Università Ca'Foscari Venezia

Department of Economics

The Crowdfunding as a solution to credit crunch on Italian SMEs and to the lack of funds for public projects: a case study

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MAT. 875182

Academic Year 2019/2020

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Introduction

One of the most crucial and debated factors that influences economic growth is represented by the access to credit. In this regard, after the Financial and the Public Debt crises of the last years, access to credit has become increasingly difficult for firms, especially for the smaller ones.

However, if on one side, small and medium enterprises have difficulties in acquiring funds for their operations and their projects, on the other, various alternative financing solutions have been developed. Among them, one of the more noteworthy is crowdfunding, which can be defined as an open call through the Internet for the provision of financial resources, in exchange for a future product, reward, or service.

In this context, the object of the present work is to highlight the importance of crowdfunding not only as concrete alternative financing solution for Italian SMEs – that may use it to fight against the credit crunch – but also as a new way of seeing the partnership between private and public, since it may be used to align the interests of public and private, increasing the local economy of SMEs, and allowing not only the distribution of risks and burdens but also the active involvement of both the public sector and the private crowd in the project.

Starting from the 2007-08 financial crisis, the present work will depict the framework of the crisis, observing and analyzing the transmission mechanisms that allowed the first wave of the financial crisis to transform in the second wave of the public-debt crisis. During this analysis, the attention will be mainly focused on one of the classical transmission mechanisms: the credit crunch.

After the focus on credit crunch, an in-depth analysis of the Italian public-debt crisis framework will be provided, highlighting the effects of the credit crunch on the Italian SMEs, which are a fundamental component in the Italian economic chain and have been worst affected by the crisis.

After the socio-economic framework of the crisis, some possible alternative financing solutions will be proposed. In particular, the attention will be focused on crowdfunding, starting from its origins up to its current spread, taking into account also its potential and risks.

Moreover, the last part of the work will regard a case study about a public project, which consists in the requalification of a public area in my hometown Cervignano del Friuli. This project may potentially change the image of the city, but it has actually stopped – as happens to a lot of other public projects – because of the lack of public funds.

In order to solve the economic problem that stops the project, I will provide my alternative financing solution – a crowdfunding proposal – with the purpose of showing that the difficulties the project is experiencing may be overcome through crowdfunding, by exploiting the synergies that may arise from the public-private interests partnership.

In fact, crowdfunding should not be considered only as an option to promote and finance the development of a new product in the private sector, as may happen in reward-based crowdfunding, but must be intended also as a concrete alternative way to design innovative financing proposals that involve the collaboration between the public and private sectors, creating not only value for investors, but also providing better services and infrastructures to citizens, increasing the local economy of SMEs at the same time.

Lastly, I will draw conclusions about crowdfunding, reflecting about its actual importance and usefulness with respect to financial markets, and providing also a personal reflection on its potential as a financing solution for public-private partnership projects like the one that will be presented in the case study.

Chapter 1: The 2007-08 crisis

1.1 From a financial crisis to a banking one

The starting point of my analysis is a financial crisis considered by many economists as the worst financial crisis since the Great Depression of the 1930s: the financial crisis of 2007–2008.

The Financial Crisis of 2007-2008 began with a crisis in the subprime mortgage market in the United States and developed into a worldwide banking crisis in 2008 with the collapse of the investment bank Lehman Brothers. Excessive risk-taking by banks such as Lehman Brothers helped to magnify the financial impact globally. Massive bailouts of financial institutions and other monetary and fiscal policies were employed to prevent possible bank defaults and avoid a disastrous financial instability, with the possible collapse of the entire system. The crisis was nonetheless followed closely by a global economic downturn and by the European debt crisis.

This chapter will show why the crisis began in the subprime mortgage market in the United States and developed into a worldwide banking crisis in 2008, taking into account also the transmission mechanism of a crisis from a strictly theoretical point of view.

In addition, the chapter will highlight its impact on the global economy, the governments' countermeasures, and why the crisis led not only to a worldwide recession but also to a sovereign debt crisis that destabilized Europe, damaging especially highly indebted countries like Greece, Ireland, Portugal, Spain, and Italy.

A starting point for the analysis emerges from looking at the 2007-08 crisis by taking into account the key dimensions that contributed to the development and burst of the subprime bubble, which kickstarted the crisis. The following paragraph is devoted to the explanation of these causes.

1.2 The causes of the 2007-08 Financial Crisis

The Financial Crisis had long roots, but it wasn't until September 2008 that its effects became apparent to the world. In order to clearly understand how the Financial Crisis began, it is worth taking into account three central factors that contributed, in different ways, to the development and burst of the subprime bubble: the innovations in the financial sector, consisting in technological innovation, deregulation and institutional changes; the agency problems in the mortgage markets, due to the originate-to-distribute business model; and the asymmetric information in the credit-rating process, caused by conflicts of interest between controller entities and controlled ones, since rating companies were remunerated by the issuers of the securities, which were the entities that they should control.

1.2.1 Innovations in the financial sector

The years before the 2007-08 crisis have been characterized by the transformation of the financial sector, which was mainly due to technological innovation, deregulation and institutional changes. The former allowed the loan market to obtain a wide range of information with extremely low costs which, in turn, led on the one hand to an increase in productivity per worker but, on the other hand, to the loss of soft information (more difficult to find and transfer).

In particular, before 2000, only the most credit-worthy borrowers – also known as prime borrowers – could obtain residential mortgages. However, technological innovation and new statistical techniques led to an easier quantitative evaluation of the credit risk for a new class of risky residential mortgages. Households with credit records could now be assigned a FICO score (which is a numerical credit score, named after the Fair Isaac Corporation), that would predict how likely they would be to default on their loan payments (Chomsisengphet et al., 2006). In addition, by lowering transactions costs, computer technology enabled the bundling of smaller loans – such as mortgages – into standard debt securities, a process known as securitization, which will be explained later.

These factors allowed banks to offer subprime mortgages also to borrowers with lower credit records. The ability to cheaply quantify the default risk of the underlying high-risk mortgages and bundle them in standardized debt securities called mortgage-backed securities provided a new source of financing for these mortgages.

What is interesting is that financial innovation did not stop there, since financial engineering led to structured credit products that pay out income streams from a pool of underlying assets, designed to have particular risk characteristics that appeal to investors with differing preferences: collateralized debt obligations (also known as CDOs). Thanks to these new financial instruments and investment opportunities, many more parties were allowed to participate in the market. The aforementioned improved capacity in the credit process has led governments to deregulate the sector by increasing competition and the dissemination of innovative instruments. The banking sector benefited from the global performance of the first beneficiary economy, which enjoyed high profitability, low default rates, a strong capital ratio and a rapid increase in turnover and innovations.

1.2.2 Agency Issues in the Mortgage Market

However, the situation described above left room for agency problems in the mortgage market. The agency problem, also known as principal-agent problem, is a conflict arising when people (the agents) entrusted to look after the interests of others (the principals) use the authority or power for their own benefit instead. This conflict of interest is inherent in any relationship where one party is expected to act in another's best interests.

In the case of the mortgage market, the mortgage brokers that originated the loans were not motivated to make a strong effort in evaluating whether the borrower could pay off the loan, since they would quickly distribute the loans to investors in the form of mortgage-backed securities. This originate-to-distribute business model was exposed to the principal–agent problem, because mortgage brokers acted as agents for investors and their remuneration was based on the amount of volume they were able to generate and not on the quality of the investment. So, once the mortgage broker earned his or her fee, he/she did not care if the borrower made good on his or her payment.

The principal–agent problem also created incentives for mortgage brokers to encourage households to take on mortgages they could not afford or to commit fraud by giving false information on a borrower's mortgage applications in order to qualify them for mortgages.

Moreover, commercial and investment banks, which were earning large fees by underwriting mortgage-backed securities and structured credit products like CDOs, also had weak incentives to make sure that the ultimate holders of the securities would be paid off. Given the context described above, it can be easily understood that United States were the cradle of the crisis. In 2001, the U.S. economy experienced a mild, short-lived recession (Kliesen, 2003); to keep recession away, the Federal Reserve lowered the Federal funds rate 11 times - from 6.5% in May 2000 to 1.75% in December 2001 - creating a flood of liquidity in the economy. Cheap money found easy prey in restless bankers and even more restless borrowers who had no income, no job and no assets.

It is interesting to notice that the government incentivized investments on the security market, through the creation of two governmental agencies such as Fannie Mae and Freddie Mac, which bought the loans issued by the banks and financed themselves by issuing bonds. The advantage was that they could operate on the markets with the safety of AAA rating agencies. By doing so, banks and other savings managers were allowed to grant a constant flow of mortgage loans. The real consequence and worst problem was the reduction in the quality of the credit, as much as that the risky loans were defined as subprime. Moreover, neither the lenders nor the borrowers were worried because the prices of the houses were increasing though their value, as happens with any speculative bubble, was very different from their price.

To understand why banks were willing to grant these loans, it is necessary to analyze how the banking industry built secondary mortgage markets through securitization. The securitization consists in the transformation of an illiquid asset into a security and it is useful for a number of small-size loans, not standardized, with different maturities and other economic features, towards borrowers with different credit scores, costly to service, uncertain in default rates.

In its most basic form, the securitization process in the mortgage market involves two steps (see figure 1.1). The process starts with a company – the originator – that creates a pool of mortgages, serving as a collateral, that form the so-called reference portfolio. It then sells this pool to an issuer, such as a special purpose vehicle (SPV), which is an entity usually set up by a financial institution.

In step two, the issuer finances the acquisition of the pooled assets by issuing new securities, whose return and reimbursement depends on cash flows from the original pool, that are sold to capital market investors. In this way, risks are transferred to investors.

In turn, the investors receive fixed or floating rate payments from a trustee account funded by the cash flows generated by the reference portfolio. In most cases, the originator collects payments from the original borrowers and, after having retained a servicing fee, gives them to the SPV or the trustee. In essence, securitization represents an alternative and diversified source of finance which allows liquidity to the originator but also diversification to investors.

Moreover, securities could be divided in different tranches to imply greater or lower risks of default (collateralized debt obligations, also known as CDOs) or different maturities (collateralized mortgage obligations, also known as CMOs).

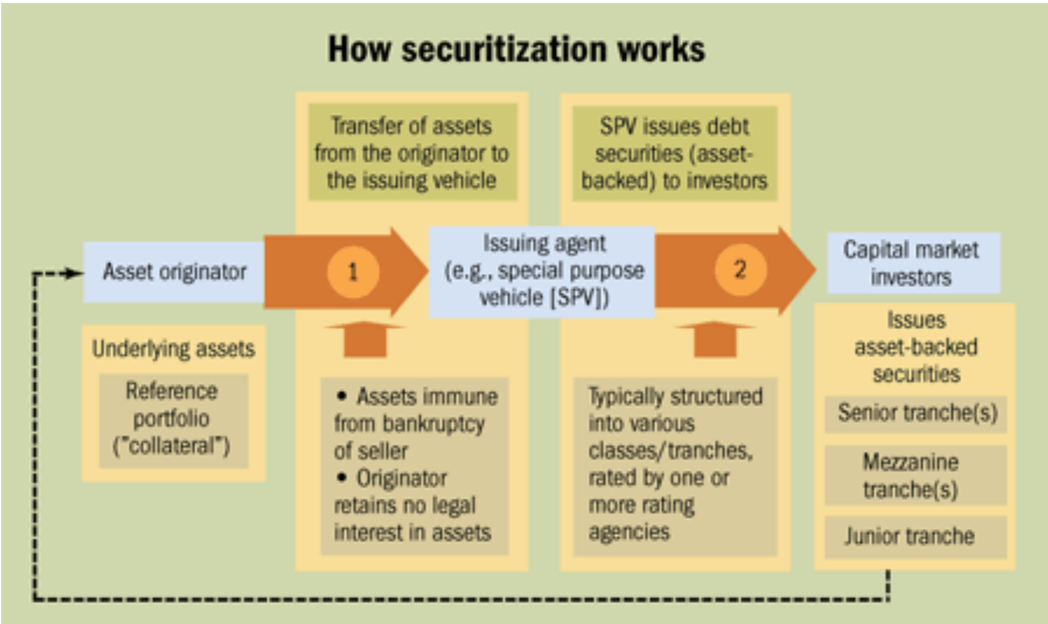

Figure 1.1: Securitization process

Source: International Monetary Fund

1.2.3 Asymmetric Information and Credit Rating Services

An investor which buys one of these securities cannot control the quality of each individual loan and therefore relies on the ratings of private rating companies, also known as Credit Rating Agencies (CRAs). CRAs essentially provide two services. First, they offer an assessment of the ability of issuers to meet their debt obligations, thus providing information services that reduce information costs. Second, they offer monitoring services through which they influence issuers to take corrective actions to avert downgrades via "watch" procedures.

The main issue was that these companies were not subject to regulation and there was also a problem of incentives, because the auditor (rating company) was remunerated by the controlled (issuers of the securities). Thus, rating agencies were subject to conflicts of interest because the large fees they earned from advising clients on how to structure products they were rating meant that they did not have sufficient incentives to make sure their ratings were accurate. The result was wildly inflated ratings that enabled the sale of complex financial products that were far riskier than investors recognized (it is clear that the controlled companies have just paid well in order to get a high score - AAA rating - even if the underlying loans were very risky). Furthermore, following the International Monetary Fund (IMF), more than three quarters of all private residential mortgage backed securities issued in the US between 2005 and 2007 that were rated AAA by Standard & Poor's became rated below BBB- within 2011 (De Haan and Amtenbrink, 2011).

On the other hand, those who bought securities could cover the risk of insolvency by purchasing a Credit Default Swap (CDS), a derivative instrument that has the function of transferring credit risk. So, a bank worried about the possibility that a security in its portfolio was junk could buy a CDS from another entity (such as an insurance company). In this regard, also large fees from writing CDSs were an important source of excessive risk taking, since they drove units of insurance companies (like AIG) to write hundreds of billions of dollars worth of these risky contracts, creating a huge concentration of risks.

Summarizing, there were three central factors in the financial crisis: the innovations in the financial sector, the agency problems in the mortgage markets, and the asymmetric information in the credit-rating process. All these factors have exposed the financial system to a high risk, such that it became clear that the financial market could not solve the subprime crisis on its own and the problems spread beyond the US borders. The interbank market froze completely (as well as the insurance market), largely due to prevailing fear of the unknown between banks. By that time, central banks and governments around the world had started coming together to prevent further financial catastrophe.

1.3 The effects of the 2007-08 Financial Crisis

After having illustrated the three central factors that contributed to the development of the crisis, it is interesting to highlight how and how much these three central factors have impacted the world economy. In order to understand this impact, it is useful to focus the attention on five key areas: the U.S. residential housing market, financial institutions' balance sheets, the shadow banking system, global financial markets, and the failures of major firms in the financial industry.

1.3.1 Residential Housing Market

As regards the first area – the residential housing market – prior to the subprime crisis and following the dot.com bubble, in many states of the United States it sustained rapid increases in valuations. In fact, by 2007, it had become over a trillion-dollar market. In the resulting boom, home ownership in the United States increased to 69.2% in 2004 from 64% in 1994 and nominal house prices increased by more than 180% over the period 1997–2006. Household debt, as a percentage of disposable income, increased from 77% to 127% over the period 1990–2007 (Phillips et al., 2011).

The development of the subprime mortgage market was encouraged by politicians because it led to a democratization of credit and helped raise US homeownership rates to the highest levels in history. The asset-price boom in housing (see Figure 1.2) also helped stimulate the growth of the subprime mortgage market. In fact, high housing prices meant that subprime borrowers could refinance their houses with even larger loans when their homes appreciated in value. With housing prices rising, subprime borrowers were also unlikely to default because they could always sell their house to pay off the loan. The growth of the subprime mortgage market, in turn, increased the demand for houses and so fueled the boom in housing prices, resulting in a housing price bubble.

Further stimulus to the housing market came from low interest rates on residential mortgages, which were due to different factors. The first factor was the huge capital inflows into the United States from countries like China and India. The second was the congressional legislation that encouraged Fannie Mae and Freddie Mac to purchase trillions of dollars of mortgage-backed securities. The third one was the Federal Reserve's monetary policy to lower interest rates.

The resulting low cost of financing housing purchases then further stimulated the demand for housing, pushing up housing prices. As housing prices rose and profitability for mortgage originators and lenders was high, the underwriting standards for subprime mortgages fell to lower and lower standards. High-risk borrowers were able to obtain mortgages, and the amount of the mortgage relative to the value of the house, the loan-to-value ratio (LTV), rose.

With housing prices falling after their peak in 2006 (see the figure below), the rot in the financial system caused by questionable lending practices adopted by banks, which offered subprime mortgages also to borrowers with lower credit records (as described in section 1.2.1), began to be revealed. The decline in housing prices led to many subprime borrowers finding that their mortgages were "underwater"—that is, the value of the house fell below the amount of the mortgage. When this happened, struggling homeowners had tremendous incentives to walk away from their homes and just send the keys back to the lender.

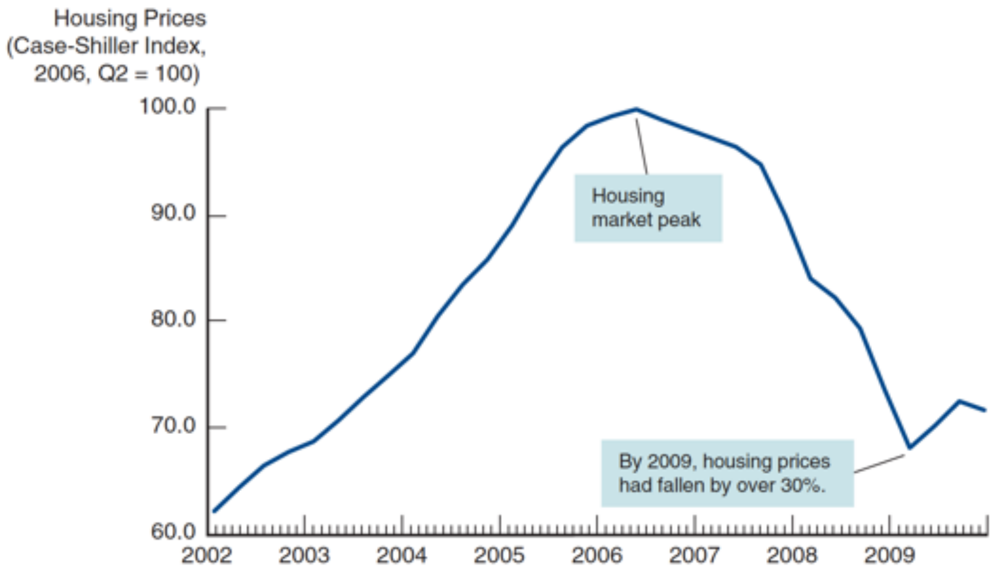

Figure 1.2: Effects of the Financial Crisis of 2007–2009 on Housing Prices

Source: S&P/Case-Shiller 20-City Composite Home Price Index, Federal Reserve Bank of St. Louis, FRED database

1.3.2 Financial Institutions' Balance Sheets

The decline in U.S. housing prices led to rising defaults on mortgages. As a result, the value of mortgage-backed securities and CDOs collapsed, leaving banks and other financial institutions with a decline in net worth (due to the lower value of assets). With weakened balance sheets, these banks and other financial institutions began to deleverage, selling off assets and restricting the availability of credit to both households and businesses

(Adrian et al., 2008). With no one else able to step in to collect information and make loans, the reduction in bank lending meant that financial frictions increased in financial markets.

1.3.3 Shadow Banking System

The sharp decline in the value of mortgages and other financial assets triggered a run on the shadow banking system (hedge funds, investment banks, and other non-depository financial firms), which is not as tightly regulated as banks. Funds from shadow banks flowed through the financial system and for many years supported the issuance of low-interest-rate mortgages. These securities were funded primarily by repurchase agreements (*repos*), short-term borrowing that, in effect, uses assets like mortgage-backed securities as collateral.

Because of rising concern about the quality of a financial institution's balance sheet, lenders started to require larger amounts of collateral, known as haircuts, which should therefore reflect borrower risk and asset re-deployability. With rising defaults on mortgages, the value of mortgage-backed securities fell, which then led to a rise in haircuts.

At the start of the crisis, haircuts were close to zero, but they eventually rose to nearly 45%, as shown in figure 1.3. The result was that the same amount of collateral would allow financial institutions to borrow more or less only half as much. Thus, to raise funds, financial institutions had to engage in fire sales and sell off their assets very rapidly.

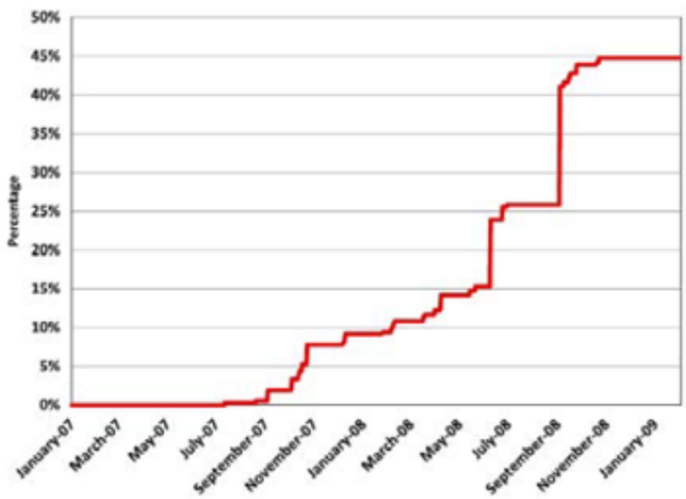

Figure 1.3: Haircuts on assets other than Treasuries

Source: Gorton and Metrick (2012)

Because selling assets quickly requires lowering their price, the fire sales led to a further decline in financial institutions' asset values. This decline lowered the value of collateral further, raising haircuts and thereby forcing financial institutions to scramble even more for liquidity.

The decline in asset prices in the stock market, which fell by over 50% from October 2007 to March 2009, as shown in Figure 1.4, and the more than 30% drop in residential house prices (shown in Figure 1.2), along with the fire sales resulting from the run on the shadow banking system, weakened both firms' and households' balance sheets. This worsening of financial frictions manifested itself in widening credit spreads, causing higher costs of credit for households and businesses and tighter lending standards. The resulting decline in lending meant that both consumption expenditure and investment fell, causing the economy to contract.

