, in the first case, an increase in the average rate of employees participating decreases the amount of financing requested, while the amount covered by the Fund is 0.28% higher for a firm which adopted the Public Guarantee also during the last year.

Table 22 – Second regression

Amount of Financing	(1)
Lockdown	-2.14***
	(0.22)
Covid Share	75.1***
	(9.7)
Use of CIG	-5.04***
	(0.8)
Drop EBITDA	-2.29***
	(0.15)
NWCTA	0.045***
	(0.00)
Total Debt	-0.001***
	(0.00)
Cash Flow	0.01***
	(0.00)
Equity	0.004***
	(0.00)
Guarantee2019	2.88***
	(0.31)
Intercept	13.4***
	(0.42)
N. Observations	156,556
R-Squared	**0.3699**

*(Notes: Standard error in parentheses. Statistically significant at 10% *, 5% **, 1% ***)*

Examining the company-specific features, starting from the relationship with the firms' capital at the end of 2019, the previously calculated correlation between the amount of financing and the equity level amounts to 0.37; the regression then confirms the relationship between the two

variables as positive. While, considering the Net Working Capital and the Cash Flow, the regression shows that they are positively related to the amount of financing, but as the amounts reflect the liquidity situation in 2019 which has been strongly disrupted by the shock in 2020, it is convenient to consider a more updated data. Therefore, we considered the drop in EBITDA in 2020, as, given the numerous measures of relief in terms of taxes, depreciation, and amortisation, it can be considered as a good flow indicator at the company level. The model confirms what the (*iii. b*) hypothesis assumes, the worse the decline in EBITDA 2020, the more the amount of financing required increases, particularly by the 2.3%. Moreover, the size of the company has been considered scaling the dependent variable for the total amount of assets registered during the last financial year available (2019). Since, as previously mentioned, the financing guaranteed was found as a primary tool used for inventories and working capital needs, in periods of crisis (De Blasio et al., 2018; European Central Bank, 2020), the result in terms of EBITDA is strictly in line. The financing operates as a safety cushion during the period of downturn.
Lastly, the regression shows that as the total debt position increases, the amount of financing decreases by 0.0001%. Generally speaking, with large debt positions the tendency emerges to avoid further tightening during the uncertain period. In relation, Zecchini & Ventura (2007) showed that there exists a causal relationship between the public guarantee and the higher debt leverage of guaranteed firms.

5. Potential issues and limitations

Amongst the different limitations which may be attributed to the analysis performed is the fact that the model uniquely considers the demand side, without looking at what the supply side is. The latter corresponds to the pool of banks which collect the requests and provide the financing. Therefore, the lever through which aid is provided and the instrument throughout which Government-backed liquidity is furnished to the companies. Moreover, the economic actor most challenged by the modifications applied to the Guarantee Fund as the necessity of a solid Information Technology Infrastructure and consideration in terms of convenience became essential. Hence, considering which banking intermediaries actually acted for the profusion of the public guarantees could have been an added value to have a clearer vision of the functioning of the Scheme and the relative economic sustainability.

Secondly, another gap might be found in the lack of historical series, considering the previous use of Public Guarantees by the companies, and not only the uptake rate during the previous year may add relevant highlights. Thus, the absence of comparison with the variables which in *normal times* are more determinant for the uptake to the Guarantee Fund. So, this represents a limitation, but given the substantial operative amendments applied to the Scheme during the year, the comparison might have turned out to be quite biased. For this reason, a more consistent insertion could have been a comparison with the role of the Guarantee Fund during the Global Financial Crisis. A distinct situation which however may help to compare what resources were deployed at the time and to what extent certain variables did favour the adoption of the guarantee at that time.

Lastly, a relevant issue characterizing the research is related to the financial data on which the analysis is built: they are the financial accounts of private firms corresponding to the last year available, 2019 and the relative estimations for the variations incurred in 2020 are inferred from a sample of listed firms. So the analysis is made on forecasts, rather than real values. This was clearly the only way forward, so an actual and non-preliminary estimate of the most influential variables in responding to the enlarged Guarantee Fund will have to wait for company data updated to 2020. Therefore, caution is requested in the interpretation of the results.

Conclusion

Public Credit Guarantee Schemes represent an instrument widely used to finance the working capital needs of the enterprises and to support them when facing liquidity shortages (Brault & Signore, 2020; Calice, 2020; De Blasio, et al.,2018, Tirole, 2008; Zecchini & Ventura, 2007). In the Institutional Framework established by the Italian Government in response to the Covid-19 crisis, the 22% of GDP has been allocated for broadening the supply of public guarantees at favourable conditions (Camera dei Deputati, October 2020). In view of this context, the work was dedicated to understanding the actual response of Italian companies to this intervention and to preliminary analyse what has most influenced the adoption, with the aim of understanding whether it is possible to outline a common pattern of guarantee allocation among private Italian companies.