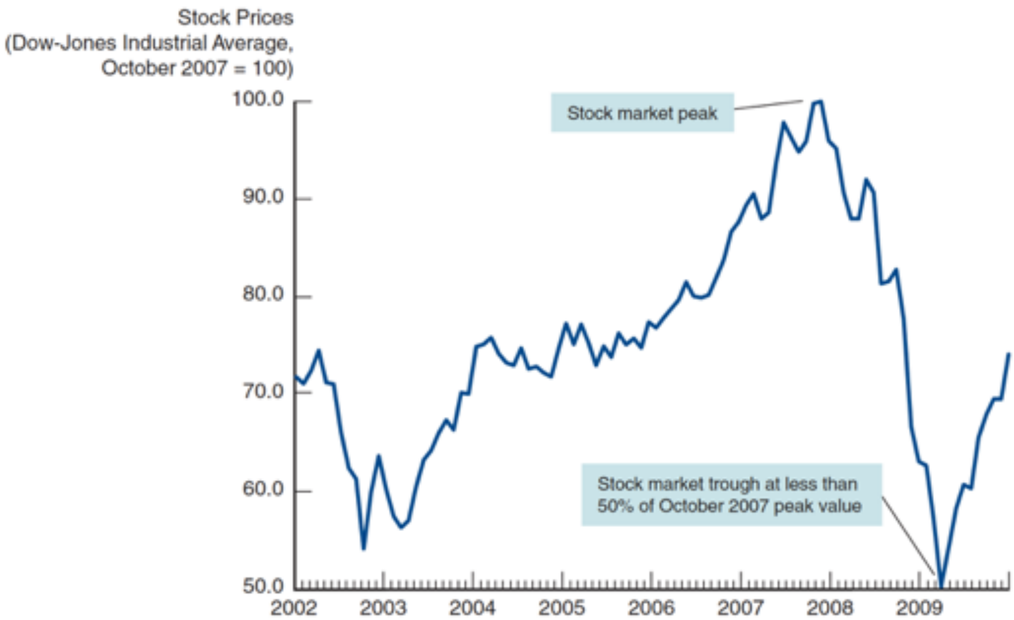

FIGURE 1.4: Effects of the Financial Crisis of 2007–2009 on Stock Prices

Source: Federal Reserve Bank of St. Louis, FRED database

1.3.4 Global Financial Markets

Although the problem originated in the United States, the wake-up call for the financial crisis came from Europe, a sign of how extensive the globalization of financial markets had become. After Fitch and Standard & Poor's announced ratings downgrades on mortgage-backed securities and CDOs totaling more than $10 billion, on August 7, 2007, a French investment house, BNP Paribas, suspended redemption of shares held in some of its money market funds, which had sustained large losses.

The run on the shadow banking system began, only to become worse and worse over time. Despite huge injections of liquidity into the financial system by the European Central Bank and the Federal Reserve, banks began to horde cash and were unwilling to lend to each other. In fact, they held more liquid assets in response to increased risks in their asset portfolios, anticipating future expected losses from securities write-downs (Berrospide, 2012). Moreover, banks that were hit by a funding squeeze often attempted to attract deposits by raising their deposit rates (Acharya and Mora, 2011). The drying up of credit caused the failure of a multitude of European financial institutions. Particularly damaged were countries like Greece, Ireland, Portugal, Spain, and Italy, which led to a sovereign debt crisis.

1.3.5 Failure of High-Profile Firms

The impact of the financial crisis on firms' balance sheets forced major players in the financial markets to take drastic action. In March 2008, Bear Stearns, the fifth-largest investment bank in the United States, which had invested heavily in subprime-related securities, had a run on its *repo* funding and was forced to sell itself to J. P. Morgan for less than 5% of what it had been worth just a year earlier. To broker the deal, the Federal Reserve had to take over 30 billion dollars of Bear Stearns's hard-to-value assets.

In July Fannie Mae and Freddie Mac, two privately owned government-sponsored enterprises that together insured over $5 trillion of mortgages or mortgage-backed assets, were supported by the US Treasury and the Federal Reserve after suffering substantial losses. In early September 2008 they were then put into conservatorship, and so they became effectively run by the government.

On the 14th of September 2008, Merrill Lynch, the third-largest investment bank, which had suffered large losses on its holding of subprime securities, announced its sale to Bank of America for a price 60% below its value a year earlier.

On the 15th of September 2008, after suffering losses in the subprime market, Lehman Brothers, the fourth-largest investment bank by asset size with over 600 billion dollars in assets and 25,000 employees, filed for bankruptcy.

The day after, September 16, AIG, an insurance company with over 1 trillion dollars in assets, suffered an extreme liquidity crisis when its credit rating was downgraded. It had written over 400 billion dollars of CDS contracts that had to make payouts on possible losses from subprime mortgage securities. The Federal Reserve then stepped in with an $85 billion loan to keep AIG afloat (with total government loans later increased to $173 billion).

1.4 Governments' reactions to the financial crisis

As just seen, the US government intervened and tried to save as many systemic financial institutions as possible. Moreover, all over the world, the governments' response to the financial crisis consisted in the bailout of a large number of banks, adopting expansionary monetary policies as an intervention in order to stabilize economies.

However, this type of policies has generated a lot of controversy regarding their short and long-term effects (Acharya et al., 2014) In fact, by saving the weak financial institutions from the full consequences of a negative outcome, the Governments unintentionally encouraged risky behavior, consequently increasing the probability of further bailouts and so leaving the economy more vulnerable to future crises.

In particular, from a short-term perspective, bailout policies avoided the diffusion of financial market instability and the spread of its effect on the whole economy. However, from a medium-term point of view, bailout policies weaken market discipline; they create incentives for opportunistic behavior (moral hazard) and excessive risk taking, especially from the perspective of large banks, because of Too Big To Fail status (TBTF status - an implicit guarantee since, in case of bank default, the loss will be paid by the collectivity). Instead, if you look at bailouts' effects from a long-run perspective, they have increased enormously the public deficit and debt of the OECD countries, because of the large amount of public funds allocated in order to counter banks defaults and financial instability.

At the end of 2008, bailout policies turned to be not enough, and strong government interventions became necessary, increasing once more the public debt and contributing to the second wave of the crisis: the public debt crisis.

1.5 Transmission mechanisms of the crisis

Financial crises in advanced economies have progressed in two and sometimes three stages (Mishkin et al., 2018), as depicted in figure 1.5, which traces the stages and sequence of financial crises in advanced economies, highlighting the factors causing the financial crises and the consequences of changes in those factors.

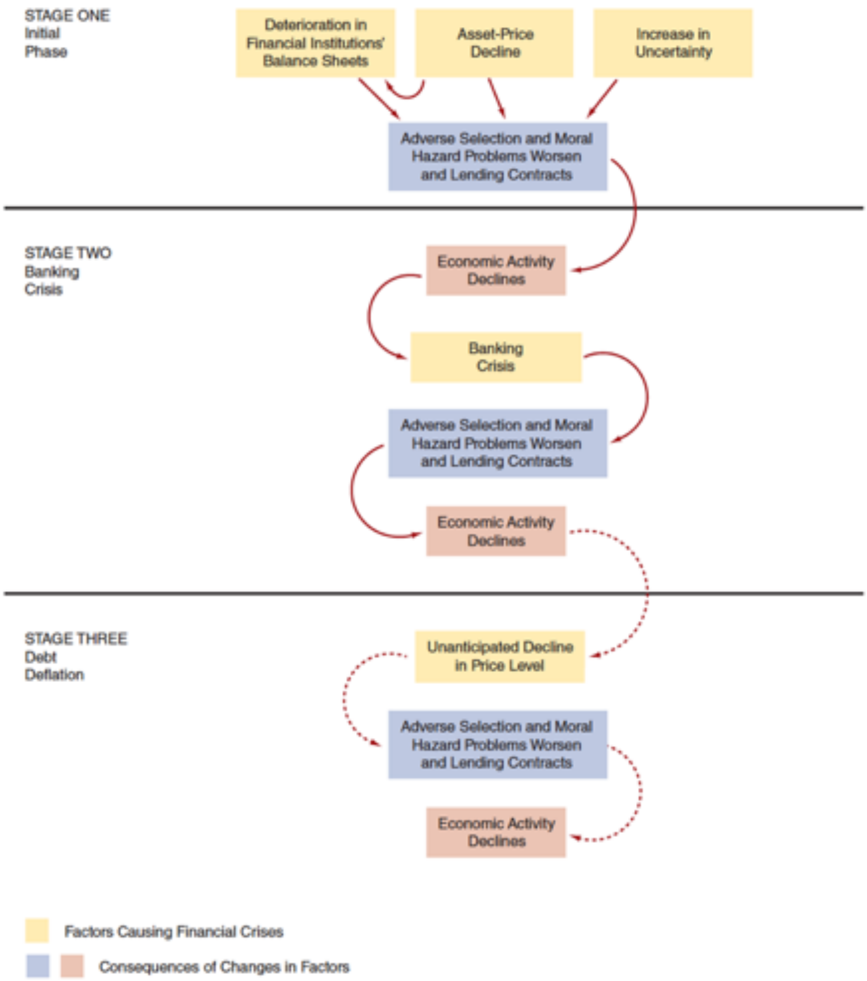

Figure 1.5: Stages of financial crises in advanced economies.

Solid arrows trace the sequence of events that occur during a typical financial crisis. Dotted arrows show the additional set of events that occur if the crisis develops into a debt deflation.

Source: Mishkin et al., 2018

For what concerns the present analysis, the focus will be on the first two stages, in order to investigate the transmission mechanism from a financial crisis to a banking one. As regards the financial crisis of 2007/08, it is possible to further schematize the transmission mechanism to the financial sector to the real one as follows:

- loss of confidence of banks (crisis of the inter-banking market);
- loss of confidence of household and increased liquidity preference;
- credit crunch (sub-allocation of funds and resources);
- consequential decrease of supply and demand of credit;
- decrease of investment and income;
- increase of unemployment rate;
- decrease in the world demand and exports.

A cardinal point of these transmission mechanisms is the credit crunch, which basically consists in a sub-allocation of resources. In fact, in a situation of credit crunch, individuals and businesses that could formerly obtain loans to finance their operations suddenly find difficulties in acquiring such funds. As displayed in the previous bullet-pointed list, the ensuing ripple effect can be felt throughout the entire economy, when homeownership rates drop and businesses are forced to cut back due to a dearth of capital.

In the case of the 2007-08 financial crisis, the rate of bad debt became so high that many banks became insolvent and must shut their doors or rely on a government bailout in order to continue. In this case, fearful of getting burned again by defaults, banks sought out only very reliable borrowers who presented the lowest possible risk.

The usual consequence of a credit crunch is a prolonged recession, or maybe a slower recovery, which occurs as a result of the shrinking credit supply. In addition to tightening credit standards, lenders may increase interest rates during a credit crunch to earn greater revenues from the reduced number of customers who are able to borrow. For some businesses and consumers, the effects of a credit crunch are worse than an increase in the cost of capital. In fact, businesses unable to borrow funds at all face trouble growing or expanding and, for some, remaining in business becomes a challenge. As businesses scale back operations and trim their workforces, productivity declines and unemployment rises, two leading indicators of a worsening recession.

1.6 Public debt Crisis in Europe

The global financial crisis in 2007–2009 led not only to a worldwide recession but also to a sovereign debt crisis that threatened to destabilize Europe. Up until 2007, all the countries that had adopted the euro found their interest rates converging to very low levels, however, with the global financial crisis, several of these countries were hit very hard with the contraction in economic activity reducing tax revenues, while government bailouts of failed financial institutions required additional government outlays. The resulting surge in budget deficits then led to suspicions that the governments in these hard-hit countries would default on their debt. The result was a surge in interest rates that threatened to spiral out of control (Greenlaw et al., 2013).

Greece was the first domino to fall in Europe. In fact, public debt crisis in Europe started at beginning of 2010, when became clear that the Greek Government had hidden the real entity of its public debt through the manipulation of its public accounting data, in order to satisfy the Maastricht parameters. Even though low interest rates led to a rise in wages and incomes in Greece, this growth was an illusion. In fact, the Eurozone core nations such as Germany and France have profited from the big capital flows to EZ periphery nations such as Portugal, Ireland, Greece and Spain, the so-called PIGS (or PIIGS with the addition of Italy). As a result, the cheap money deteriorated the competitiveness of the PIGS's economies and in the end all the PIGS had to face bailout programs.

The major problem for Greece and its main difference from the other PIGS was the Greek debt in relation to GDP (Gross Domestic Product), which reached 109.4% in 2008. With the public deficit that reached 7% of GDP in 2007, 10% in 2008 and 16% in 2009 (Mavridis, 2018).

The global financial crisis of 2007–2008 led the markets to be more careful with fragile economies such as the Greek case, offering to Greece only high-interest loans (which Greece obviously cannot afford). Simultaneously, in late 2009 the most important rating agencies downgraded the country and the private foreign flows stopped. In October 2009 the new government unmasked the true size of the budget deficit, which was 15.2% of GDP. The markets lost confidence in Greece's economy and as a consequence in April 2010 rating agencies downgraded the Greek public bonds to the level (CCC), with the Greek/German 10-year debt yield spread that surpassed 1000 basis points (in September 2009, it was only at 130 basis points). Facing the danger of bankruptcy, Greece officially sought financial help from the Troika in May 2010 (composed by European Union, the European Central Bank and the International Monetary Fund), signing three Bailout Loan Agreements, in order to stabilize its economy (2010, 2012, 2015). The Greek government committed to an extensive austerity program and a fiscal consolidation plan, in order to obtain 110 billion Euros from the rescue plan designed and financed by the EU and the IMF.

However, despite the heavy structural reforms, the bailout programs (totaling 239 billion EUR) did not succeed in recovering the economy. Moreover, the fiscal crisis and the risk of default of the Greece determined an immediate contagious effect among the Eurozone countries with worse budget deficit, public debt and lower economic growth perspective. The contagion spread from Greece to Ireland, Portugal, Spain, and Italy, with their governments forced to embrace austerity measures to shore up their public finances, while interest rates climbed to double-digit levels.

Markets began to calm down only with a speech in July 2012 by Mario Draghi, the president of the European Central Bank, in which he stated that the ECB was ready to do "whatever it takes" to save the euro. Moreover, "investors' discrimination among sovereign borrowers was triggered by governments' credible commitment to extend support to the banking sector, and not by the mere size of this support. Investors' may have believed that governments would provide as much support as needed to shore up ailing banks regardless of the amounts explicitly announced in the first place" (Attinasi et al., 2009, p 5).

Anyway, despite a sharp decline in interest rates, the countries experienced severe recessions, with unemployment rates rising to double-digit levels and Spain's unemployment rate exceeding 25%.

So, even after years of attempted austerity and economic reforms, the European Union is still facing a crisis due to the debt that Greece has accumulated - which stood at 181.2 per cent of GDP in 2018 (most recent data available). Although many are concerned about levels of debt in Greece, there are several other countries in the European Union that have a high debt over GDP ratio, as can be seen in the *table 1* released by Eurostat below.

geo \ time	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Euro area - 19 countries (from 2015)	65.9	69.6	80.2	85.8	87.6	90.7	92.6	92.8	90.8	90	87.8	85.9
Euro area - 18 countries (2014)	66.1	69.8	80.4	85.9	87.8	90.9	92.8	93	91	90.2	87.9	86.1
EU (27 countries - from 2020)	62.2	64.9	75.7	80.5	81.8	84.7	86.4	86.5	84.7	83.9	81.6	79.7
EU (28 countries)	58.1	61.3	74	79.6	82	84.4	86.3	87	84.9	83.8	82.1	80.4
EU (27 countries - 2007-2013)	58.2	61.4	74	79.6	82.1	84.4	86.3	87	84.9	83.8	82.1	80.5
Belgium	87.3	93.2	100.2	100.3	103.5	104.8	105.5	107	105.2	104.9	101.8	100
Bulgaria	16.3	13	13.7	15.4	15.2	16.7	17.1	27.1	26	29.3	25.3	22.3
Czechia	27.5	28.3	33.6	37.4	39.8	44.5	44.9	42.2	40	36.8	34.7	32.6
Denmark	27.3	33.3	40.2	42.6	46.1	44.9	44	44.3	39.8	37.2	35.5	34.2
Germany	64	65.5	73	82.4	79.8	81.1	78.7	75.7	72.1	69.2	65.3	61.9
Estonia	3.8	4.5	7.2	6.6	6.1	9.8	10.2	10.6	10	10.2	9.3	8.4
Ireland	23.9	42.4	61.5	86	111.1	119.9	119.9	104.4	76.7	73.9	67.8	63.6
Greece	103.1	109.4	126.7	146.2	172.1	159.6	177.4	178.9	175.9	178.5	176.2	181.2
Spain	35.8	39.7	53.3	60.5	69.9	86.3	95.8	100.7	99.3	99.2	98.6	97.6
France	64.5	68.8	83	85.3	87.8	90.6	93.4	94.9	95.6	98	98.4	98.4
Croatia	37.4	39.3	48.7	57.8	64.4	70.1	81.2	84.7	84.4	81	78	74.8
Italy	103.9	106.1	116.6	119.2	119.7	126.5	132.4	135.4	135.3	134.8	134.1	134.8
Cyprus	54	45.6	54.3	56.4	65.9	80.3	104	109.2	107.5	103.4	93.9	100.6
Latvia	8	18.1	36.2	47.3	43.1	41.6	39.4	40.9	36.7	40.2	38.6	36.4
Lithuania	15.9	14.6	28	36.3	37.2	39.8	38.7	40.6	42.7	39.9	39.3	34.1
Luxembourg	7.7	14.9	15.7	19.8	18.7	22	23.7	22.7	22	20.1	22.3	21
Hungary	65.6	71.8	78.2	80.6	80.8	78.5	77.3	76.8	76.1	75.5	72.9	70.2
Malta	62.3	62.6	67.6	67.5	70.2	67.7	68.4	63.4	57.8	55.5	50.3	45.8
Netherlands	43	54.7	56.8	59.2	61.7	66.2	67.7	67.8	64.6	61.9	56.9	52.4
Austria	65	68.7	79.9	82.7	82.4	81.9	81.3	84	84.9	82.9	78.3	74
Poland	44.2	46.3	49.4	53.1	54.1	53.7	55.7	50.4	51.3	54.2	50.6	48.9
Portugal	72.7	75.6	87.8	100.2	114.4	129	131.4	132.9	131.2	131.5	126	122.2
Romania	11.9	12.3	21.8	29.6	34	37	37.6	39.2	37.8	37.3	35.1	35
Slovenia	22.8	21.8	34.5	38.3	46.5	53.6	70	80.3	82.6	78.7	74.1	70.4
Slovakia	30.3	28.6	36.4	41	43.5	51.8	54.7	53.5	51.9	52	51.3	49.4
Finland	33.9	32.6	41.5	46.9	48.3	53.6	56.2	59.8	63	62.6	60.9	59
Sweden	39.2	37.7	40.9	38.2	37.3	37.7	40.5	45.2	43.9	42.3	40.7	38.8
United Kingdom	41.5	49.4	63.3	74.6	80.1	83.2	84.2	86.2	86.9	86.8	86.2	85.9

Table 1: Governments Gross debt (annual data) as a percentage of Gross Domestic Product (GDP)

Source: Eurostat

Altogether there are five European nations whose debts are larger than or equal to their economic output, and 14 that have debts larger than the 60 per cent-of-GDP limit set out in the Maastricht Treaty.

From figure 1.6, it can be noticed that Greece's public debt is the highest in the EU, standing at 181.2 percent of its GDP. Italy and Portugal are the next most indebted countries, with debts of 134.8 per cent and 122.2 per cent of national economic output respectively.

The smallest debts, as a proportion of GDP, were seen in Estonia, Luxembourg, Sweden and Bulgaria in 2018. All of these governments have debts below 30 per cent of their GDP.

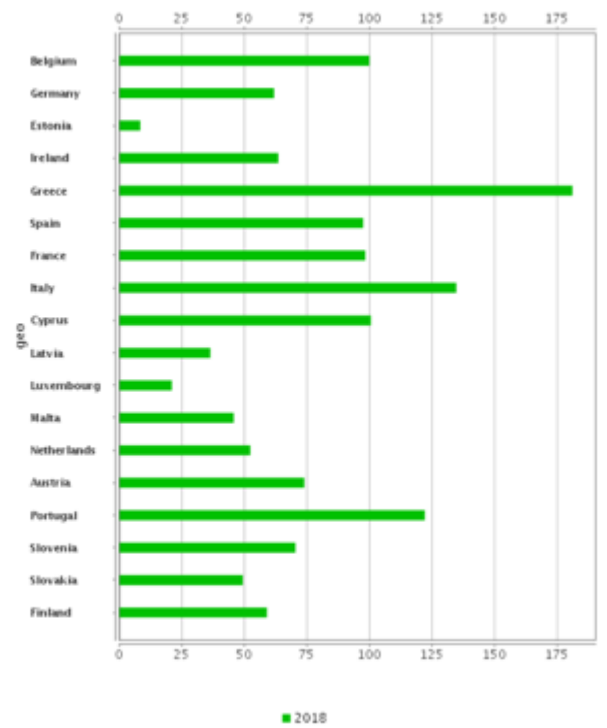

Figure 1.6: General Government Gross Debt (annual data) as a percentage of Gross Domestic Product (GDP) in 2018.

Source: Eurostat

Moreover, from the two geographical representations below (figures 1.7 and 1.8), it is possible to do a quick comparison about the debt levels among EU countries in 2010 and 2018. As can be seen, the overall situation was not so good in 2018, since debt levels were still very high in countries like Greece, Spain, France, Portugal, Italy, Cyprus, Slovenia and the UK.

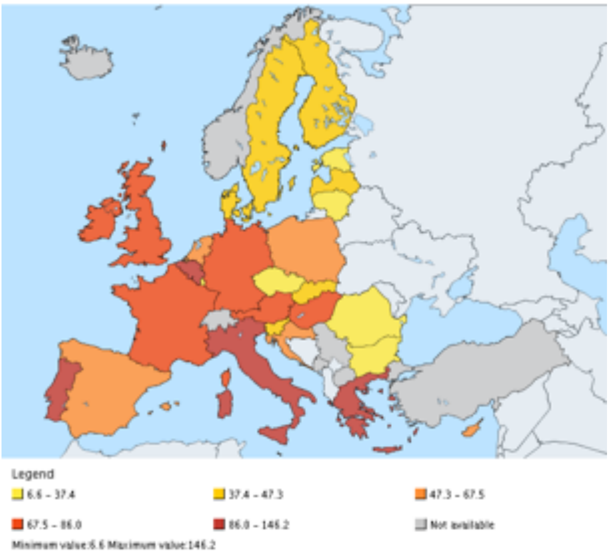

Figure 1.7: Geographical Representation of General Government Gross Debt (annual data) as a percentage of Gross Domestic Product (GDP) across Europe in 2010.

Source: Eurostat

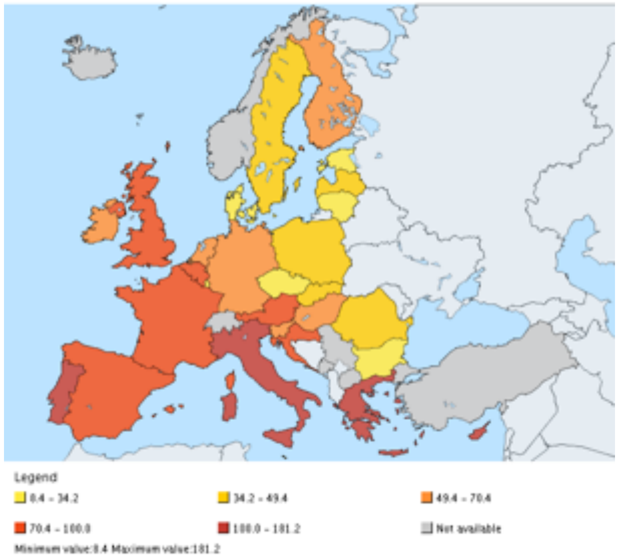

Figure 1.8: Geographical Representation of General Government Gross Debt (annual data) as a percentage of Gross Domestic Product (GDP) across Europe in 2018.

Source: Eurostat

In conclusion, the purpose of the present chapter is to highlight that the Financial Crisis, which developed into a worldwide banking crisis with the collapse of the investment bank Lehman Brothers, caused not only the Public Debt crisis but had also a dramatically negative influence on the real economy because of the sub-allocation of funds and resources due to credit crunch.

The focus on the transmission mechanism from a financial crisis to a banking one, and in particular on the credit crunch, is crucial in order to understand why, especially in those countries that already had a high level of public debt (such as Italy), individuals and businesses that could formerly obtain loans to finance their operations suddenly encountered difficulties in acquiring such funds.

In light of the above, the second chapter will be focused on the Italian framework and on relationship between the Italian debt situation and the credit crunch on Italian SMEs, which are a fundamental component in the Italian economic chain and have been negatively affected by this sub-allocation of funds.

Chapter 2: The Italian framework

2.1 Italy: from the Debt Crisis to the present

This chapter will focus on the Italian framework during the Sovereign Debt Crisis, encompassing the relationship between the Italian debt situation and the credit crunch on Italian SMEs, which are a fundamental component of the Italian economic chain and have been negatively affected by this sub-allocation of funds.

In addition, the chapter will provide a comparison between the Italian economic structure and those of the other European countries, in order to contextualize the proportion of SMEs in the Italian economy and to better understand the impact of the crisis on Italian SMEs, taking also into account the credit crunch from a numerical point of view.

A starting point to analyze the Sovereign Debt Crisis is provided by a timeline and political contextualization and by some key indicators, such as unemployment rate, GDP, public debt, and non-performing loans, then focusing on the Italian economic structure, in order to clearly understand the impact of the crisis on SMEs.

2.1.1 The Berlusconi Government

The Italian economy in 2011 was characterized by a lack of economic growth and, on the political side, by the lack of credibility of the government and the parties that, despite the repeated proclamations during electoral campaigns, had not been able to initiate reforms necessary to align our country with the virtuous countries of Europe (The Guardian, 2011).

In July 2011 the IMF called on Italy to do more to reduce its public debt – one of the largest in the eurozone – and pushed towards spending cuts. The difficulties of the Italian system caused distrust among investors, especially abroad, with a consequent drop in investments and withdrawal of capital. In fact, the bond markets turned on Italy in July 2011 as part of a wider loss of confidence in European efforts to manage the sovereign debt crisis.

The government headed by Prime Minister Silvio Berlusconi attempted to head off this change in sentiment by pushing through a package of reforms to promote fiscal consolidation and to stimulate growth. However, bond traders shrugged off those actions as too little and too late (Jones, 2012).

The wider European context played a decisive role in that assessment, since the Eurozone governments were already struggling to come up with a second Greek bailout package at the start of the summer. In addition to that, the European Banking Authority published the results of its second stress tests – tests designed to calm the markets by generating huge volumes of data on cross-border exposure – for systemically important European banks. However, those tests simply highlighted that the European financial system was fragile, because eight banks (five in Spain, two in Greece and one in Austria) would fall below the 5% benchmark – with an overall shortfall of EUR 2.5 bn – and a further 16 banks show CT1R – the Core Tier 1 capital ratio – in the range of 5-6% (see table 3).

Adverse scenario

	2010	2012	< 2%	< 3%	< 4%	< 5%	< 6%	< 7%	< 8%	< 9%	< 10%	> 10%
AT	8.2%	7.6%	0	0	0	1	0	0	1	1	0	0
BE	11.4%	10.2%	0	0	0	0	0	0	0	0	0	2
CY	7.7%	5.7%	0	0	0	0	1	1	0	0	0	0
DE	9.4%	6.8%	0	0	0	0	2	4	2	1	1	2
DK	9.8%	11.9%	0	0	0	0	0	0	0	0	1	3
ES	7.4%	7.3%	0	0	3	2	7	5	1	3	2	2
FI	12.2%	11.6%	0	0	0	0	0	0	0	0	0	1
FR	8.4%	7.5%	0	0	0	0	0	2	1	1	0	0
GB	10.1%	7.6%	0	0	0	0	0	1	2	1	0	0
GR	10.2%	6.1%	1	0	0	1	2	0	2	0	0	0
HU	12.3%	13.6%	0	0	0	0	0	0	0	0	0	1
IE	6.2%	9.8%	0	0	0	0	0	0	1	0	0	2
IT	7.4%	7.3%	0	0	0	0	1	2	1	1	0	0
LU	12.0%	13.3%	0	0	0	0	0	0	0	0	0	1
MT	10.5%	10.4%	0	0	0	0	0	0	0	0	0	1
NL	10.6%	9.4%	0	0	0	0	0	1	0	1	1	1
NO	8.3%	9.0%	0	0	0	0	0	0	0	1	0	0
PL	11.8%	12.2%	0	0	0	0	0	0	0	0	0	1
PT	7.1%	5.7%	0	0	0	0	2	2	0	0	0	0
SE	9.0%	9.5%	0	0	0	0	0	0	0	1	2	1
SI	5.7%	6.0%	0	0	0	0	1	0	0	1	0	0
Total	8.9%	7.7%	1	0	3	4	16	18	11	12	7	18

Table 3: 2011 EU-wide stress test results

Source: European Banking Authority (EBA)

By August 2011, the spread between Italian ten-year bonds and their German counterparts reached unsustainable levels (see figure 2.1), so that the European Central Bank (ECB) President Jean-Claude Trichet and Bank of Italy Governor Mario Draghi wrote a joint letter to Berlusconi calling for immediate measures to promote growth. The renewed ECB purchase of Italian and Spanish government bonds in secondary markets was the carrot, while the threat of unconstrained speculation against Italy was the stick.

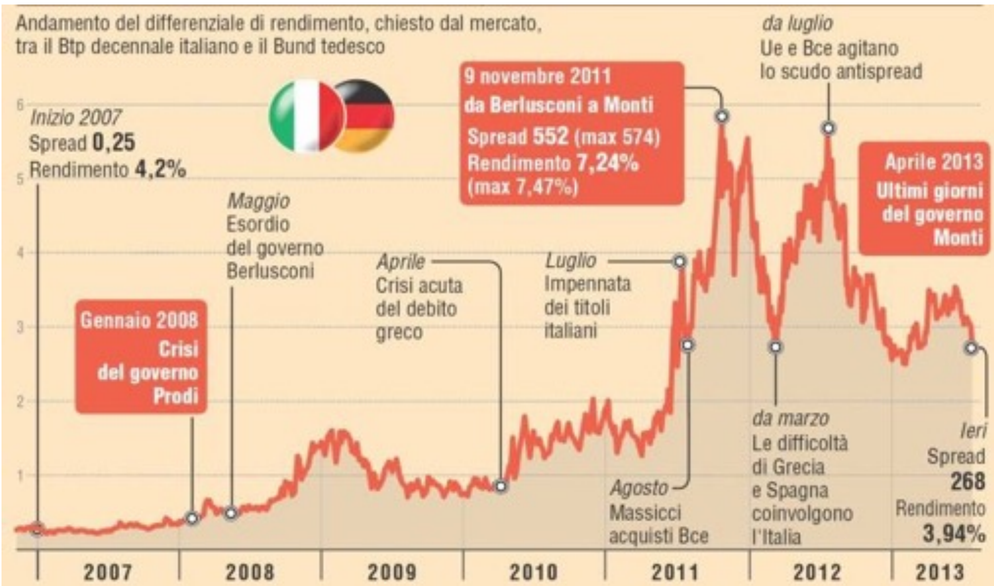

Figure 2.1: BTP-Bund spread between 2007 and 2013

Source: Ansa

However, the fiscal-consolidation package proposed by the Berlusconi government fractured the ruling majority, and so became object of numerous redrafts. By the time the governing coalition had a package that could be presented to parliament, the bond markets had already reached their verdict: the Italian sovereign debt yields moved above those charged to Spain, reflecting the negative view of the Italian government's creditworthiness, and the credit agencies quickly validated this perception by downgrading Italy's rating in September (Erber, 2011).

In October, the situation deteriorated even more because of the divergences between Berlusconi and his Minister for Economic Affairs, Giulio Tremonti, which resulted in the government's failure to secure a majority for the approval of the 2010 public accounts, triggering in turn a tense vote of confidence. The unfavorable European context and indecisive Italian leadership came together as European countries sought to work out a comprehensive solution to the sovereign debt crisis. In this context, the ability of the Italian government to solve both fiscal deficits and economic growth problems was fundamental in the success of any package proposed by the EU.

However, the signals did not bode well: when the French President Nicolas Sarkozy and the German Chancellor Angela Merkel were asked during an EU crisis summit on 23 October whether they had confidence in the Italian prime minister, they smirked. This event was widely reported in Italy and may have played a role in reinforcing opposition to a legislative response. After this event, Berlusconi presented a 14-page letter of intentions to his European counterparts, which, in turn, agreed to a package that not only sought to stabilize Greece but also to put Italy under tighter supervision, hoping that it would have been enough to bring calm to the markets.

The Friday after the summit, the Italian government tried to refinance some of its obligations in the financial markets and almost came up short. There was only just enough demand to meet the country's requirements. The major problem was the price: Italy found itself once again borrowing at unsustainably high rates of interest.

Then Greek Prime Minister George Papandreou announced that he would put his austerity package to a popular referendum. This announcement surprised the markets as well as Europe's political leadership, leading to tremendous consequences: share prices collapsed, bond yields soared, and the President of the Republic Giorgio Napolitano announced his intention to make sure that the government lived up to its commitments to Europe. By the time Papandreou retracted his threat, the damage was already done, since Berlusconi's coalition began to fracture, and Italy looked near to the precipice.

2.1.2 The Monti Government

On the 12th November 2011, Berlusconi finally tendered his resignation to the President of the Republic Napolitano. Less than 24 hours later, Napolitano formally asked Mario Monti, a well-established economics professor at Milan's prestigious Bocconi University and former European Commissioner for internal market and services (1995-99) and later competition (1999-2004), to form an emergency government.

Monti came into office during one of Italy's most severe political and economic crises since the Second World War. On the domestic front, the technocratic government was staring at financial meltdown and facing an ailing economy that, for far too long, had suffered from low growth and productivity. On the international front, Monti faced an almost equally daunting challenge, because of the Italian loss of international credibility during the Berlusconi years had been palpable.

The first opportunity for Monti to work on the aforementioned points came on the 17th November 2011 during his first address to the Italian Parliament. In speaking to senators before the confidence vote, he said that while Italy was no doubt facing a serious emergency, it was the whole European integration project that was experiencing its "most severe test since its inception". According to Monti, the lack of proper governance was partly to blame for the eurozone's woes, and this could only be "overcome by cooperation at European level". Italy had a role to play here, but it could only do so if it ceased to be considered Europe's "weak link". Otherwise, he said, Italy would find itself "at the center of a European project" that it had not conceived — a project, that is, "designed by countries that, while having the future of Europe at heart, have also at heart their national interests, among which a strong Italy may not necessarily feature". Hence, the future of the euro would also "depend on what Italy does in the next few weeks". "International investors", he continued, "hold 50 percent of our public debt. We have to convince them that we have embarked on a gradual but lasting reduction of our debt-to-GDP ratio". To achieve this, the government intended to rely on "three pillars" — "fiscal rigor, economic growth and social fairness" (Benvenuti, 2016).

Following these premises, the Monti government started to implement a severe fiscal consolidation plan – including reform of the pension system and labor market, restrictive fiscal policies – in order to stem the speculative attack on Italy. On the 4th December, the government introduced a supplementary budget centered on tax increases, spending cuts and the rationalization of the state administration. The decree law, called "Save Italy", included a package of severe fiscal adjustments worth roughly €30 billion (US$ 40 billion) aimed at balancing the budget by 2013.

These austerity measures turned to be effective in reducing the risk of default and improving public account disequilibria. However, they pushed Italy towards a new recession as can be demonstrated by the low levels of consumption and domestic absorption, the increasing rate of unemployment especially for the young-adults 15-24 (see table 4 and figure 2.2), and the credit crunch, with the consequent decrease of supply for/demand of credit.

Unemployment	2010	2011	2012	2013	2014
ITALY	8,4	8,4	10,7	12,1	12,7

Table 4: Italy's unemployment rate between 2010 and 2014 (annual data)

Source: Eurostat

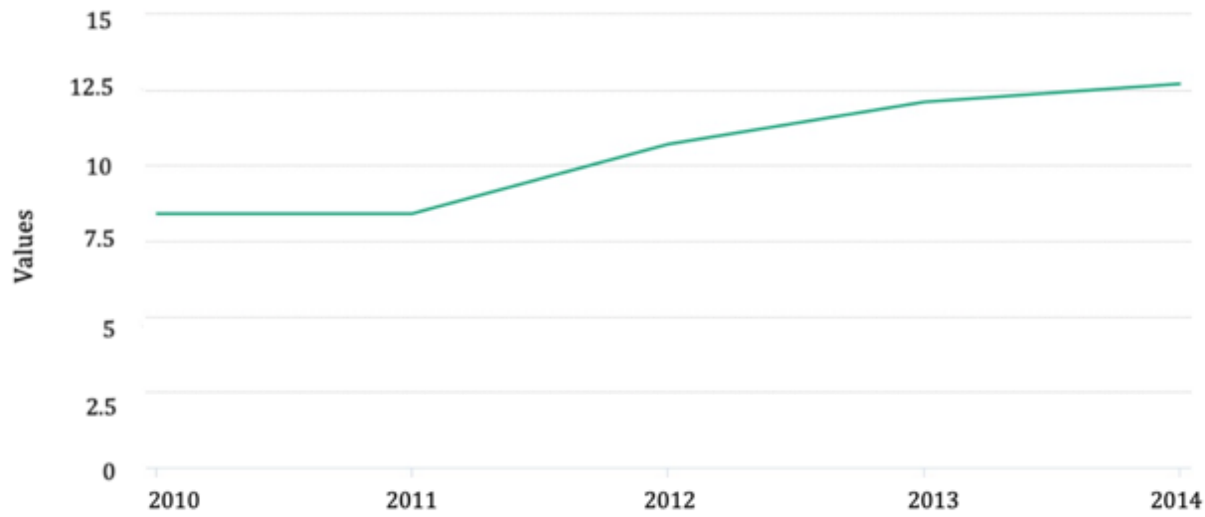

Figure 2.2: Italy's unemployment rate (annual data) between 2010 and 2014

Source: Eurostat

2.1.3 After Monti

On the 21st December 2012, Monti announced his resignation as Prime Minister, due to his promise to step down after the passing of the 2013 Budget. However, on the 28th December, he declared that he would seek to remain Prime Minister by standing for the election, as the leader of a centrist coalition, the Civic Choice ("Scelta Civica"). The election was held on 24 February 2013, and Monti's coalition was only able to gain only the 10.5% of the votes. So, Monti remained Prime Minister until a coalition – led by Enrico Letta – was formed on the 28th April 2013.

Anyway, despite different handovers of power (in order, the governments: Letta, Renzi, Gentiloni and Conte), the Italian economy is still facing numerous economic difficulties, since the high level of debt puts pressure on creditworthiness and unsettles investors. It is interesting to notice that, in the World Economic Forum's Global Competitiveness Report 2017-18, Italy ranks only 43rd out of 137 countries, behind countries such as India, Indonesia, Chile and Azerbaijan.

Moreover, it is worth noticing not only the constant and dramatical increase of debt/GDP from 2011 to 2018 (figure 2.3), but also the inability of the Italian economy to achieve even low growth rates since the Sovereign Debt Crisis. In fact, from figure 2.4, which depicts the relationship between the Italian GDP and public debt levels from 1960 to 2018 (latest data available), it is easy to understand that Italy has not been unable to reach once again the 2007's real GDP level, and that the gap between public debt and GDP is continually increasing.

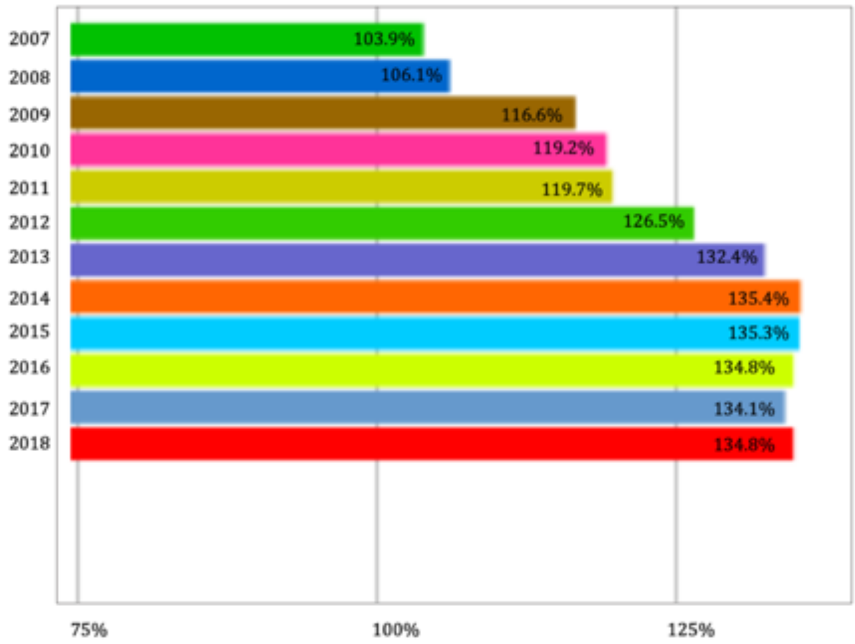

Figure 2.3: Italian gross debt as a percentage of GDP between 2007 and 2018 (annual data)

Source: Eurostat

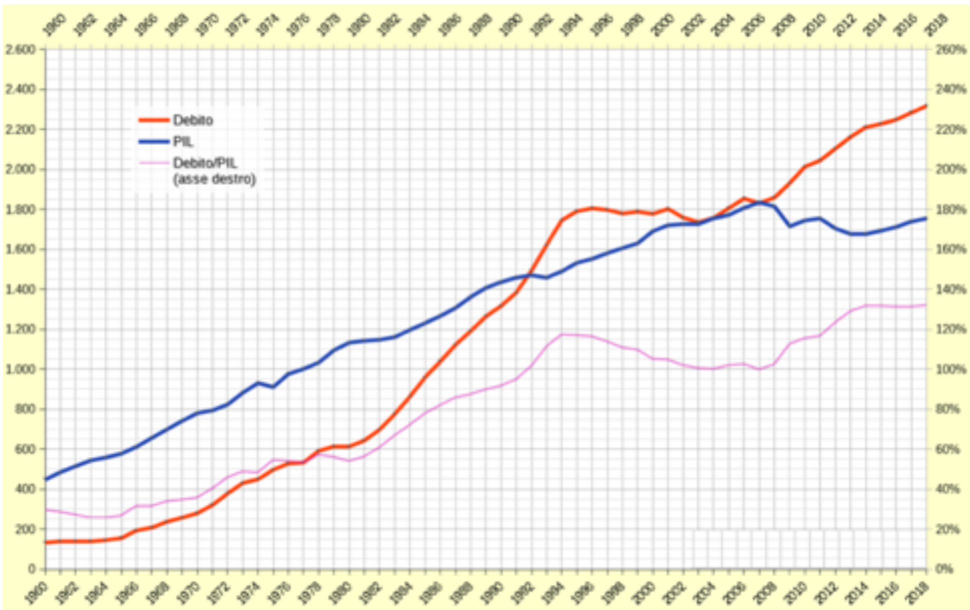

Figure 2.4: The Italian GDP and Public Debt from 1960 to 2018

Source: Istat (National Institute of Statistics).

In particular, with respect to the 2007's real GDP level, the 2017 Italian economy has lost 5.4 percentage points (see table 5).

Growth Ranking 2000-2017	EU Countries	Economic Growth 2000-2017		Increase or decrease with respect to 2007
		GDP growth (%)	Average annual increase (%)	
1	Irlanda	+113,2	+4,55	+46,4
2	Lituania	+95,7	+4,03	+13,7
3	Slovacchia	+94,8	+4,00	+26,7
4	Lettonia	+83,1	+3,62	+0,3
5	Estonia	+76,0	+3,38	+5,2
6	Malta	+72,0	+3,24	+46,6
7	Lussemburgo	+60,3	+2,81	+21,6
8	Slovenia	+43,2	+2,14	+6,2
9	Cipro	+32,3	+1,66	+1,4
10	**Spagna**	**+31,3**	**+1,62**	**+2,8**
11	Austria	+28,0	+1,46	+9,3
12	Belgio	+27,4	+1,43	+9,8
13	Paesi Bassi	+25,0	+1,32	+9,0
14	Finlandia	+24,2	+1,28	-0,1
15	**Germania**	**+23,7**	**+1,26**	**+12,3**
16	**Francia**	**+21,7**	**+1,16**	**+7,0**
17	Portogallo	+7,4	+0,42	-1,2
18	**ITALIA**	**+2,6**	**+0,15**	**-5,4**
19	Grecia	-1,2	-0,07	-25,2
	Area Euro (19)	**+21,6**	**+1,16**	**+5,9**
	Area Euro (senza Italia)	**+25,9**	**+1,36**	**+8,2**

Table 5: Real GDP growth (in percentage) in 19 EU area Countries between 2000 and 2017

Source: Istat and European Commission

Unsurprisingly, the weak GDP growth after the Sovereign Debt Crisis had a negative impact on Italy's labor market. Since 2013, Italy not only had an unemployment rate well above the EU average (see the figure 2.5), but also had a high unemployment rate for young people under the age of 25 (see figure 2.6).