The research has shown that the procedures activated for guarantees issued up to the 1st of December 2020 have been five times those of 2019. In absolute terms, three main regions benefited the most from the Guarantee Fund for SMEs: Lombardia, Veneto, and Emilia Romagna. Whereas in relative terms, considering the data about regional business structure in the Annual Report of Movimprese (2020), Veneto, Toscana and Marche were the areas more served. Generally, the average adoption amounted to 12% per region. On the other hand, in relation to the time distribution, the 70% of applications were devolved between May and July 2020, with a subsequent decrease in August and a slight recovery starting from September 2020. The restricted functionality reported up to the month of May 2020, might be due to operational bottlenecks due to a large number of applications and the relative inability of the banking system to manage them or more generally to adapt to the new conditions of the Scheme.
According to the data collected from the Guarantee Fund, the financial accounts of Italian private companies not in financial difficulty on the 31st of December 2019 have been merged. The subclassification in terms of size has been done since only the companies eligible to the Fund were considered, specifically the SMEs and the companies with up to 499 employees and sales up to €50 million. In our sample, the adoption was measured at 34.4%, showing a low participation rate compared to the expected one, given the convenience and immediacy of the intervention. This may be explained by the large participation of professionals, third sector entities, associations, and

insurance agents, to whom the public guarantees have been extended and which are not contained in our sample.
So, which firms benefited from the Programme? The 95% of those applying to the Guarantee Fund were Limited Liability Companies, and the Retail Trade and Wholesale Trade were the industry sectors which benefited the most. Then followed by the Restaurant and the Construction sectors. The latter by definition is characterized by large capital expenditure requirements, therefore suffering from the high uncertainty of the crisis, while the former was highly affected by the governmental containment measures. As for Zecchini & Ventura (2007) which analysed PCGs interventions in normal times, the economic sectors benefiting the most were non-innovative activities or industries which do not involve a relevant level of innovation or technology infrastructure. Furthermore, in our sample, only the 5% of the beneficiary companies did not recourse to bank credit during the 2019, meaning that almost all of them were used to resorting to banking channels.

The data collected outlined a diversified distribution relative to different sectors and areas, so the focus of the analysis moved to what can be called a "geographical effect" or a "sector effect". Crucial to understanding, given the low level of participation reported and in light of the presence of room for application: the 38% of our sample corresponds to companies subject to lockdown which did not require any guarantees. Considering the sectoral effect, the 63% of the firms granting from the public intervention were subject to lockdown, moreover, for most of the non-essential activities, the stores were closed for delimited periods of time during the second wave, again leading to a drop in demand. For a company, being part of a non-essential sector positively affected the probability of adopting a public guarantee, in particular, it increases by 3% the probability of accessing the Guarantee Fund. However, regarding the level of contagion registered at Province level, through the data collected from the Protezione Civile (2020), it was found that being located in an area more affected by the virus did not increase the probability of accessing the Fund, conversely to what our common sense would lead us to believe. This controversial result was confirmed also by Core & De Marco (2020) in their research. Probably, the fact that the analysis was conducted from the starting period of the outbreak to a phase where the effects became boundless, may have affected the results obtained. Indeed, through a highly conservative analysis, it was found that between March and May 2020, the incidence rate was positively related to the request for public guarantees. So, initially, the funds flowed to the most affected areas.

With consideration of the Redundancy Scheme, among the companies adopting the public guarantees, the 70% belongs to sectors where the average of employees on layoff was about the 30%, showing quite parallel participation to the two interventions. For an increase in the average share of employees on lay off in the sector where the company operates, the probability of uptake increases by the 1%. Considering the firm-specific characteristics, in relation to the challenged economic flow, both the drop in revenues and costs have a relevant effect on the participation to the Fund: a negative and positive relation, respectively. While, as the size of the company increases, the probability of access increases by 2.5%.

In our sample, the average amount of financing amounts to €116, 698 and the portion of requests up to €30,000 corresponds to 72% of the sample. Showing that in the case of amount of financing greater than €30,000, the one granting of full coverage and for which the conditions are particularly advantageous, all the other financing guaranteed were large amounts. Furthermore, the financing have been distinguished in "Fully guaranteed" or "Partially guaranteed" in order to understand if some significant diversifications were measured, and in the case of full guarantees, the companies resulted to be more affected by being or not shut down, by the incidence rate measured at Province level and also by the participation to the Redundancy Scheme. Conversely, being a larger company decreased the likelihood of applying for a full guarantee, which could be explained by the operating conditions, since 100% guarantee is offered to smaller loans.

And finally, what determined the amount of financing? A company subject to lockdown resulted to be more likely to participate, but requiring for a 0.2% lower amount of financing, demonstrating that greater amounts have been requested by companies not closed by the Government Decree. Whereas a company belonging to an area characterized by a higher incidence rate did not result in being more likely to participate, but – in case of adoption of the public guarantee, – as the incidence rate increases, it will require a 0.75% higher amount of financing. Having benefited from the Guarantee Fund for SMEs during 2019, at different operational conditions, increased the amount of financing in 2020 by the 0.28%. With regards to the registered EBITDA in 2020, clearly based on an estimate: as it decreases, as the amount of financing increases by 2.3%.
Therefore, according to our findings, to benefit from a public guarantee of the Guarantee Fund for SMEs, being a firm belonging to a sector which was locked down, operating in a region with a

lower incidence rate and with an increased industry-average of employees applying for layoffs, increases the likelihood of participating to the Fund. While once participated, the amount of financing increases for a company located in an area more affected by the virus, experiencing a greater reduction in EBITDA 2020 and which already applied for a Public Guarantee in 2019.

Since the analysis conducted represents a preliminary study, is there scope for future research?
In addition to the limitations described above, which may become a future research scenario, analysing the Public Guarantees offered to deal with the Covid-19 outside the national territory might be interesting, in order to compare the main effective variables involved in the companies' response. Indeed, the economic landscape appears to shape the impact of credit guarantees (Brault & Signore, 2020). Furthermore, in future periods of time, investigating the permanence of the relationship, even without subsidies. Moreover, investigating what will be the default distribution, since businesses are now struggling even more for the second and third waves of contagion and the number of defaults for guaranteed loans will rise as the crisis unfolds.

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