Figure 2.5: Unemployment rate in percent in Italy and 19 selected EU member states

Source: Eurostat

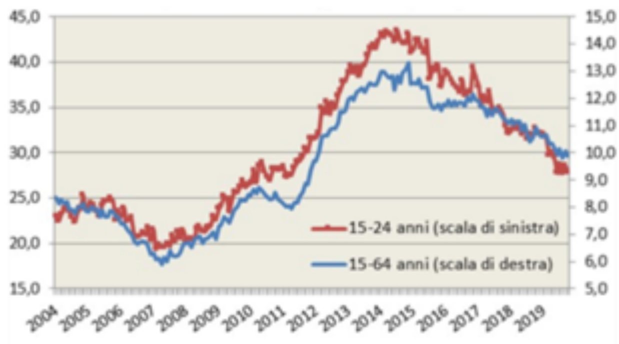

Figure 2.6: Unemployment rate for under 25 years old people (red line - left scale) and total (blue line - right scale)

Source: Istat

Clearly, weak economic growth implied low government revenues and an increase in public spending to cushion the impact of high unemployment, with the logical result of a rise in public debt, up to reach 134.8% of GDP in 2018 (Eurostat).

The situation was made even more difficult by the fact that Italy's private banking sector had many non-performing loans (NPLs) on its balance sheets (figure 2.7): in December 2018, the volume of the gross non-performing loans was estimated to be 189 billion euros. In absolute terms, this is the highest value in the euro area.

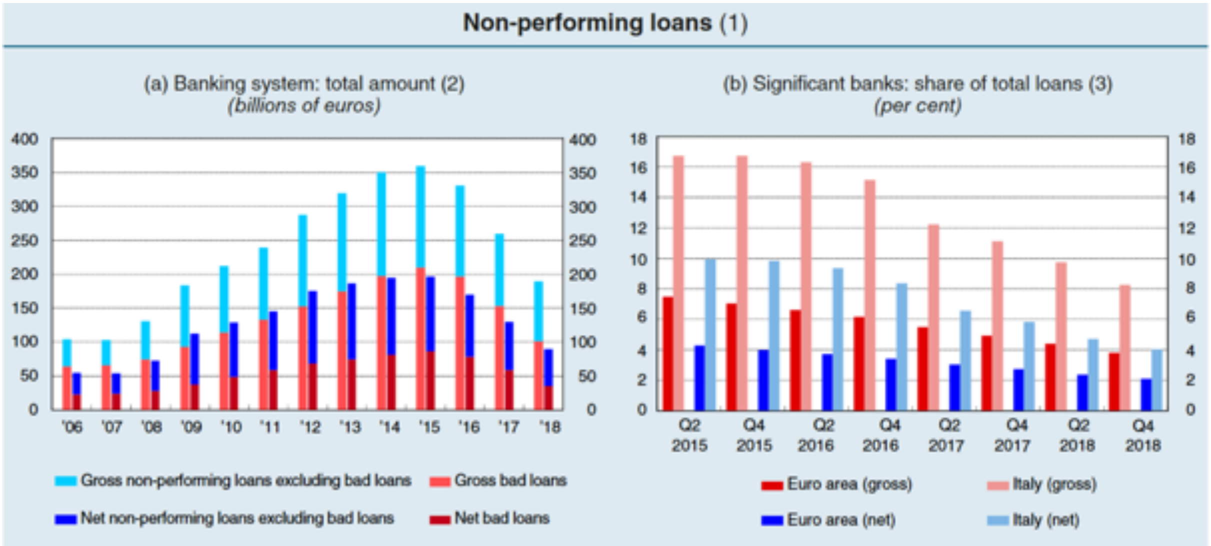

Figure 2.7: Non-performing Loans

(1) Includes loans to customers, credit intermediaries and central banks. – (2) Includes banking groups and subsidiaries of foreign banks; excludes branches of

foreign banks. – (3) Amounts are calculated net and gross of provisions.

Sources: ECB, Supervisory Banking Statistics for the euro area

After having analyzed how the Sovereign Debt Crisis on the Italian economy affected some key indicators, such as unemployment rate, GDP, public debt, and non-performing loans, it is important to focus on the Italian economic structure, in order to clearly understand the impact of the crisis on the real economy.

2.2 The Italian economic structure

In order to better understand the impact of the crisis on the Italian real economy, it must be noticed the high concentration of small firms in Italy if compared to other European countries. In fact, within Europe only Greece and Spain have comparable average enterprise size and percentages of micro-firms. Moreover, Italy is particularly interesting in that it is unique in the European Union because of its large economy characterized by relatively high labor costs and high GDP per capita, accompanying its high incidence of micro and small firms. In fact, in manufacturing sectors, Italy registers the highest EU percentage of SMEs (Bianchi et al., 1997).

However, before starting to analyze and compare the European and the Italian concentration of SMEs, it must be specified what "SMEs" means and what are the dimensional classes within this definition.

Small and medium-sized enterprises (SMEs) are often referred to as the backbone of the European economy – providing a potential source for jobs and economic growth – and are defined by the European Commission as having less than 250 persons employed. They should also have an annual turnover of up to EUR 50 million, or a balance sheet total of no more than EUR 43 million (Commission Recommendation of 6 May 2003).

Annual structural business statistics with a breakdown by size-class are the main source of data for an analysis of SMEs. A limited set of the standard variables (number of enterprises, turnover, persons employed, value added, etc.) is available and the main classes used for presenting the results are those depicted in table 6.

	Number of employees	**Annual turnover**	**Tot. Balance Sheet**
Micro Enterprises	<10	≤2 million €	≤ 2 million €
Small Enterprises	<50	≤10 million €	≤ 10 million €
Medium Enterprises	<250	≤ 50 million €	≤ 43 million €

Table 6: SMEs dimensional classes

Source: Eurostat

After having specified the meaning and the divisional classes of SMEs, it is useful to provide a comparison of enterprises size within the EU-27 (between 2008 and 2010) to have a clear picture of the huge importance of SMEs in the Italian economy.

The overwhelming majority (99.8%) of enterprises active within the EU-27's non-financial business economy in 2008 were SMEs – some 20.9 million – and together they accounted for two out of every three jobs (66.7 %) and for 58.6 % of value added within the non-financial business economy (see Table 7).

	Number of enterprises	Persons employed	Value added	Apparent labour productivity
	(million)		(EUR 1 000 million)	(EUR 1 000 / person)
All enterprises	21.0	135.8	6 176	45.5
All SMEs	20.9	90.6	3 617	39.9
Micro	19.3	39.3	1 348	34.3
Small	1.4	27.9	1 147	41.2
Medium-sized	0.2	23.4	1 122	47.9
Large	0.0	45.2	2 559	56.6

	Number of enterprises	Persons employed	Value added	Apparent labour productivity
	Share in total (%)			Relative to total (%)
All enterprises	100.0	100.0	100.0	100.0
All SMEs	99.8	66.7	58.6	87.8
Micro	92.0	29.0	21.8	75.3
Small	6.7	20.5	18.6	90.5
Medium-sized	1.1	17.2	18.2	105.3
Large	0.2	33.3	41.4	124.5

Table 7: Enterprise size class analysis of key indicators, non-financial business economy, EU-27, 2008.

Source: Eurostat

More than nine out of ten (92.0 %) enterprises in the EU-27 were micro enterprises and their relative share of the non-financial business economy workforce and value added was considerably lower, respectively at 29.0 % and 21.8 %.

The relative importance of SMEs was particularly high in the southern Member States of Italy, Portugal and Spain. Some of these differences may be explained by the relative importance of particular sectors in the national economy or by cultural and institutional preferences for self-employment and/or family-run businesses (see Table 8).

	Total number of enterprises	Micro	Small	Medium-sized	Large
	(thousands)	(%)			
EU-27	20 994	92.0	6.7	1.1	0.2
BE	426	92.5	6.3	0.9	0.2
BG	270	88.7	9.2	1.9	0.3
CZ	899	95.1	3.9	0.8	0.2
DK	211	85.0	12.2	2.4	0.4
DE	1 880	83.0	14.1	2.4	0.5
EE	46	83.9	13.0	2.7	0.4
IE	158	87.8	9.9	1.9	0.3
EL	:	:	:	:	:
ES	2 653	93.1	6.0	0.8	0.1
FR	:	:	:	:	:
IT	3 947	94.3	5.1	0.5	0.1
CY	47	92.3	6.4	1.1	0.2
LV	70	84.4	12.9	2.4	0.3
LT	139	88.7	9.2	1.9	0.3
LU	17	85.8	11.5	2.2	0.5
HU	566	94.3	4.7	0.8	0.2
MT	:	:	:	:	:
NL	583	90.4	8.0	1.4	0.3
AT	294	87.2	10.8	1.7	0.4
PL	1 556	95.5	3.3	1.0	0.2
PT	778	94.0	5.1	0.7	0.1
RO	506	88.9	8.8	1.9	0.4
SI	93	92.4	6.1	1.3	0.3
SK	59	71.2	24.2	3.7	0.9
FI	202	91.7	6.9	1.1	0.3
SE	586	94.7	4.4	0.8	0.2
UK	1 731	89.3	8.8	1.5	0.4

Table 8: Analysis of the number of enterprises by enterprise size class, non-financial business economy, 2008.

Source: Eurostat

Perhaps the most striking phenomenon of SMEs is their contribution to employment, since no less than two thirds of the EU-27's non-financial business economy workforce was active in a SME in 2008.

Italy was the European country in which companies with less than 10 employees, called micro-enterprises, have the greatest weight, both in terms of number of employees and value-added: in 2008 the share of value-added achieved by micro-enterprises was equal to 33 percent, about 14 points higher than the European average (see figure 2.8).

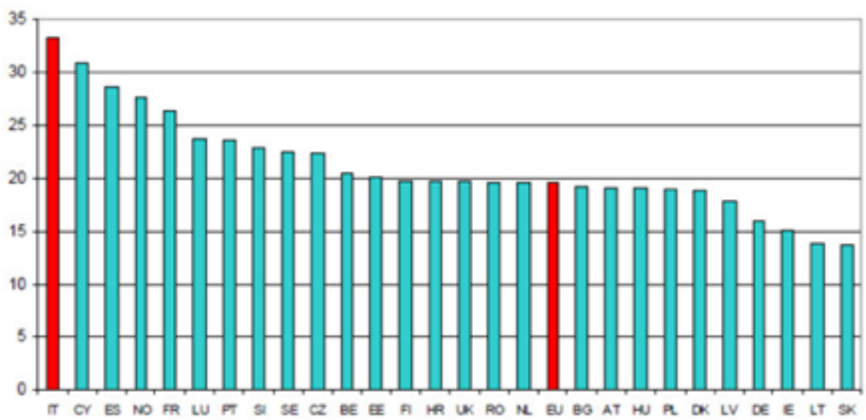

Figure 2.8: Added value coming from micro-enterprises (in percentage).

Source: Eurostat, Key figures on European business (2011).

Moreover, Italian micro-enterprises represented about 50 percent of the added value and over 50 percent of the employed in almost all service and construction sectors (see figure 2.9). Exceptions were the transport and communications sectors in which the presence of some large companies compressed the relative weight of the lower dimensional classes. In the manufacturing sector, the variance was quite high: the weight of micro-enterprises was low in sectors characterized by high economies of scale (petrochemical, electronic, metalworking) and exceeded 15 or 30 percent (respectively for added value and employees) in the sectors like wood, food and fashion.

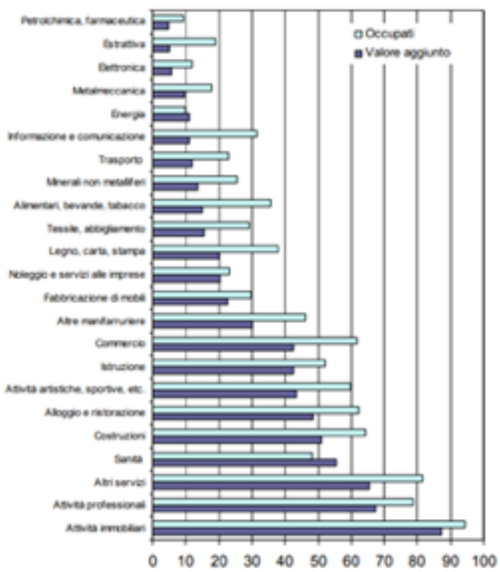

Figure 2.9: Quotas of added values by employees of microenterprises in 2010

Source: Istat

In addition, according to data drawn from national and financial accounts, between 2000 and 2009 the debt-to-GDP ratio of Italian non-financial companies (NFCs) increased steadily by 28 percentage points (see Table 9).

year	Financial Debt / GDP				Leverage			
	IT	GE	FR	SP	IT	GE	FR	SP
2000	56.3	57.7	97.8	73.3	34.1	39.5	29.3	35.5
2001	58.8	59.3	102.2	80.8	37.7	41.6	36.0	37.7
2002	60.2	60.2	101.5	83.6	40.3	50.8	39.0	41.4
2003	62.0	60.8	99.6	86.1	41.6	47.4	36.1	38.9
2004	63.6	57.3	100.0	91.2	39.6	45.1	34.8	39.1
2005	66.2	55.9	101.2	100.0	36.9	42.4	32.9	38.8
2006	69.8	56.0	102.8	115.5	35.2	40.4	29.7	39.6
2007	75.2	55.9	104.0	125.0	39.0	38.6	28.8	41.6
2008	78.0	56.8	108.8	128.2	43.2	46.8	40.3	49.4
2009	83.8	58.2	112.6	131.1	46.1	44.5	37.2	48.6
2010	83.4	55.7	111.7	132.9	48.5	41.5	35.8	48.6
2011	80.7	53.4	116.8	132.3	49.4	43.7	39.2	48.2
2012	83.0	53.5	120.4	124.7	48.2	40.9	37.8	45.1
2013	80.2	55.8	119.6	117.6	46.0	39.2	34.9	41.8
2014	79.6	54.7	123.6	111.1	45.7	38.5	34.9	40.0

Table 9: Indebtedness of non-financial firms (per cent)

Source: Bank of Italy

During this period, Italian NFCs did not increase equity as much as their debt and, as a consequence, there has been a notable change in their financial structure towards a more leveraged model. Leverage rose by 12 percentage points between 2000 and 2014, more than double than the increase in the other three countries. A deleveraging pattern started from 2011, but the trend is slower in Italy than in the other economies.

After having analyzed the Italian economic structure, it can be easily understood that Italian firms were characterized by a greater fragility if compared with other European countries. The high fragility was primarily due – as just seen in table 9 – to their low capitalization and high leverage.

The second reason – intrinsic in the economic structure of Italy – is that there were relatively few non-financial listed companies and their market value was less than half that of firms in Eurozone core countries. This difference in the funding structure of firms was explained by both operative conditions, like the numerical predominance of SMEs (low business size, high presence of family businesses, high specialization), and institutional factors, such as different fiscal treatment concerning interest expenses, lower stock market development.

Having said that, the following sections will be devoted to highlight the impact of the crisis on Italian companies – especially on SMEs – and to explain why the access to finance remains one of the most problematic areas for Italian SMEs.

2.3 Impact of the crisis on the Italian economy

The previous section has highlighted that Italian firms were characterized by a greater fragility if compared to other European countries. In this regard, the crisis had only the role of amplifying these weaknesses, since the major impact of the economic slowdown was concentrated among small enterprises.

In particular, the 2009 has been characterized by widespread negative economic performance. The Italian Gross domestic product (GDP) decreased in real terms by five percentage points from its average value recorded in 2008. A similar fall in GDP had not been recorded since 1971 (National Institute of Statistics – Istat). The marked downturn in the sales of domestically produced goods and services had significant effects on employment: on average, in 2009, the number of people in employment declined by 380,000 (-1.6% on an annual basis), while the unemployment rate rose to 7.8% (+1% compared with 2008).

Another indicator of the difficulties of the Italian production system is the number of hours authorized for the placement of workers on the Wages Guarantee Fund (in Italian, *Cassa Integrazione Guadagni* – CIG). In 2009, recourse by companies to the CIG reached an all-time high, with about one billion authorized redundancy hours – representing an increase of 311.4% on 2008.

Moreover, Istat reported that in 2009 the number of employed persons decreased by 380,000 units, in particular 274,000 male workers and 105,000 female workers. The number of dependent employees diminished by 169,000 (-1%) on the previous year, while the decrease among self-employed workers was 211,000, equal to a 3.5% decline. The loss of self-employed jobs has mainly affected the more industrialized regions of Italy and, in particular, the Friuli-Venezia Giulia and Veneto regions in northeastern Italy, and Lombardy in the north.

Furthermore, Italian companies have suffered a sharp decrease of their revenues since the second half of 2008 (Bank of Italy, 2016). In particular, between October 2008 and July 2009, demand decreased significantly for more export-oriented manufacturing firms and, in order to tackle the economic crisis, companies have mainly taken action to reduce their costs.

It is interesting to notice that medium-sized companies have better reacted to the negative effects of the crisis. In general, this category achieved the best economic performance in terms of profitability in 2006–2007 and so, these positive conditions have helped to dampen the negative consequences of the decrease in sales volume of 2009.

However, as seen in section 2.2, the Italian economic system is not primarily made up of medium or large companies, but rather of small companies, which represent more than the 95% of enterprises in the country and around 67% of employment (Eurostat, 2011).

The difficulties of smaller-sized enterprises have been confirmed by the fact that, at the end of 2009, the lowest rate of small enterprise creation was recorded since 2003 – at 0.28% if compared to the previous year (Unioncamere, 2010). In addition, for the first time the overall balance showed a negative trend for crafts enterprises, among which closures increased by 3.7% if compared with 2008. The difficulties of smaller companies seemed to derive mainly from their lower access to credit, the fewer resources available to undertake reorganization, and the economic difficulties of large companies to which small enterprises often act as suppliers.

The effects have been heterogeneous across geographical areas and, in particular, are concentrated in the Centre-North, the geographical area with the highest densities of small companies. In 2009, Lombardy and Veneto recorded the largest number of bankruptcies, at 1,963 and 880 respectively. In the northeast of the country, the crisis of small companies has led to extreme situations: in just over one year, 14 small entrepreneurs committed suicide because of the economic problems arising from the recession. In the same area, other suicides have resulted among people made jobless by the crisis (la Repubblica, 2012).

After the analysis on the impact of the crisis on Italian SMEs, it is interesting to investigate on the effects of the crisis on Italian SMEs and, in particular, if there has been a credit crunch on Italian enterprises and how much the Italian SMEs have been credit-rationed.

2.4 Effects of the crisis on SMEs: Credit Crunch

After having analyzed the Italian economic structure and the impact of the crisis on the Italian economy, it is interesting to focus on the credit crunch on Italian firms and understand if it has been due to a fall in the demand for credit or to a fall in the supply of it.

Economic growth depends on access to credit, and in Italy this was a particularly sensitive issue at the time not only for Italian SMEs, but for all Italian firms for various reasons. The first was the difficult economic climate, characterized by forecasts for very low GNP growth following years of decline and high levels of unemployment especially among young people in the age between 18-24 (as seen in section 2.1.3). The second reason was the high level of public debt, which lowered the availability of public resources and the state's ability to stimulate the economy. The third reason was the low availability of risk capital, revealed by the frequency with which important Italian manufacturers have been taken over by overseas companies.

Beside these three reasons, it must be taken into account that in the Italian economy public and private capital is limited, and so Italy's economic recovery heavily depends on the banking system. That's why in recent years the Italian business system has had difficulty in accessing credit and banks have been given the blame for failing to finance debt (Bank of Italy, 2014).

On their side, banks claimed that the financial crisis has been characterized by a big fall in demand for credit and a sharp deterioration of the two assets which sustain lending capacity: business outlook and associated guarantees. As regards the business outlook, the economic crisis has obviously generated uncertainty, causing a fall in both GDP and internal demand. At the same time, as regards associated guarantees, there has been both a sharp deterioration in the values of property traditionally used as collateral and a significant loss of appeal of real estate collateral for banks (Albertazzi ed al., 2010).

In the context just described, the access to credit has become particularly problematic for smaller firms, which were the core of the Italian economy in all areas. In particular, banks were less willing to provide loans to SMEs, and this, together with higher rejection and unacceptable loan rates, signaled a drying up of private-sector financial support, compounded by diminished access to public sector financial support (European Commission, 2014).

On the basis of the aforementioned, it is worth to investigate whether Italian SMEs have been credit-rationed, starting from the European SMEs credit framework – in order to contextualize – and then turning the attention on the credit issues of Italian SMEs.

2.4.1 Credit Crunch in the European SMEs' context

In order to have a clear picture of the access to finance of SMEs, it is better to start from the European SMEs' context, taking into account the Survey on the access to finance of enterprises (also known as SAFE) conducted by the European Central Bank. In particular, it is useful to analyze different semiannual SAFE report, possibly to find a trend in the credit crunch on SMEs.

The availability of bank loans to SMEs deteriorated in the second half of 2009, since 42% of SMEs reported a deterioration – compared with 43% in the first half –, while 10% saw an improvement in the second half – unchanged from the first half.

As regards 2011, euro area SMEs' external financing needs increased slightly between April and September 2011. At the same time, the survey results show that access to bank loans deteriorated. On balance, firms' opinion about the availability of bank loans decreased by 5 percentage points, to -14%. Moreover, the survey results point to slightly lower rates of success when applying for a loan. Meanwhile, the percentage of respondents reporting "access to finance" as their main problem was unchanged (at 16%)."

Moreover, between April and September 2012, euro area SMEs reported a somewhat lower net percentage change in external financing needs compared with the previous survey (5%, compared with 8%). At the same time, the survey results show that access to bank loans continued to deteriorate; on balance, firms reported a worsening in the availability of bank loans (-22%, compared with -20% in the previous survey round). Moreover, the survey results point to somewhat higher rejection rates when applying for a loan (15%, up from 13%). Meanwhile, the percentage of respondents reporting access to finance as their main problem remained broadly unchanged (18%, compared with 17%)."

The data reviewed above show a deterioration in the access to finance of European enterprises, especially for the smaller ones. That provides insights about the increasing trend in credit rationing at a European level and induces to investigate specifically on the credit issues of Italian SMEs.

2.4.2 Credit Crunch in the Italian SMEs' context

For what concerned the credit issues of Italian SMEs, it is interesting to start from a study in which a panel data set has been used to estimate the disequilibrium model of Italian SME corporate bank lending (Soana et al., 2015). The database used consisted of 35,541 Italian unlisted SMEs in the period 2007-2012 – excluding from the sample financial and public service companies – and was obtained from the Bureau Van Dijk AIDA database. The final sample, representative of the Italian economy as a whole, consisted of 121,425 observations (see table 10).

Distribution of observations over years				
Year	Number of firms	Number of firms - percentage	Number of firms (cumulative)	Number of firms – percentage (cumulative)
2007	20,385	16.79	20,385	16.79
2008	21,888	18.03	42,273	34.81
2009	23,804	19.60	66,077	54.42
2010	24,890	20.50	90,967	74.92
2011	26,206	21.58	117,173	96.50
2012	4,252	3.50	121,425	100.00
Total	121,425	100.00	121,425	100.00

Table 10: The number of observations of 35,541 non-listed Italian companies in the period 2007-2012.

Source: Bureau Van Dijk AIDA database

After estimating an econometric model, the results of that disequilibrium model for corporate bank lending 2007-2012 highlighted three implications: first, small firms requested more bank credit than large ones; second, the demand for short-term loans increased if long-term financing needs decreased and if a firm had fewer internal available sources. Third, SMEs with more available substitutes for bank finance (for example commercial debts) and higher cost of bank credit showed a lower demand for loans.

In conclusion, on the basis of a large panel data set of private Italian SMEs, the research estimated a disequilibrium model of demand and supply of credit in the period 2007-2012, and showed that private Italian SMEs were credit rationed, especially in the years 2007, 2008, 2011 and 2012. The results from this study were consistent with the annual relations of the Bank of Italy.

Another interesting insight is brought by the analysis on revocable loans and the relative interest rates required by banks (Confcommercio, 2017) depicted in table 11.

	(a) up to 125,000 €	(b) from 1 to 5 million €	(c) over 25 million €	mean	(a)/(c)
Dec. 2011	10.40	8.01	3.84	6.58	2.7
Sept. 2016	9.22	6.14	2.09	5.00	4.4

Table 11: interest rates (%) on revocations according to dimensional classes

Source: Confcommercio

As can be seen from table 11, the difference between the passive interests depending on the extent of the credit granted, in 2016, is very high: it goes from 9% for small businesses (using the proxy as a proxy for the class up to 125 thousand euros of financing, column a) at 2% for large companies (letter c of table 7). Moreover, the reduction in nominal (and real) interest rates, due to the fall in inflation or due to accommodative monetary policy in the period between 2011 and 2016, has been asymmetric: the ratio between a and c passes from 2.7 to 4.4. Of course, a part of this gap is justified by the fact that the costs of preliminary investigation are almost fixed and therefore the greater is the loan the lower is their percentage weight. It is equally true that the quantitative and qualitative production of information by the very small companies is lower than that of the large ones and this causes the bank counterpart to distrust and, therefore, to charge costs according to an information asymmetry process. However, the fact remains that a nominal annual fee of 9.22% for small loans is a risk for the accounts of Italian SMEs. In fact, it should not be forgotten that in Italy micro-enterprises, those with up to 9 employees, are worth 46% of employment and just under 30% of total value- added.

Moreover, starting from 2009, every three months a representative sample of companies from the tertiary sector was interviewed concerning credit issues. These interviews, which were very useful in order to produce the cognitive material that goes under the acronym O.C.C. (Observatory on Credit Confcommercio), are summarized in table 12.

	% firms that have asked for financing	% firms that have seen their request accepted	% firms completely finances
	(A)	(B)	(C)=(A)x(B)
IV quarter 2009	24.1	62.7	15.1
IV quarter 2010	25.7	58.5	15.0
IV quarter 2012	14.0	30.2	4.2
IV quarter 2013	10.8	23.8	2.6
IV quarter 2014	18.0	33.3	6.0
IV quarter 2015	21.8	38.0	8.3
IV quarter 2016	21.8	38.0	8.3

Table 12: The credit crunch on Italian firms of the tertiary sector

Source: Confcommercio

The table 12 shows the historical series of results related to two questions: the first (column A) provides the percentage, for each quarter, of companies that asked for new credit to the banks; the second (column B) shows the percentage, among those that have required credit, for which the request was fully accepted. Column C is the product of the first two and provides the fraction of tertiary businesses subject to new loans in the quarter. The first column shows the effects of the question on the credit restriction: obviously credit can also be reduced because companies do not ask for it. However, the fraction of companies asking for credit has slightly decreased over quarters but, after all, to a negligible extent; the second column, on the other hand, has exclusively to do with the credit offer: that is, it indicates those that are totally or partially satisfied between the companies that requested credit.

In this case, the credit crunch is clearly evident due to the transition of the column b from the 60% average of the two-year period 2009-2010 to the 38% at the end of 2016. It is true that there has been a recovery compared to the 2013 lows, but we are far from normalizing the conditions, with the overall result that today, if compared to eight years ago, the percentage of fully funded companies has almost halved. Then, it is easy to point out that only 11% of those up to 9 employees - the actual micro-businesses - are met in terms of credit, while for large companies (i.e. 249 employees and beyond) the incidence is fourfold, as evidenced by 41% of the requests fully accepted.

In conclusion, the purpose of the present chapter is to highlight that the Sovereign Debt Crisis had a huge impact in those countries – such as Italy – characterized by a high level of public debt and a huge percentage of SMEs, which had less economic power in order to finance themselves on financial markets (without having to pay unsustainable interest rates) and tackle the crisis, safeguarding their firms and their economies.

Credit crunch has a pivotal role in this chapter, especially in the understanding of why a lot of SMEs – that could formerly obtain funds for their operations and their projects – suddenly had difficulties in acquiring such funds and frequently defaulted because they had not enough power to fight the decrease in demand for their products and/or services and the decrease in the supply of funds by banks.

Obviously, as a simple algebraical equation, fewer firms means fewer taxes paid, and fewer taxes paid means fewer funds for the State, creating a sort of vicious cycle.

In light of the above, the third chapter will be focused on the possible solutions for SMEs to offset credit crunch and to fund their projects and businesses' needs.

Chapter 3: Possible solutions to offset credit crunch

3.1 Alternative solutions for SMEs

The third chapter will focus on the possible solutions for SMEs to offset credit crunch and to fund their projects and business needs. As seen in chapters 1 and 2, following the global financial and European sovereign debt crises, liquidity shortages and heavy restrictions on bank financing have worsened conditions in credit markets for non-financial firms in Europe.

Given their importance as drivers of employment, growth, and innovation in the European economy, easy access to credit becomes crucial especially for small- and medium-sized enterprises (SMEs), which dominate the business landscape in Europe and rely heavily on bank financing (Eurostat, 2011).

The difficulties in accessing and obtaining a bank loan appear even more severe in the stressed countries that are struggling with the negative consequences of the financial crisis due to their macroeconomic weaknesses and financial fragility.

Such distress increases the likelihood of credit crunch phenomena – as banks tend to transfer the stress to the borrowers – which, in turn, affect access and cost of funding for enterprises.

That is why, as already seen, firms are experiencing unparalleled shortage of funds. Specifically, a growing amount of business ventures are facing difficulties in attracting investments for their development, notwithstanding their projects' potential and ability to persuade investors.

After discussing this unfavorable context for SMEs, it is interesting to present some possible financing solutions in order to fight credit crunch; starting from the issue of shares/minibonds, to relationship lending, to the entrance of private investors, concluding with a brief introduction of crowdfunding – which will be explained in depth in chapter 4 – and a schematic comparison between the characteristics of the main types of financing solution.

3.2 Going public

The most popular instrument among large companies to raise capital is the issue of shares or bonds on financial markets. For SMEs, it increasingly difficult to borrow money from banks because of the strict Basel capital requirements. In addition, it is difficult for banks to evaluate SMEs since they often do not have solid accounting systems, and so they borrow money by paying high rates of interest or offering costly collateral. Many banks prefer to lend to large enterprises rather than SMEs, since for large enterprises the financial statements are clearer and audited (Yoshino et al., 2017).

Nonetheless, since 2012 civil and fiscal laws have been enacted in Italy to align domestic regulations with European ones. In particular, these laws were aimed at easing unlisted firms' collection of funds from capital markets – previously such a possibility was permissible for listed firms only. The target was to provide SMEs with an alternative funding source other than traditional banking channels, thus facing the well-known restrictions characterizing bank credit access (Malavasi et al., 2017).

In this regard, the following two subsections (3.2.1 and 3.2.2) will focus on two interesting alternative methods of financing for SMEs – AIM and Minibonds – presenting their peculiarities and highlighting their strengths and weaknesses.

3.2.1 Alternative Investment Market

Italian SMEs, the industrial core of the country – as already depicted in chapter 2 –, are reluctant to be listed on the stock exchange market. In this regard, the rise of the AIM segment on the Italian Stock Exchange could be a viable solution in order to offset credit crunch.

AIM Italia is the market of the Italian Stock Exchange devoted to the Italian small and medium enterprises with high growth potential. It has been created in 2012 through the amalgamation of the stock markets of the Italian Alternative Investment Market (AIM Italia) and the Capital Alternative Market (MAC), with the purpose of rationalizing the offer of the markets devoted to SMEs and proposing a single market conceived for more dynamic, innovative and competitive Italian SMEs.

Aim Italia stands out for its balanced regulatory approach, for its high visibility at an international level and for a flexible admission process, tailored to the financing needs of Italian SMEs in the global competitive context.

Company	Negotiations date	Amount Funded at the IPO	Market Cap at the IPO
UNIDATA	16/03/20	€ 5,7 M	€ 31,7 M
DOXEE	19/12/19	€ 5,0 M	€ 21,6 M
GISMONDI 1754	18/12/19	€ 5,0 M	€ 13,0 M
NVP	05/12/19	€ 10,2 M	€27,3M
FOS	26/11/19	€ 5,0 M	€ 14,0 M
UCAPITAL24	19/11/19	€ 4,1 M	€ 11,4 M
MATICA FINTEC	11/11/19	€ 6,9 M	€ 18,0 M
ARTERRA BIOSCIENCE	28/10/19	€ 5,7 M	€ 17,0 M
CYBEROO	07/10/19	€ 7,1 M	€ 27,2 M
WEBSOLUTE	30/09/19	€ 3,4 M	€ 12,8 M
COPERNICO	08/08/19	€ 3,3 M	€ 12,7 M
IERVOLINO ENTERTAINMENT	05/08/19	€ 10,7 M	€ 42,9 M
CONFINVEST	01/08/19	€ 3,0 M	€ 10,5 M
FARMAE’	29/07/19	€ 10,0 M	€ 43,0 M
RADICI PIETRO INDUSTRIES & BRANDS	26/07/19	€ 6,2 M	€ 26,7 M
FRIULCHEM	25/07/19	€ 4,5 M	€ 14,4 M
CLEANBNB	24/07/19	€ 3,9 M	€ 13,9 M
SHEDIR PHARMA	23/07/19	€ 11,5 M	€ 81,5 M
PATTERN	17/07/19	€ 12,5 M	€ 44,2 M

Table 13: Last IPOs in the Italian AIM

Source: Italian Stock Exchange

Moreover, it offers SMEs the possibility of flexible and effective access to an audience of institutional and professional investors. Thanks to the more flexible listing procedure through AIM Italia, Italian SMEs have an efficient means to reach investors focused on small caps and raise capital. This market provides an opportunity to raise capital and offers a simplified process and reduced admission criteria. For example, there is no capitalization minimum and a 10 % free float is sufficient (Pozniak et al., 2016).

Aim Italia is based on the presence of the Nominated Adviser (Nomad), a person responsible for assessing the appropriateness of the company for admission purposes and subsequently assisting, guiding and accompanying it throughout the period of permanence on the market.

Summarizing, AIM Italia – which has raised 3.9 billion euros in IPOs and 6.1 billion euros in aggregated capitalization up to now (AIM, 2020) – allows smaller size companies to access the market in a short time and at lower cost with respect to the main market, ensuring in the meantime transparency and liquidity for investors, it provides international visibility, and requires shorter time necessary for admission thanks to a simplified listing process, with easier admission requirements with respect to the primary market.

Anyway, AIM's main limit as a source of fund to fight credit crunch is that it is mainly suited for medium-sized firms (see table 13) and for high growth potential and highly innovative SMEs (AIM actually is active in only 10 sectors – source AIM), which have a greater appeal to investors. These are firms with very high growth potential, often in knowledge-intensive, high-tech industries, which principally access the alternative investment market or the private equity one for early-phase financing.

3.2.2 Minibonds

Another possibility of financing for Italian SMEs is represented by minibonds, a solution much simpler and faster than listing on the stock exchange or a traditional bond. Minibonds are medium-long term bonds issued by privately held small and medium-sized enterprises (SMEs), aimed at funding their development plans, extraordinary investments or refinancing operations. In practice, Minibonds allow SMEs to access capital markets, diversifying their debt and reducing their dependence on banks' financing.

The minibond industry in Italy is regulated by a series of laws introduced starting from 2012 and summarized in Table 14. There are no particular frameworks defining a *minibond*, since the existing rules on bond issuance – defined in the Italian Civil Code, articles 2410-2420 for joint stock companies, and article 2483 for limited liability companies – have been adapted to the peculiarities of SMEs.

Law-decree	Main features
D.L. 83/2012 'Sviluppo' D.L. 179/2012 'Sviluppo-bis'	• Removal of ties related to the maximum bond proceeds allowed • Deductibility of interests and issuing costs extended to unlisted companies • Exemption from withholding taxation on coupons, if the bond is listed on an exchange
D.L. 145/2013 'Destinazione Italia'	• Simplification of securitization procedures, preserving investors' prerogatives and allowing the possibility to offer collaterals • Minibonds, asset-backed securities and funds investing in minibonds allowed to cover insurance technical reserves • Opportunity for credit funds to obtain partial guarantee (credit enhancement) from the Government on minibond investments ("Fondo di Garanzia")
D.L. 91/2014 'Competitività'	• Insurance companies and securitization vehicles authorized to lend directly to companies • Withholding tax exemption on interests on long-term debt financing for foreign credit funds and insurance companies • Withholding tax exemption on minibond coupons, even if not listed, for professional investors • Extension of 'una-tantum' taxation to the dismissal of guaranteed loans
Legge 145/2018 (Budget Law 2019)	• Changes in the PIR ("Piani Individuali di Risparmio") regulation • Changes in the regulation of securitization deals • Equity-crowdfunding portals authorized by Consob will be allowed to place minibonds to professional investors on a dedicated platform section

Table 14: Summary of the relevant laws and regulation on minibonds in Italy

Source: Italian Minibond Industry Report

Two important news about minibonds have been registered in 2018. The first one regarded the modification of the law on securitization (Law 130/99), with the introduction of new opportunities to pool packages of minibonds and create asset-backed securities. The second one said that web portals authorized by the Italian market authority (CONSOB) to publish equity crowdfunding campaigns have been authorized to create marketplaces for the issuing of minibonds, but only to professional investors.

Moreover, SMEs may be motivated to use minibonds because of tax incentives ("PIR" regulation), since there is a deductibility of interest expense up to 30%, a deductibility of issuance costs in the same year in which they are incurred, and an exemption of withholding tax on income paid. In addition to that, minibonds are very interesting also in terms of brand promotion to a larger audience.

Furthermore, it worth taking a look at table 15, which summarizes the differences between bank financing and minibonds.

	BANKS	MINIBOND
Maturity	Usually 3-5 years	It can be also 5 -7 years
Debtor's evaluation criteria	Capital strenght, profitability, cash flow	Capital strenght, profitability, cash flow
Debtor's evaluation criteria	Qualitative aspects based on long-term relationships between banks and customers	Qualitative aspects based on the company's characteristics Quantitative aspects based on future forecasts and prospective trends of the business
Collateral	Usually requested	Not mandatory but appreciated
Interest rate	Depends on: the cost of capital and the cost of bank liquidity, assessment of the creditworthiness, competitiveness of the banking market, the presence of collateral	Depends on: issuer's rating, secondary market conditions, liquidity of the issue
Repayment structure	Usually amortizing	It can also be bullet or with a pre-amortizing period (eg. 2 years)
Placement	Bilateral or syndicated operation	Private placement, in case of public issues, underwriting and placement syndicate
Public disclosing of the conditions of the transaction	No	Yes
External rating	No	Yes
Reporting to the Central Credit Register	Yes	No
Possibility for the lender to withdraw, reduce or change the conditions	Yes (for short-term credit)	No
Promotion of the company's brand	No	Yes

Table 15: Differences between Bank Financing and Minibonds

Source: Epic SIM S.p.a. – Italian Minibond Industry Report 2019

As can be seen from table 15, SMEs that want to issue minibonds must disclose their historical financial data and forecasts/business plan to potential investors. To this purpose, companies typically involve an advisor, who preliminarily carries out an assessment on the feasibility of the transaction and assist the company with the drafting of the business plan. The presence of an advisor significantly strengthens the credibility of the company when interacting with investors.

It is interesting to notice that, in the terms and conditions of the minibond, investors may require the inclusion of some binding clauses on the company's governance, the so-called covenants. Most common covenants may be safeguard clauses, covenants on the use of proceeds (the proceeds from the bond issuance must be allocated according to the purposes established), covenants about the change of control (in case of a change in the issuer's ownership, the investor has the right to demand the bond's early repayment), limitation on dividend and the need to prepare consolidated financial statements to be certified once a year, and limitation on indebtedness (clauses maintaining Net Debt / EBITDA and Gross Debt / EBITDA ratios below certain thresholds).

Following the underwriting phase, companies can list the minibond on Italian Stock Exchange’s ExtraMOT PRO, the professional segment of the bond regulated market – established in February 2013 by the Italian Stock Exchange – with relatively low costs and simplified procedures. The cost of admission for each financial instrument is particularly low: the fee is € 2,500 (flat rate) to list one security (Italian Minibond Industry Report 2019). With the listing of the bonds the visibility of the issuer with its customers, suppliers and the financial system is increased. The issuer increases its attractiveness towards more investors, thanks to the enhanced image and reputation as well as to the transparency on its financial information.

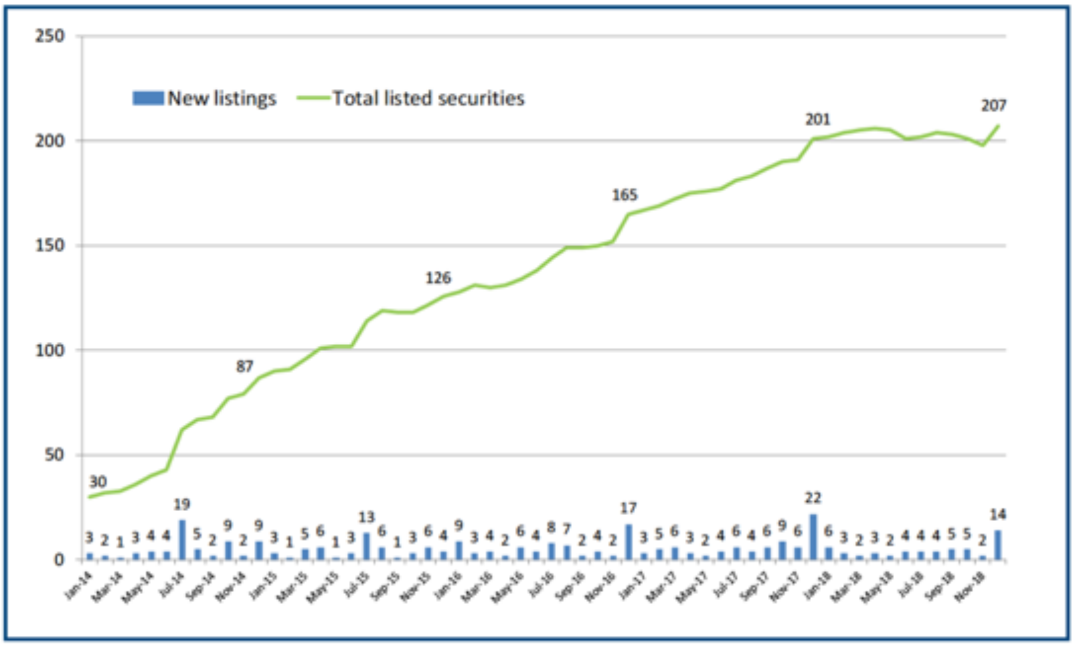

Figure 3.1: Flow of admissions to trading and total number of listed securities from 2014 to 2018 on Extra MOT PRO

Source: Italian Stock Exchange

As regards the minibond market, at the 31st December 2018, 207 securities were listed on the ExtraMOT PRO market and issued by 153 different companies (total par value equal to € 13.8 billion). Among them, 160 bonds were characterized by a nominal value lower than € 30 million (see figure 3.1).

Figure 3.1 also depicts the evolution of the number of debt securities listed on the market. In 2018, 54 new securities were admitted to trading – collecting more than € 8.4 billion – and 48 were delisted, mainly because of the reimbursement at maturity.

For what concerns the issue of Minibonds, in Italy in 2017 there have been 188 issues (159 were up to the threshold of € 50 million), while in 2018 there have been 198 issues, 179 of which were up to the threshold of € 50 million. This implies an increase in the flow of issues by +5.3% (+12.6% considering the smallest issues). Since 2012, the cumulated number of issues totaled 746 (636 with amount lower or equal to € 50 million) and the issues with an amount larger than € 50 million were 99 (equal to 13.3% of the sample), while most of the minibonds (647, 86.7% of the sample) raised up to € 50 million (see figure 3.2).

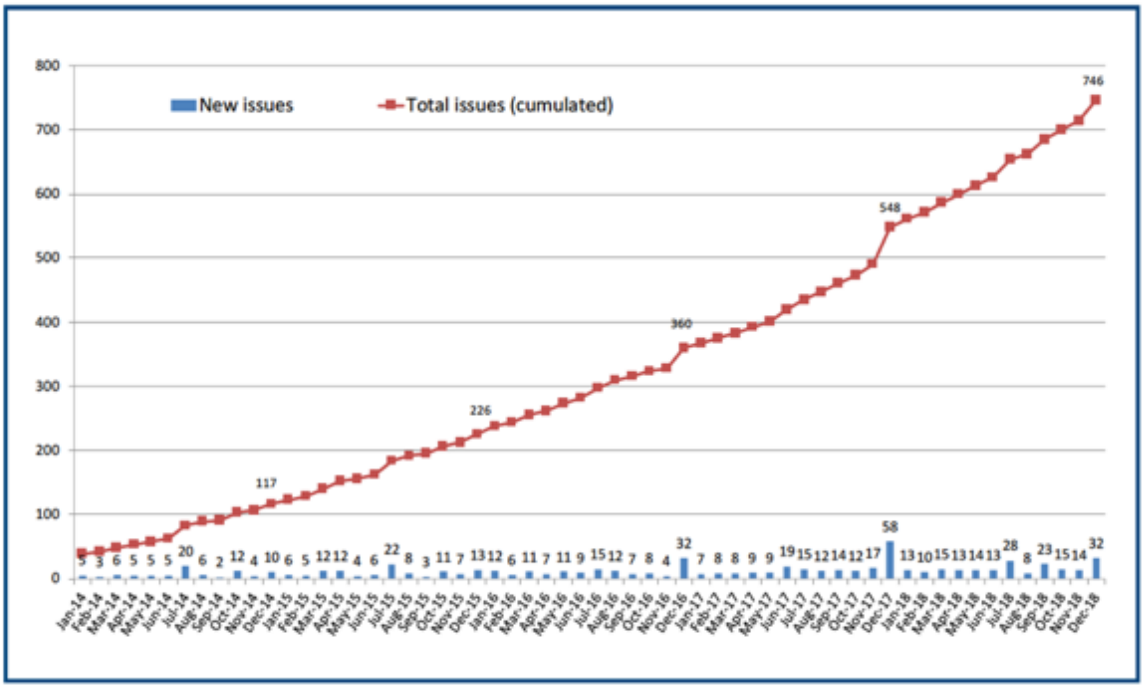

Figure 3.2: Time flow of minibond issues in Italy between 2014 and 2018

Source: Italian Stock Exchange - Italian Minibond Industry Report 2019

However, from an analysis of the minibond industry (represented in Table 16), the impact of the regulatory changes in the triennium of 2012–2014 was poor, and most of the issuers were ranked as large firms according to the turnover and belonged (55.2%) to international groups, sometimes owned by important mutual funds (Malavasi et al., 2017).

Slot(euros)	No. of companies	%
≤ 2 million	5	5.75
> 2 million up to 10 million	7	8.05
> 10 million up to 25 million	14	16.09
> 25 million up to 50 million	14	16.09
> 50 million up to 100 million	13	14.94
> 100 million up to 500 million	26	29.89
> 500 million	8	9.20
Total	87	100.00

Table 16: Distribution of issuers by gross revenues

Source: Elaborations of data from the Italian Stock Exchange

The results shown in table 16 imply that, as in the case of the Alternative Investment Market (AIM), the minibond market's main limits as a source of fund for SMEs to fight credit crunch are that, as in the case of the AIM, it is suited mainly for those firms that have a greater appeal for investors in financial markets, maybe because of their high innovation or growth potential, and that minibonds can be issued mainly by medium-sized firms and can be traded only among professional investors, so their potential audience is limited.

3.3 Relationship Lending

The changes in the economic environment in which banks and small businesses operate – described in previous chapters – have heightened concern about the availability of credit to small businesses. Part of this concern reflects the fact that small businesses are often informationally opaque and have far fewer alternatives to external finance than large companies, as suggested by models of equilibrium credit rationing that point to moral hazard and adverse selection problems (Stiglitz et al., 1981).

In fact, SMEs with opportunities to invest in positive net present value projects may be blocked from doing so because potential providers of external finance cannot readily verify that the firm has access to a quality project (adverse selection problem) or ensure that the funds will not be diverted to fund an alternative project (moral hazard problem).

Small firms are also vulnerable because of their dependence on financial institutions for external funding. In fact, shocks to the banking system – that can come in a variety of forms such as technological innovations, regulatory regime shifts, shifts in competitive conditions, and changes in the macroeconomic environment – may have a significant impact on the supply of credit to small businesses. Thus, SMEs are subject to funding problems in equilibrium and these problems may be exacerbated during periods of disequilibrium in financial markets.

In this context, literature suggests that financial intermediaries exist because they enjoy economies of scale and comparative advantages in the production of information about borrowers and, in particular, banks specialize in lending to a highly information-problematic class of borrowers (Ramakrishnan et al., 1984). Because of this specialization, contracting in the bank loan market appears very different with respect to contracting in other major debt markets. Moreover, one feature often ascribed to commercial bank lending is its emphasis on relationship lending.

Relationship lending is one of the most powerful technologies available to reduce information issues in small firm finance. Relationship lending refers to a common practice in credit financing where a corporation has close ties to a financial institution. Relationship lending helps to reduce asymmetric information, which potentially creates benefits for borrowers.

Under relationship lending, banks acquire information over time through contact with the firm, its owner, and its local community on a variety of dimensions and use this information not only in their decisions about the availability and terms of credit to the firm but also in designing future credit contracts (Berger et al., 2002).

However, although relationship lending has been the subject of considerable recent research interest, the process of relationship lending is not well understood.

In fact, on one hand the evidence indicates that small firms with longer banking relationships borrow at lower rates and are less likely to pledge collateral than are other small firms. These effects appear to be both economically and statistically significant and the results emphasize that banks produce private information about borrower quality. Moreover, the existence of a bank-borrower relationship and the strength of the relationship – measured by the distinction between the announcements of lines of credit (L/C) renewals versus newly issued L/Cs – increases both firm value and market value (Berger et al., 1995).

In addition, firms with close ties to their banks are less likely to be liquidity constrained in their investments than firms that do not have such ties and are more able to invest when they are financially distressed, suggesting again that banking relationships help overcome frictions impeding the flow of credit (Hoshi, 1990). This is why small firms may voluntarily choose to concentrate their borrowing in order to improve their availability of financing, in harmony with the notion that increased competition in financial markets reduces the value of relationships because it prevents a financial institution from reaping the rewards of helping the firm at an early stage (Mayer et al., 1988).

Furthermore, attempts to enlarge the circle of relationships by borrowing from multiple lenders increases the price and reduces the availability of credit. In sum, relationships are valuable and appear to operate more through quantities rather than prices (Petersen et al., 1994).

On the other hand, close observation of existing empirical evidence reveals that relationship lending might not be entirely beneficial for SMEs, since longer or more concentrated relationships reduce a firm's flexibility to change banks and might result in higher interest rates. Moreover, results also show that there is a limit for the degree of concentration of bank relationships. In fact, SMEs that maintain two bank relationships have the lowest interest charges, followed by firms borrowing from only one bank, while firms working with more than two banks have the most expensive debt (Hernández-Cánovas et al., 2010).

After having exposed literature's different points of view, it is easily noticeable that scholars' thoughts in 80's and 90's had positive opinions about relationship lending, saying that it was useful and beneficial for small firms, while scholars after 2000's affirm that relationship lending might not be entirely beneficial for SMEs.

However, in order to have a comprehensive and complete view about relationship lending, it is not enough to compare the different schools of thought; in this sense, an integration based on actual numbers and data taken from the *Survey on the access to finance of enterprises 2019* (also known as SAFE) may be relevant. The SAFE is a survey conducted once a year which provides information on the latest developments in the financial situation of enterprises, and documents trends in the need for and availability of external financing. In this regard, focusing on the latest available issue of the SAFE, it is important to notice that bank-related products remained the most relevant source of financing for SMEs, ahead of market-based instruments and other sources of finance (see figure 3.3).

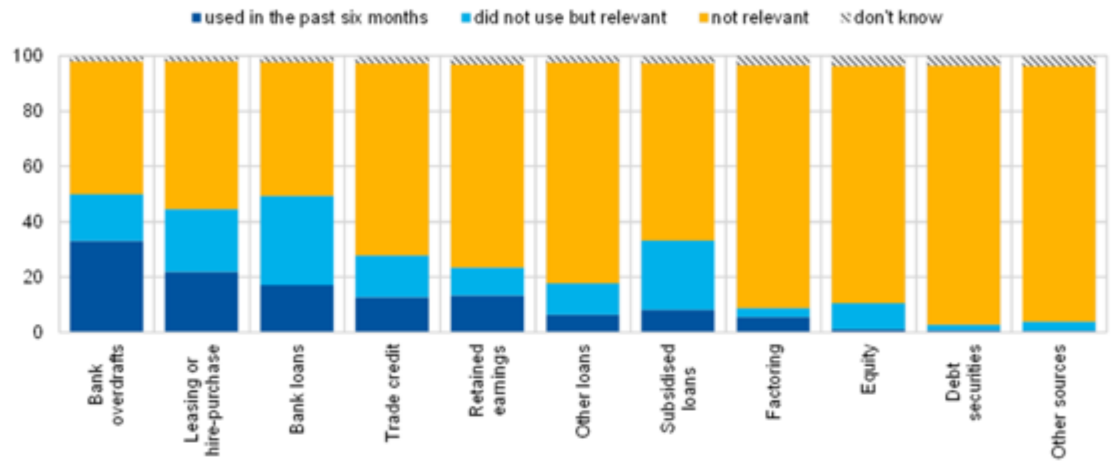

Figure 3.3: Relevance of Financing Sources for Euro area SMEs (over the preceding six months)

Source: SAFE 2019

In fact, in the period between April and September 2019, about half of the European SMEs considered bank loans and credit lines to be relevant financial instruments for their businesses. Leasing was relevant for 45% of SMEs, while 33% of them indicated that subsidized loans were a potential source of finance. On the other hand, market-based instruments – such as equity and debt securities –were much less frequently considered as a potential source of finance.

Moreover, SMEs have signaled growing concerns in relation to macroeconomic factors affecting their access to external finance and, this kind of rising uncertainty was reflected in the replies of SMEs regarding the impact of various factors on the availability of external finance (see figure 3.4). In addition to that, SMEs perceived changes in the general economic outlook to have negatively affected not only their access to finance (from -9% to -13%) but also their access to public financial support. By contrast, the firm-specific outlook (from 10% to 5%), firms' own capital (from 17% to 18%) and firms' credit history (from 16% to 17%) continued to improve SMEs' perceptions of the availability of external financing.

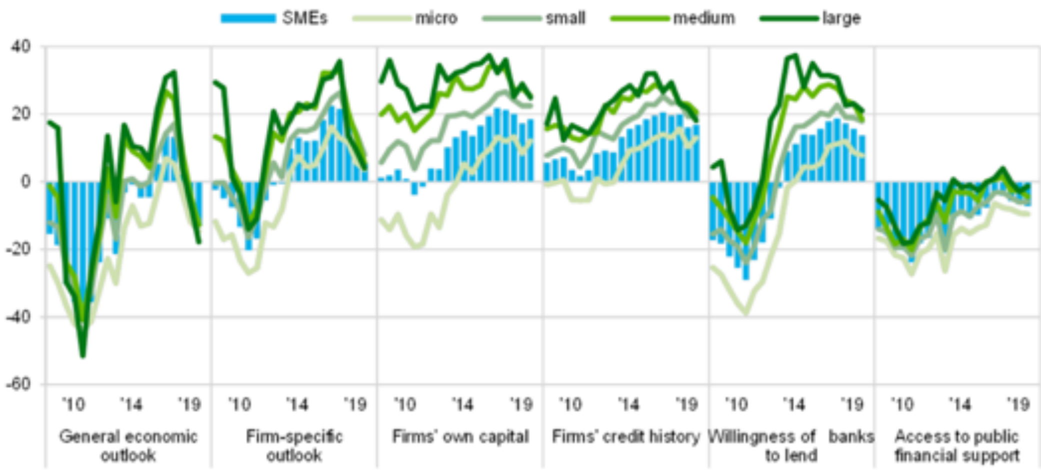

Figure 3.4: Change in factors with an impact on the availability of external financing to Eurpean enterprises (over the preceding six months)

Source: SAFE 2019

Interestingly, the share of SMEs reporting obstacles to obtaining a bank loan remained unchanged and still above the corresponding figure for large enterprises (see figure 3.5). Among enterprises judging bank loans relevant for their funding, 7.4% (unchanged) of SMEs faced obstacles to obtaining a loan, while the share declined from 5.8% to 4.9% for large enterprises. Looking at the different components of the financing obstacles indicator, the proportion of SMEs discouraged from applying for a loan increased slightly from 4.1% to 4.2%, as was the case for large enterprises (from 2.8% to 3.2%). At the same time, the proportion of loan applications rejected increased slightly for SMEs (from 1.6% to 1.7%) but declined for large enterprises (from 0.9% to 0.6%).

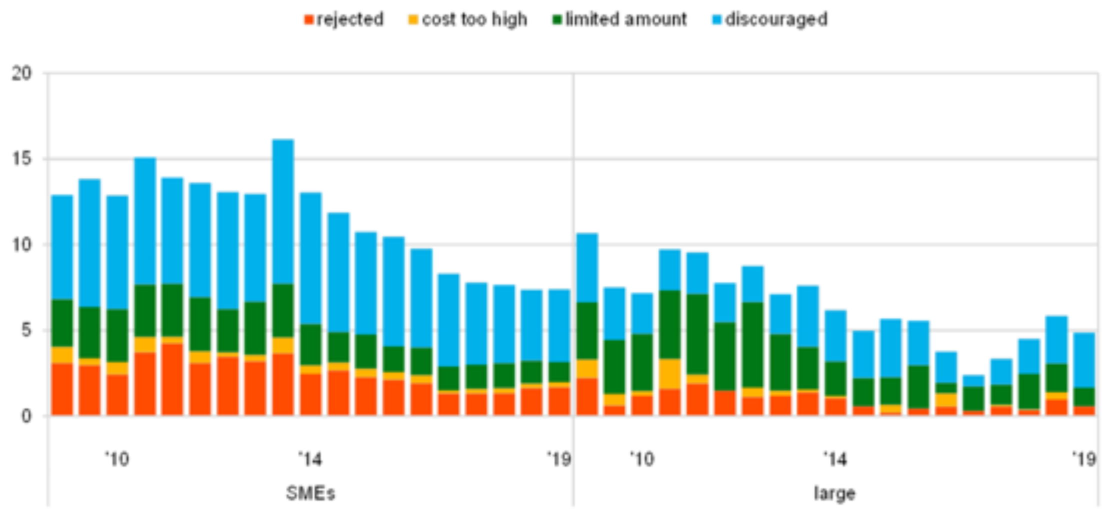

Figure 3.5: Main obstacles for SMEs and large enterprises to receiving a bank loan

Source: SAFE 2019

Across the largest euro area countries, the share of SMEs perceiving financing obstacles has risen in Germany and France but has declined in the other countries (see figure 3.6). In Germany, an increase to 4.9% (from 3.2%) in the percentage of SMEs facing financing obstacles was a consequence of SMEs being more discouraged from applying for a loan (from 1.6% to 2.9%) and receiving more rejections of their loan applications (from 0.5% to 1.3%).

Despite this increase, the percentage of financially constrained enterprises in Germany remained the lowest among the major euro area countries. French SMEs also reported a small increase in financing obstacles (from 6.5% to 6.7%), mainly as a result of more price- and quantity-constrained firms. By contrast, SMEs in Italy and Spain reported reductions in the share of financing constraints (from 9.8% to 8.1% in Italy and from 8% to 7.1% in Spain) as fewer SMEs signaled they were discouraged, rejected or quantity constrained.

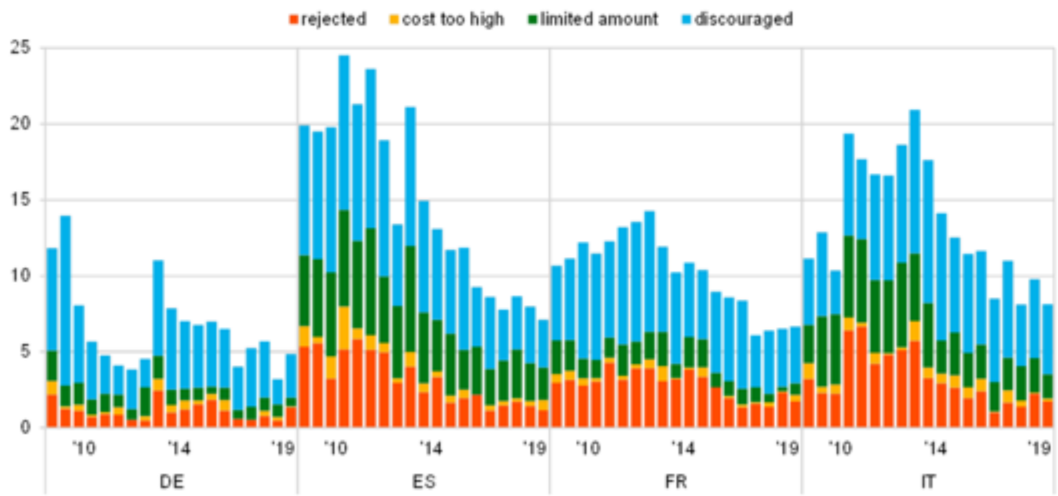

Figure 3.6: Financing obstacles for SMEs across European countries

Source: SAFE 2019

In the remaining euro area countries, large increases in financing obstacles were reported by Slovakian SMEs (from 5.9% to 8.7%). Greek SMEs remained the most financially constrained, but the share declined from 29.9% to 23.5%.

After having contextualized scholars' different points of view by providing some data from the *Survey on the access to finance of enterprises 2019*, it is possible to say that SMEs, maybe because of their financial opaqueness, continued to be empirically more credit-rationed with respect to larger firms.

In this regard, it is important to highlight that the relevance of relationship lending has been reduced, since large banking groups have consolidated their market shares – at the expenses of the smaller ones – and that the employees' turnover has become more and more frequent.

Over the past two decades the banking and the production systems have been affected by significant changes, since the territorial structure of the credit supply has been characterized by a large number of bank aggregations that have involved both large and local intermediaries. In fact, approximately one-third of the number of bank M&A deals in

Europe over the last years has involved banks in western Europe acquiring all or part of banks in emerging Europe (ECB, 2008).

Furthermore, empirical evidence shows that, after an aggregation of several banks that before the deal were jointly financing the same firm, there has been a slight reduction over three years of the share of credit provided to the firm by the new consolidated bank relative to the others. Anyway, it has been also shown that the reduction in the credit share, observed when more lenders of the same borrower merge, is mitigated when banks and firms are geographically close, or when the borrowing firm operates in areas with fewer negative context externalities or in an industrial district, or when the firm has a less risky financial and economic situation (Bank of Italy, 2013).

In addition to that, after investigating on the costs and benefits of bank mergers to small business, it is possible to understand that, on the one hand, mergers are harmful to small businesses because lending relationships are more likely to be disrupted following a merger. In this case, small borrowers of target banks have a higher probability of losing a relationship with the consolidated bank and find it harder to start new lending relationship with consolidated banks. In addition, the higher termination rate for existing borrowers is not compensated with a higher initiation rate of new lending relationships with small businesses after the merger. On the other hand, continuing borrowers benefit from mergers in terms of reduced loan rates, especially in case of mergers between two large banks (ECB, 2008).

The contextualization provided above is fundamental in order to understand that relationship lending's potential – put forward by scholars in 80's and 90's – might be different from its concrete effectiveness, since the latter is affected by large bank's business choices (SAFE, 2019; Bank of Italy, 2013*)*. In fact, mergers between banks may be dangerous or beneficial for SMEs, but it has been seen that the termination rate for existing borrowers is not compensated with an equal initiation rate of new lending relationships with small businesses after the merger of two banks (ECB, 2008).

In conclusion, despite different views in the literature, relationship lending is a well-suited tool for SMEs, since it is able to overcome their financial opacity, providing both a greater return on the investment for banks and a source of financing for SMEs. However, especially because of the implementation of stricter banking rules – such as Basel III and IV requirements – following the financial crisis (Giombini et al., 2020) and of the consolidation of bigger banks' market shares, relationship lending at the moment seems unable to safeguard SMEs from credit crunch on its own, suggesting that other tools may gain importance and relevance.

This does not mean that relationship lending will not return to be effective in the future. In that case it would be alternative and/or complementary to the other alternative sources of financing – such as crowdfunding – in providing access to financing for SMEs.

3.4 The entrance of private investors

Another possibility for small firms looking for financing is represented by the contribution of private investors. The most popular and common forms of private investment are represented by business angels, venture capitalists, and private equity funds.

Business angels are private investors who provide risk capital to new and growing businesses in which they have no family connection (Mason and Harrison, 1995). Moreover, business angels play a vital role in the development and growth of new ventures, in terms of both the financial capital they invest as well as offering their business skills and personal networks they have acquired throughout their professional lives (Politis, 2008).

Venture capital has developed as an important intermediary in financial markets, providing capital to firms that might otherwise have difficulty attracting financing. These firms are typically small and young, with a high level of uncertainty and large differences between what entrepreneurs and investors know. Moreover, these firms typically possess few tangible assets and operate in markets that change very rapidly. In this context, venture capital organizations finance these high-risk, potentially high-reward projects, purchasing equity or equity-linked stakes while the firms are still privately held (Gompers et al., 2001).

Private equity is composed of funds and investors that directly invest in private companies – providing venture capital to start-ups and investing in real estate and infrastructure – or that engage in buyouts of public companies, resulting in the delisting of public equity (Axelson et al., 2009). Institutional and retail investors provide the capital for private equity, and the capital can be utilized to fund new technology, make acquisitions, expand working capital, and to bolster and solidify a balance sheet.

A private equity fund has Limited Partners (LP), who typically own 99 percent of shares in a fund and have limited liability, and General Partners (GP), who own 1 percent of shares and have full liability, since they are also responsible for executing and operating the investment (Brealey et al., 2012).

Anyway, table 17 provides an overview and a comparison of these three types of investors. Angel investors participate in businesses that are so early-stage they may be pre-revenue with few to no customers at all; venture capital (VC) firms typically invest in businesses that have proven their revenue model, or if not, at least have a sizable and rapidly customer base with a revenue strategy in clear sight; private equity firms will invest when a company has gone beyond revenue and developed profitable margins, stable cash flow, and is able to service a significant amount of debt.

	Angel	**Venture Capital**	**Private Equity**
Stage of Business	Founding, startup, pre-revenue	Early stage, pre-profitability	Mid to later stage, profitable, cash flow
Size of investment ($)	$10,000 to a few million	A few to tens of millions	Wider range: a few million to billions
Type of investment	Equity	Equity, convertible debt	Equity with leverage
Investment Team	Entrepreneurs/past founders	Mix of entrepreneurs and bankers/ finance	Mostly bankers/ finance professionals
Level of Risk	Extreme risk, high chance of losing all money	High risk, moderate chance of losing all money	Moderate risk, low chance of losing all money
Return Profile	>100x return targets	>10x return targets	>15% IRR
Industry focus	Varies from firm to firm	Varies from firm to firm	Varies from firm to firm
Investment screening	Founders, market share potential, virality	Founders, market share potential, revenue, margins, growth rate	EBITDA, cash flow, IRR, financial engineering

Table 17: Comparison between Business Angels, Venture Capital, and Private Equity

Source: Corporate Finance Institute (CFI)

Regarding the size of the investment, angel investors really have no minimum size, but typically their contribution ranges from $10,000 to $100,000 and can be as high as a few millions in some cases. Venture capital firms can invest a wide range of values depending on the industry, companies, and all sorts of factors, however their usual range of investment is on average between 1 million and 20 million. Private equity firms, being later-stage investors, typically do larger deals and in their case it is very difficult to establish a uniform and coherent range, since there are too many factors influencing each deal and each investment decision.

Moreover, angel investors are typically entrepreneurs who founded their own companies and had successful exits. Their main skillset is understanding the role of the entrepreneur in the business, and they often have very specific product knowledge. Venture capital investment teams are often a mix of entrepreneurs and other finance professionals. Private equity firms are typically more weighted towards ex I-bankers and corporate development types, or experienced corporate operators.

All three classes of investors are trying to earn the highest possible risk-adjusted rates of return. Given the different risk profiles though, it is possible to notice that, on average, seed investments can return 100x or more when they proceed as planned (and they often go to zero), while later stage Venture Capital returns may be like 10x (fewer of them go to zero), and Private Equity firms seek 20% or higher IRRs (only a very small number of investments go to zero).

After having analyzed these three categories of private investors, it should be noted that venture capital and private equity funds are well suited for firms that can generate a huge return on the investment, or for medium firms that are less affected by credit crunch with respect to the smaller ones. On the other hand, business angels may be an optimal source of capital for SMEs but, since they are interested in high risk and high returns investment, they are mainly focused on technological startups.

3.5 Crowdfunding

While business angels and venture capital funds fill gaps for larger amounts, the smallest amounts are usually provided by entrepreneurs themselves and by the 3Fs (friends, family and fools). However, many ventures remain unfunded, partially because of a lack of sufficient value that can be pledged to investors, partially because of unsuccessful attempts to find and convince investors (Belleflamme et al., 2010).

Crowdfunding may then appear as a useful alternative response to fill the aforementioned credit gap, allowing the crowds to finance potentially profitable projects, whilst also getting more closely involved in the decision-making process of these firms as investors and as potential consumers.

In order to understand what is crowdfunding, it is necessary to say that it is derived from the broader concept of *crowdsourcing*, which was coined in 2006 and can be defined as a way to harness the creative solutions of a distributed network of individuals (Wired, 2006).

The vision of crowdfunding is to harness the power of the crowd to fund small ventures – projects that are unlikely to get funded by traditional means – using crowdfunding platforms and/or social networks. To realize this vision, crowdfunding platforms provide a way for creators and funders to exchange resources in order to realize ideas.

Moreover, crowdfunding uses web technologies and existing online payment systems to facilitate transactions between creators, those who request funds, and funders, those who give money.

In this context, crowdfunding platforms – such as Kickstarter and IndieGoGo – provide opportunities for anyone with an internet connection to explain their idea to social networks and to gather funding to realize their work.

On the basis of the aforementioned, it is clear that crowdfunding's strengths are its streamlined structure and its directness, since SMEs can have a direct access to their potential audiences through the web and the online payment system, with the possibility to directly convince the market about their ideas, and without having to convince at first a bunch of investors or a bank.

3.6 Comparison between Crowdfunding and other financing solutions

After having analyzed singularly each possible financing solution for SMEs, it is interesting to provide an overview of crowdfunding's *modus operandi* – focusing on crowdfunding platforms – and compare it to other financing solutions.

In order to compare crowdfunding and other forms of financing of entrepreneurial projects, it is useful to start from the *multi-sided platform* definition, according to which a multi-sided platform is an organization that creates value primarily by enabling direct interactions between two (or more) distinct types of affiliated customers (Hagiu et al., 2015).

According to this definition, crowdfunding platforms may be defined as multi-sided platforms and it is easy to notice that they exhibit substantial differences from other sources of financing.

Moreover, it is possible to classify the alternative sources of finance for small ventures presented in the chapter according to the aforementioned definition (see table 18).

	Crowdfunding	Venture capital and private equity funds	Business angels	Stock exchanges and trading platforms	Bank loans	Leasing finance/ trade credit
Enabler organization	Yes	No	No	Yes	No	Yes (w.e.)
Direct interaction	Yes	Yes	Yes	No	Yes (w.e.)	No (w.e.)
Affiliation of investor/investee	Yes	No	No (w.e.)	Yes	No	No

Table 18: Comparison between crowdfunding and other forms of financing (w.e.= with exceptions)

Source: Giudici et al., 2012

As can be seen from the table, Crowdfunding Platforms (CFPs) are multi-sided platforms, since they are promoted by an enabling organization that directly allows funding from the crowd to entrepreneurial projects, through affiliation of both crowdfunders and project initiators.

On the other side, private equity and venture capital, as well as business angels, provide direct financial support to entrepreneurial projects, but there is not an enabling organization, which connects entrepreneurs and investors. In fact, business plans are submitted directly to the staff in charge for evaluation and are not publicly available. Moreover, affiliation of investors into networks and associations is common, but the main objective is to lobby towards regulators and banks, and to provide services and advisory to subscribers. Exceptions may be found among business angels, that are commonly grouped into informal networks, in order to share risk and co-invest in equity stock.

As regards stock exchanges, they can be considered as enabling organizations in which access is granted only to brokers authorized and to listed companies, with formal requirements, but no direct interaction is allowed, since trades are centralized and anonymous.

Bank loans and lending (or relationship lending) are directly granted to entrepreneurs, with no recourse to enabling organizations. In this case, the only exception is provided by platforms comparing conditions and interest rates among different banks, and offering brokerage services to companies and consumers, but this is generally limited to mortgages and consumer credit.

In conclusion, the purpose of the present chapter is to highlight that there are different possible financing methods for those SMEs that suddenly had difficulties in acquiring funds and frequently defaulted because they had not enough power to fight credit crunch.

However, among the different financing solutions, crowdfunding may be the most interesting for SMEs, since it provides them a way to directly present their projects, without intermediaries such as private investors – which are interested specifically in projects with huge returns – and banks – which are limited by capital requirements.

In light of what just said, the fourth chapter will explore crowdfunding in depth, exploring theoretical basis and principles, types, platforms, and the crowdfunding market, in order to understand its actual role and its potential among the financing methods.

Chapter 4: Crowdfunding as a solution to credit crunch

4.1 Crowdfunding: from the origins to the present

This chapter will focus on crowdfunding both from a theoretical point of view and from a more concrete one, focusing also on the different crowdfunding types and their peculiarities.

In addition, the chapter will provide an analysis of the crowdfunding market, starting from the global market, encompassing the European one, up to reach the Italian crowdfunding market framework. In this context, the analysis of the Italian crowdfunding growth rate will be juxtaposed to the chronological timeline of the crowdfunding's legislation changes, in order to understand how the progressive enlargement of the audience of companies that are allowed to launch crowdfunding campaigns has influenced the market growth rate, and to understand if crowdfunding has become a viable and concrete source of financing for SMEs.

Lastly, an analysis of both of the different aspect of crowdfunding's potential as a source of financing and of its risks will be provided through an overview of the threats embedded in the crowdfunding process, both on the project initiators' side and on the backers' one.

After having introduced the chapter, a starting point to analyze crowdfunding is represented by its origins, thanks to which it is possible to understand when and where the basic idea of crowdfunding began.

4.2 The Origins of Crowdfunding

It is becoming clearer and clearer that technology has revolutionized business models, bringing them up to a point in which the digital user plays an increasingly important role by changing the way goods are being used and consumed. In fact, digital users are no longer located at the end of the value chain but are an integral part of it. This change requires whole industries to think and act differently leading to a fundamental transformation from offline business models to digital ones (Brenner et al., 2014).

In this regard, crowdsourcing is a striking example, since it consists in the outsourcing of various tasks to an undefined group of people using information technologies. It helps companies to develop new ideas and innovations by including customers' needs and requests in the innovation process, benefiting from the so-called *wisdom of crowds* (Surowiecki, 2004).

Crowdfunding can be seen as a part of the broader concept of crowdsourcing and can be defined as an open call mostly through the Internet for the provision of financial resources by a group of individuals instead of professional parties either in form of donations, in exchange for a future product or in exchange for some form of reward and/or voting rights (Kleemann et al., 2008).

Therefore, using Internet platforms as a medium between individuals, start-ups or companies on the one hand, and potential backers on the other, the process of fundraising is sourced out to the crowd.

Even if crowdfunding is treated as an innovative financing method, it must be noticed that its basic idea is not a new phenomenon. In fact, one of the earliest examples of crowdfunding is the pedestal of the Statue of Liberty: in 1885, over 120.000 American citizens helped New York City Government to build the pedestal for the Statue of Liberty. In return Joseph Pulitzer, at that time publisher of the newspaper *New York World*, offered to print the name of each backer on his newspaper. It was the first proved context where citizens spontaneously agreed giving some of their incomes in favor of an assignment for the community as a whole. After 5 months, the *New York World* announced that the donation campaign had reached 102,000 dollars. In this regard, it is interesting to highlight that the funds of New Yorkers who donated less than 1 dollar made up for 80 % of the total (Harris, 1985).

Another early example of crowdfunding is represented by the Sagrada Familia, one of the most characteristic elements of the skyline of the city of Barcelona. Its construction, which began in 1882, has been going on continuously for over a century, following up on the great dream of its brilliant architect Antoni Gaudí, and will be probably completed in 2026. The detail that makes this work extremely interesting is that the construction of the Sagrada Familia is entirely financed by donations from private individuals, mainly of modest size. The same entrance ticket is actually a certificate attesting to have contributed in equal measure to the cost of the ticket to the continuation of the construction works. In other words, the Sagrada Familia is an example of literature which today is known as civic crowdfunding (Cameli, 2019).

More recent examples of crowdfunding include the 2008 election campaign of US-president Barack Obama in which his team, notwithstanding the recession, managed to raise nearly three quarter of a billion dollars utilizing crowdfunding, with more or less a half of the overall donation sum that was raised by contributions under 200 dollars (Kappel, 2009).

Furthermore, in Rotterdam, a new pedestrian walkway has been built in 2012 connecting two sides of a busy main road in central Rotterdam, thank to local citizens' contribution of 25€ for each wooden plank. A website purposely developed asked the locals to fund the project; in return they would gain the right to engrave on one of the planks, a personal message of their choice. In only three months, over eight thousand locals funded almost one third of the total cost of the project – while Rotterdam Municipality paid for the rest.

In Bologna, the restoration of the *Portico of San Luca*, the longest portico in the world, was promoted by the Municipality of Bologna and by the Committee for the restoration of the Portico of San Luca, and was made possible thanks to the collaboration with Ginger, a crowdfunding platform focused on projects related to the territory of Emilia Romagna. The campaign raised nearly 340,000 euros, out of a target of about 300,000 euros, from over 7,000 donors (CrowdfundingBuzz, 2015).

Others successful examples of crowdfunding campaigns reaching wide public attention are, for instance, the Pebble E-Paper Watch, which raised $10,266,845 in 37 days, with crowdfunding backers that jumped at the chance to be one of the first to own a Pebble watch, an innovative and affordable smart watch; and the Oculus Rift VR, a virtual-reality headset that puts players into their favorite games. With $2,437,429 raised in 30 days, the Oculus team went on to raise additional investment capital and was acquired by Facebook (Forbes, 2014).

All these crowdfunding campaigns helped crowdfunding gain attention both in theory and in practice, especially as a new and important possibility of fundraising that has a great economic and social value.

After having provided a theoretical definition of crowdfunding and having understood its origins thanks to some concrete examples, it is useful to analyze its theoretical principles, in order to further amplify the theoretical basis about crowdfunding.

4.3 The Crowdfunding Theoretical Principles

Looking at crowdfunding from a theoretical perspective, the crowdfunding mechanism is made of three categories of participants: the project initiators, who seek funding for their projects, the backers who are willing to back the project, and the crowdfunding platforms acting as intermediaries (Belleflamme et al., 2012).

Furthermore, following this theoretical perspective, crowdfunding can be seen as a two-sided market, linking capital-seeking (project initiators) and capital-giving (backers) agents via a crowdfunding intermediary/ platform (see figure 4.1).

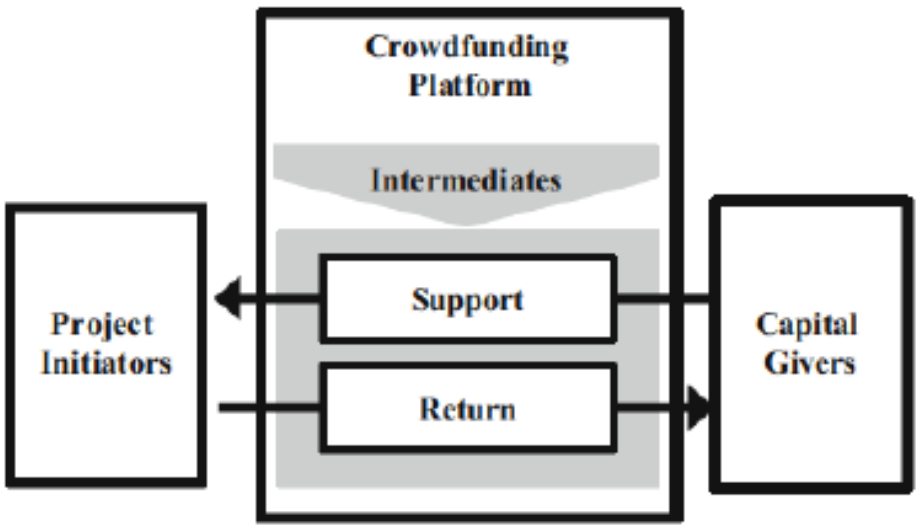

Figure 4.1: The Crowdfunding Principle

Source: Haas et al., 2014

Moreover, the intermediary applies a certain strategy regarding the funding mechanism and its specialization, thanks to which two-sided markets (such as crowdfunding) are able to reduce transaction costs and information asymmetries, using web 2.0 approaches.

Thus, by embedding crowdfunding in the theory of two-sided markets and financial intermediation theory, crowdfunding can be seen as a digitally transformed model of classic financial intermediation.

In this regard, it is interesting to analyze in detail the literature about the three aforementioned stakeholders: project initiators, backers, and crowdfunding platforms.

4.3.1 Project Initiators and Backers

Project initiators and backers are usually private persons. However, organizational project initiators, like startups or non-governmental organizations (NGOs) may be found as well.

It must be noticed that most of the theoretical research on the crowdfunding stakeholders refers to backers, mainly because of the need to have a deeper understanding of the crowd´s motivation for investing in projects and/or start-ups. In this regard, four theoretical motives have been found: the direct identification motive, the regional identification motive, the return motive and, last but not least, the recognition motive.

It is worth noticing that the investment decisions of backers are often influenced by social networks, and by free-riding behavior. Moreover, backers differ in their motivation for participation, since they could be motivated to support projects to which they have an emotional relationship, or projects that are initiated by somebody they have a friendship identification with. This is discussed as the **direct identification motive** (Gierczak et al., 2016).

The **regional identification**, another motive theoretically discussed in the crowdfunding literature, is based on the geographical proximity between a project initiator and a backer. In this regard, it is argued that investors have a sort of home bias in the allocation of credit (Lin et al., 2013).

Moreover, the **return motive** is primarily discussed in the context of equity-based crowdfunding – a form of crowdfunding that will be explained in depth later – in which many backers collectively fund a start-up/project by providing parts of the requested funding in prospect of financial returns. The return motive is usually associated to equity-based crowdfunding in view of a backers' goal of obtaining profit and/or capital gains on the invested capital (Bretschneider et al., 2014).

Furthermore, there is the **recognition motive**, according to which recognition is found to be a basic human need, as it gives people a sense of self-esteem. This motive has been studied and discovered in open source software communities, in which users expect positive reactions from other participants and feel proud when third parties acknowledge their contributions. In fact, a large number of developers were paid for their opensource efforts and were the ones most concerned with self-marketing and fulfilling their personal software needs (Hars et al., 2002). If this concept is translated to the crowdfunding case, it becomes evident that backers are prominently visualized on a crowdfunding platform through their names, and this may be perceived by these backers as an opportunity to receive recognition for their investment from other people.

4.3.2 Crowdfunding Platforms

Up this point of the analysis, crowdfunding platforms have been identified as simple and homogeneous intermediaries, however it is possible to underline several distinctions among them with reference to funding mechanism, fundamental specialization of the crowdfunding platform, and type of support/return.

For what concerns the funding mechanism – in contrast to traditional financial intermediaries – crowdfunding platforms do not borrow, pool, and/or lend money on their own account, since their focus is on the matching of project initiators and backers by providing information about the projects and functionalities.

In addition, crowdfunding intermediaries provide particular funding mechanisms, such as pledge levels, minimum pledge amounts and the all-or-nothing/ keep-it-all-principle (Mollick, 2014).

Project initiators define levels of possible pledge amounts. Each pledge level implies a certain return, which increases with higher pledge amounts, such as a postcard for 1 euro or a poster for 10 euros. A minimum pledge amount represents the lowest possible sum that can be pledged by the backers.

A central principle in the crowdfunding context is the all-or-nothing principle. Following this principle, project initiators are only paid out the collected amount in case they reach their pre-defined funding goal. This is a kind of risk control, since it is based on the assumption that backers are only able to accomplish their project and to deliver the promised returns if they have the complete resources required for doing so (Cumming et al., 2015).

However, it must be said that some crowdfunding platforms are based on a keep-it-all-principle in which project initiators receive any collected sum. This funding principle is particularly used for charitable projects or for those projects that use crowdfunding as a subordinate source of funding (Blohm et al., 2013).

Regarding the specialization of the crowdfunding platforms, it must be underlined that the Internet economy is characterized by so-called hyper-specialization. In this sense, decreased transaction costs and information asymmetries enable crowdfunding to raise funds for a broad variety of specific niche projects that would have limited access to more traditional sources of finance (Malone et al. 2011). Serving these highly heterogeneous needs, crowdfunding shows a very high degree of specialization in which a magnitude of niche intermediaries has emerged serving a particular segment of the crowdfunding market. The specialization of crowdfunding intermediaries may vary between innovative and creative projects or products, startups and new businesses or sustainability and charity projects.

The last characteristic of a crowdfunding platform is the type of return provided by the project initiator. In this regard, project initiators offer different possible returns, ranging from altruistic returns to financial compensation. In general, it is possible to make a distinction between five return types starting from donation, which is the one with the lower degree of complexity, up to reach equity return, the most complex one (see figure 4.2).

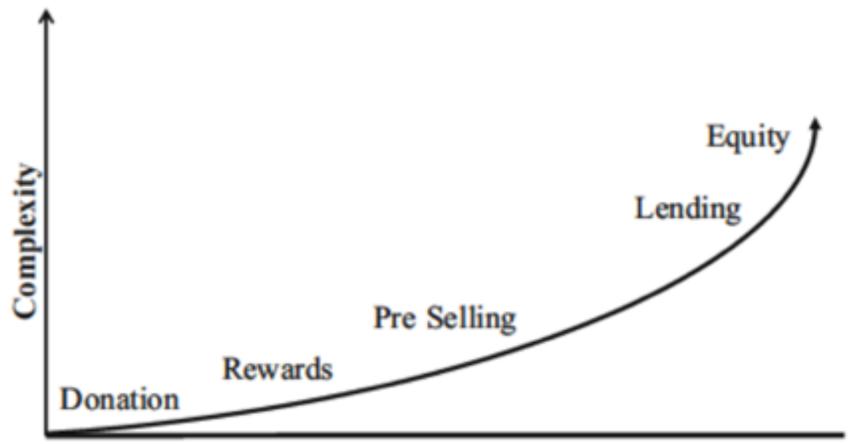

Figure 4.2: Complexity of return-support types

Source: Hemer et al., 2011.

According to the first one, the backer makes a proper donation in order to support projects for the greater good, since he/she does not receive any compensation; while, under the **reward** type, the backer receives a non-monetary return, such as the postcard and poster mentioned before (Gerber et al., 2012).

As regards **preselling**, the backer's support is represented by a prepayment for the product presented in the crowdfunding campaign, so that the backer pre-orders the product (usually receiving a discount with respect to the future market price of the product).

Then there is **lending**, according to which the backer participates by doing a loan and gaining profits from interests on that loan.

The last and more complex one is represented by profit shares, in which the backer receives **equity** shares from the project that he/she has financed (this type is common in start-ups projects).

After having discussed crowdfunding theoretical principles and having analyzed its three stakeholders, it is useful to provide a classification of the different crowdfunding types, both from a theoretical and from a concrete point of view, in order to clearly understand the diversification among each crowdfunding type.

4.4 Crowdfunding Types

In order to classify crowdfunding, researchers have presented multiple approaches in last years. However, in this section are presented only two approaches, a theoretical approach and a more concrete one, in order to provide a simple and schematic way to define and understand the different types of crowdfunding.

4.4.1 Theoretical division of crowdfunding types

Starting from the theoretical approach, it is possible to identify 13 differentiating characteristics of crowdfunding platforms by linking crowdfunding to the theory of financial intermediation – as done in section 4.3 (Haas et al., 2014). Moreover, applying cluster analysis to these 13 characteristics, it has come to three generic crowdfunding archetypes, differentiated according to their pursued value proposition, that determines which project initiators are attracted in order to satisfy the backers' specific demands (see figure 4.3).

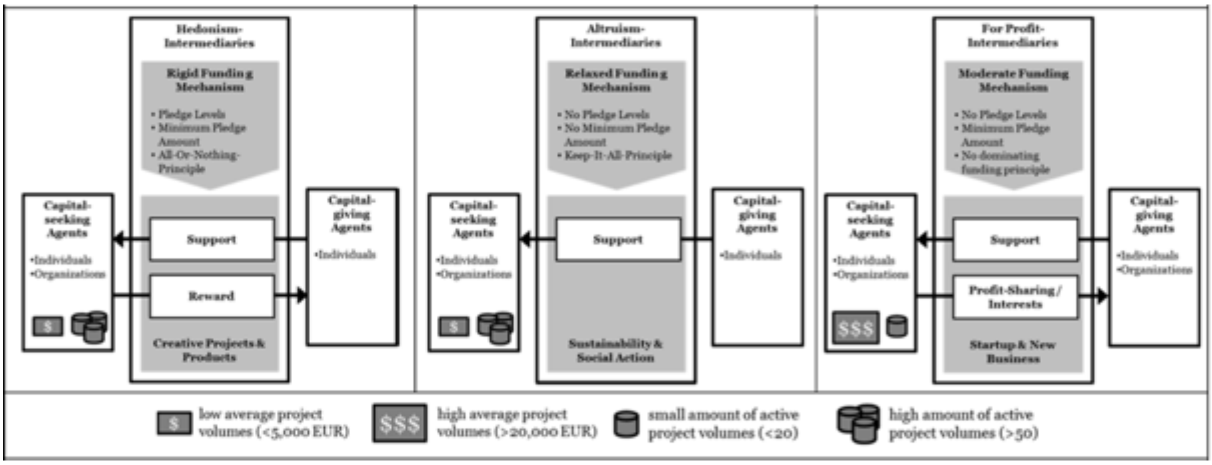

Figure 4.3: Overview over crowdfunding types

Source: Haas et al., 2014

As shown in figure 4.3, there have been identified three distinct types of crowdfunding have been identified: Hedonism, Altruism and For Profit.

Hedonism describes a crowdfunding type where backers pledge for innovative and creative projects/products and receive back a non-monetary return in form of pre-ordered products or rewards. In this case, the funding mechanisms are quite rigid, in order to reduce the risk of under-financing and to motivate backers to spend more money. Typical crowdfunding platforms within this type – such as Kickstarter and Indiegogo – mostly apply the all-or-nothing principle and set minimum pledge amounts and pledge levels. Moreover, the common point between these platforms is that they try to address a sense of interest or joy and thus strive to create a hedonistic value that is realized by supporting such projects.

As regards **Altruism**, its main focus are charitable projects, through donations as a form of support. Within this type of crowdfunding, no compensation is offered, because backers support projects of this kind for altruistic reasons. Typical platforms pursuing an altruistic value proposition include Crowdrise and Kiva. In this case, loose funding mechanisms – with respect to Hedonism – are used in order to ensure greatest possible support for these projects. Therefore, these platforms do not use minimum pledge amounts or pledge levels and apply a keep-it-all principle.

The last one, the **For-Profit** type of crowdfunding, has obviously a profit-oriented value proposition and focuses on the funding of start-ups, but also on granting consumer credits. Therefore, backers are offered monetary returns, like interests or profit shares and, consequently, the value proposition aims at the profit orientation of backers. Representative platforms with a profit-oriented value proposition are *FundedByMe* which offers a profit-sharing model, or the peer-to-peer-lending platform *Prosper* (Haas et al., 2014). Within this crowdfunding type, funding mechanisms are moderately rigid, in order to ensure enough flexibility for the individual requirements of start-ups. Therefore, these platforms apply pledge levels as well as minimum pledge amounts and use the keep-it-all or the all-or-nothing principle.

4.4.2 Return-based division of crowdfunding types

A second and more practical classification of crowdfunding types reflects the different crowdfunding platforms return types – described in the subsection 4.3.2 – and groups them in four main categories, according to the type of return offered by project initiators to backers in exchange for their support. Following this approach, it is possible to identify crowdfunding in the form of reward-based, donation-based, lending-based, equity-based (see figure 4.4).

Figure 4.4: Return-based crowdfunding types division

Source: Pierrakis et al., 2013

The **Reward-based** crowdfunding is a model – used for example by Kickstarter – in which the producers of the project offer a reward to those who decide to finance their project. Since this type of crowdfunding is often used to finance films, books, music albums, the reward may be emotional – such as being mentioned in the credits. However, inside this category it is possible to find also companies that produce physical products and, in that case, those investing in these projects receive the product for firsts in return for their contribution- with a sort of pre-selling.

The **Donation-based** crowdfunding is the model usually applied by non-profit organizations looking for donors to support their charitable enterprises. It is actually the most traditional form of crowdfunding the donor does not match economic rewards or other forms. Within Donation-based crowdfunding, it is possible to identify Civic crowdfunding, a sub-type whereby citizens contribute to funding community-based projects ranging from physical structures to amenities (Stiver et al., 2015).

Indeed, within **Lending-based** crowdfunding, also known as peer-to-peer lending (P2P lending), the money is properly lent to applicants, who can use the crowdfunding platform to realize their projects and repay money with interest once the project is completed. It is very similar to traditional borrowing from a bank, except that you borrow from lots of investors. Usually, the loan interest rate is higher than that proposed by banks, since it is perceived as less regulated and riskier with respect to traditional loans.

In the last one, the **Equity-based** crowdfunding, the investor does not receive a simple reward, but becomes a member of the company. In fact, by supporting an equity crowdfunding project, the backer buys shares of the company looking for funds and so the return on investment can be seen over time and if and only if the business does well. This is a very interesting crowdfunding type, especially used by startups in Italy (Business Insider, 2020).

In this context, Table 19 summarizes the four crowdfunding types mentioned above, providing a schematization regarding their form of contribution and form of return.

Crowdfunding types	Form of contribution	Form of return
Reward-based	Donation/Pre-purchase	Rewards but also intangible benefits
Donation-based	Donation	Intangible benefits
Lending-based	Loan	Repayment of loan with interest. Some socially motivated lending is interest free.
Equity-based	Investment	Return on investment in time if the business does well. Rewards also offered sometimes. Intangible benefits another factor for many investors.

Table 19: Schematization of the different Crowdfunding types

Source: Pierrakis et al., 2013

Lastly, it must be said that the crowdfunding types should be defined as a 4-plus-1 classification. In fact, it is possible to combine elements of more than one crowdfunding type, under the so-called **Hybrid crowdfunding** (European Commission).

Bearing in mind what just said about the theoretical and the return-based approaches, which provide a simple way to and understand the different types of crowdfunding, it is useful to analyze the crowdfunding market, understanding its growth rate starting from a global perspective, encompassing a European perspective, up to reach the Italian one.

4.5 The Crowdfunding Market

The modern form of crowdfunding has its roots in the beginning of this century, since many of today's largest crowdfunding platforms were launched from 2005 onwards in the US. In 2010, the crowdfunding reached Europe, rapidly gaining popularity in the UK, Germany and the Netherlands (Gierczak et al., 2016). In this context it is interesting to analyze the crowdfunding and alternative financing markets expansion at first from a global perspective, then looking at the European crowdfunding industry, up to focus on the Italian crowdfunding framework.

4.5.1 The Global Crowdfunding Market

From a global perspective, it can be noticed that in 2012 over 800 crowdfunding platforms were active or in the process of being built (Massolution, 2012). Moreover, the total volume was projected to US $5.1 billion in 2013. The biggest crowdfunding platform, Kickstarter, had already reached a total of US $1 billion of funds in 2014 (Kickstarter, 2014).

The growth of the crowdfunding market was not only limited to the US, in fact European market showed an increase in demand: in the German market there were 66 active crowdfunding platforms over which 19 million Euros had been raised in 2013. If compared to 2012, the funding volume has doubled (Blohm et al., 2013).

Moreover, in the global crowdfunding market at the end of December 2014, the crowdfunding platforms were 1,250 - of which 600 only in Europe and 375 in North America – with a total volume of collection equal to 16.2 billion dollars, an increase of 167% compared to 6.1 billion in 2013 (Massolution, 2015).

In terms of total paid-out funding volume, crowdfunding saw tremendous growth in 2013, exceeding growth in 2012 and accelerating further in 2014. It is interesting to examine and analyze this development, looking both at the worldwide funding volume and at the one of specific regions.

In fact, analyzing the global crowdfunding market volume by region, it is possible to obtain the following data for the 2014: North America $9.46B, Asia $3.4B, Europe $3.26B, Oceania $43.2M, South America $57.2M, Africa $12M. The most important figure sees the Asian countries protagonists in the crowdfunding market, recording a growth of 320% compared to 2013 and a total market volume that exceeds the European one (3.4 billion dollars against 3.26), as can be seen in figure 4.5.

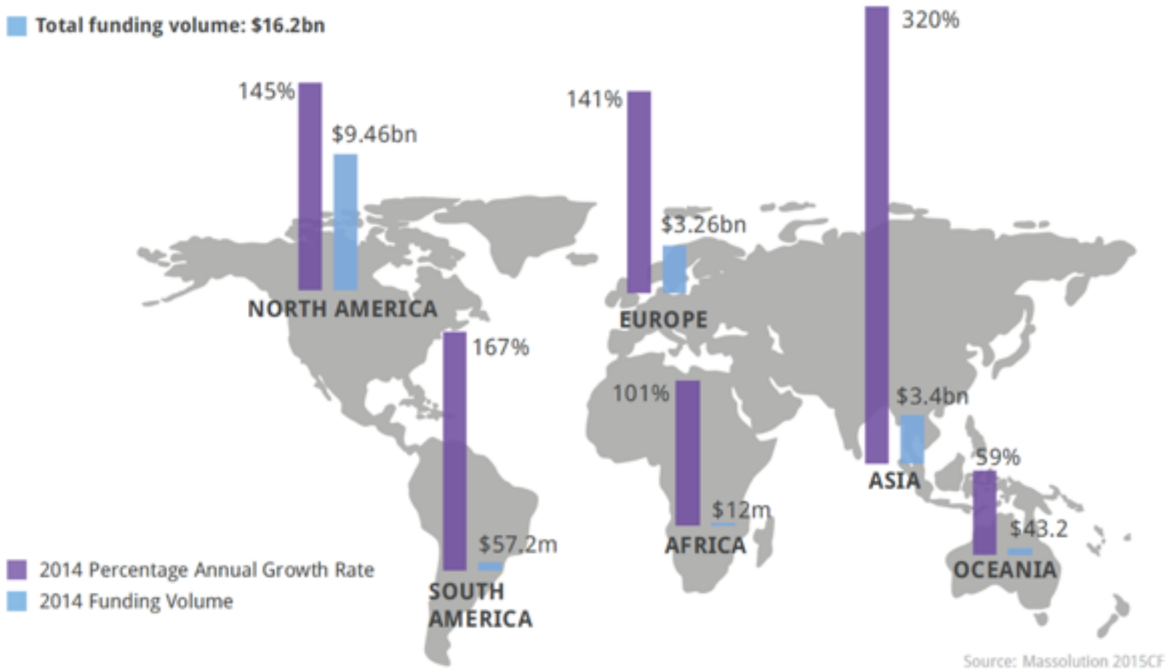

Figure 4.5: 2014 Crowdfunding Volume Worldwide by Region in USD

Source: Massolution Crowdfunding Industry Report, 2015

The strong growth in 2014, as can be seen from figure 4.6, has been due in part to the rise of Asia as a major crowdfunding region, with the volume of its crowdfunding market growing by 320 percent, up to reach $3.4 billion raised – a result that put the region slightly ahead of Europe ($3.26 billion) as the second-biggest region by crowdfunding volume. North America continued to lead the world in crowdfunding volumes, growing by 145 percent and raising a total of $9.46 billion.

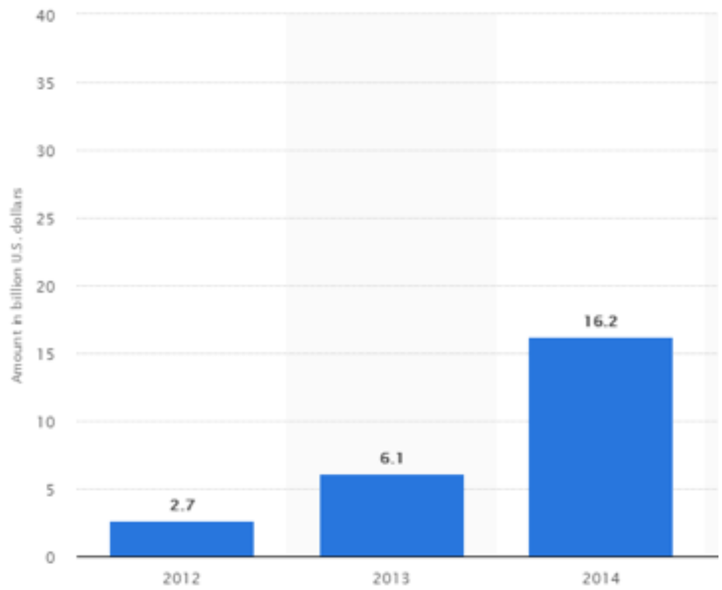

Figure 4.6: Crowdfunding Volume Worldwide growth between 2012 and 2014

Source: Massolution Crowdfunding Industry Report, 2015

Furthermore, it is interesting to analyze the crowdfunding market in terms of crowdfunding types (see figure 4.7), in order to understand what type of crowdfunding had a predominant role in the market in the period between 2010 and 2014. In this regard, since 2010, lending-based crowdfunding has led the market as the model generating the highest annual funding volume. In fact, in 2012, the growth in funding volumes was primarily driven by lending-based and donation-based crowdfunding.

In 2013, an 86% growth rate from reward-based crowdfunding contributed $726m and an annual growth rate in equity-based crowdfunding of 235% resulted in a more significant impact for this category with a contribution of $395m to the total volume. Furthermore, in 2013, crowdfunding models began to morph, with the introduction of hybrid models.

In 2014, the balance between the various crowdfunding models continued to change. In 2014, lending-based crowdfunding's annual growth was 223% to reach a contribution to total worldwide funding volume of $11.09bn, representing 68% market share (compared to a contribution of 57% in 2013). Lending-based crowdfunding's rise was primarily attributed to substantial growth in a number of very significant lending based CFPs, such as *LendingClub* and *Prosper* in US, *FundingCircle* and *Zopa* in UK , and *Renrendai*, *Ppdai*, and *Dianrong* in China (with the overall Chinese lending-based crowdfunding market that had an exponential growth).

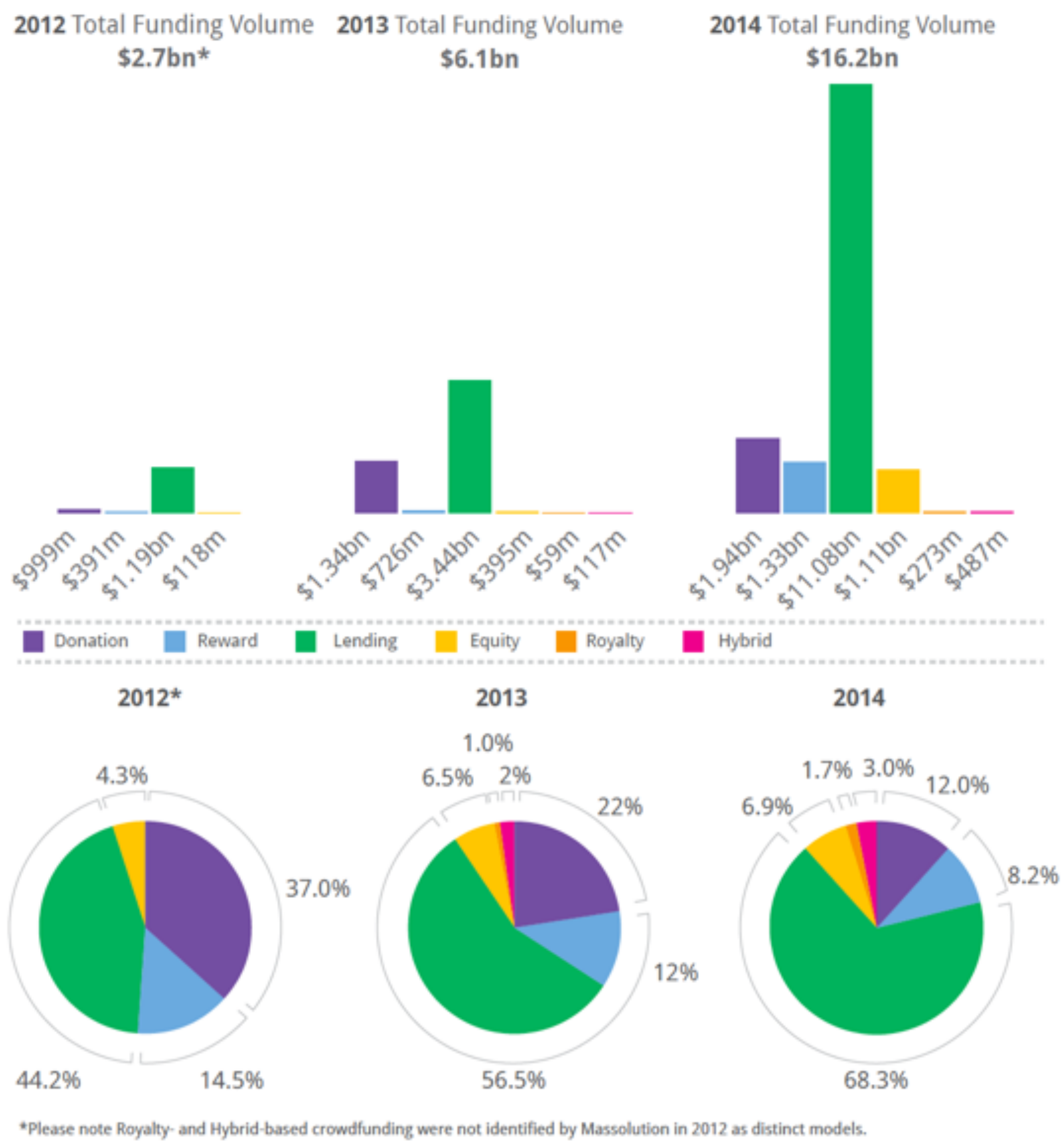

Figure 4.7: Global crowdfunding volume and annual growth rates by model between 2012 and 2014 in USD

Source: Massolution Crowdfunding Industry Report, 2015

Moreover, donation-based crowdfunding in 2014 remained significant at a funding volume of $1.94bn resulting from a consistent annual growth rate in 2014 of 45% compared to the 34% of 2013 ($1.34bn). However, as a percentage of total worldwide crowdfunding volume, it dropped 10% over 2013 to contribute just below 12% in 2014, showing a steady annual decline as a percentage of the whole over the last three-year period.

Reward-based crowdfunding continued to grow in 2014 by an 84% annual growth rate to reach a total worldwide funding volume of $1.33bn.

Furthermore, in 2014 the global equity-based crowdfunding volume nearly tripled if compared to 2013 with an annual growth rate of 182% (up to reach $1.11bn). However, the two largest markets, North America ($787.5m) and Europe ($177.5m) grew differently with respective annual growth rates of 301% and 145%.

It should be noted that also hybrid crowdfunding models in 2014 reached a market volume of about $487m, with a 290% annual growth rate over 2013.

The latest data available on the worldwide market are those about the alternative finance, which comprises also crowdfunding and is useful to depict its growth trend. Globally, the impact and role of alternative finance continued to grow, with alternative finance platforms having facilitated $304.5 billion in 2018. This volume is representative of funds that were raised via an online, alternative finance platform and delivered to individuals, businesses and other fundraisers. It should be noticed that this volume does not include platform or transaction fees and is representative of monies delivered successfully in 2018 to fundraisers (University of Cambridge, 2020).

Notably, global total volumes fell by 27%, from 2017's $419 billion. This significant global drop stems from a sharp decline in alternative finance activity in China (see figure 4.8).

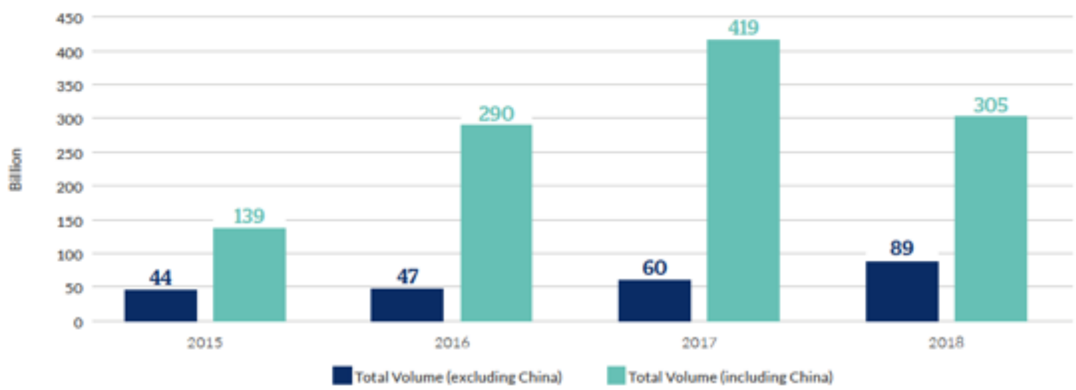

Figure 4.8: Total alternative Finance volume between 2015 and 2018 in USD

Source: University of Cambridge, 2020

Moreover, analyzing the global market volume by region, it is possible to understand that the three countries dominating the world's alternative finance market in last years have been China, the United States, and the United Kingdom. In particular, China accounted for 71% of global volume, followed by the US at 20% and the UK at 3%. When we look at this in terms of regional impact, Europe (excluding the UK) accounted for 3%, the Asia- Pacific region (excluding China) accounted for 2% and Latin America and the Caribbean (LAC) accounted for just over 1%. Africa and the Middle East accounted for just under 1% of global volume (see figure 4.9).

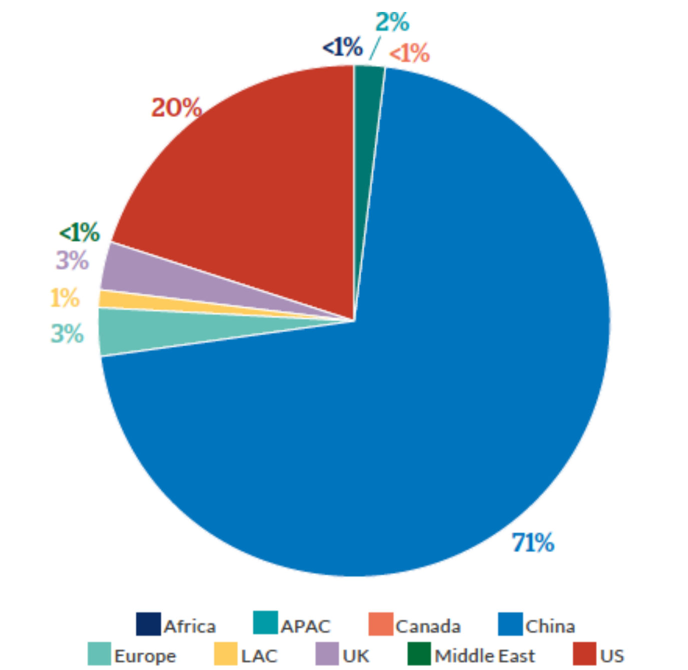

Figure 4.9: Global market share of Alternative Finance activity by region (2018)

Source: University of Cambridge, 2020

Furthermore, taking into account the different alternative financing methods' market share for 2018, it is easily noticeable the predominance of P2P Consumer Lending, that raised $195.29 billion (equal to the 64% of the overall volume of alternative finance lending), followed by P2P Business Lending ($50.33 billion or 17%), Balance Sheet Business Lending ($21.08 billion or 7%), Balance Sheet Property Lending ($11.02 billion or 4%), Balance Sheet Consumer Lending ($9.78 billion or 3%) P2P Property Lending ($5.72 billion or 2%) and Invoice Trading ($3.22 billion or 1%), Real estate crowdfunding (2959 millions), Equity-based crowdfunding (1515 millions), Reward-based crowdfunding (877 millions), and Donation-based crowdfunding (639 millions), respectively (see figure 4.10).

Excluding China from calculations, the top models in the marketplace shift slightly and there is not as large a disparity between them in terms of overall volume (as can be seen from orange bars in figure 4.10). P2P Consumer Lending is still the largest global model with 36% of volume or $31.99 billion. Balance Sheet Business Lending is the next largest model, with 7% ($14.95 billion) of global volume. Following those are: Balance Sheet Property Lending (12% or $11.02 billion), Balance Sheet Consumer Lending (11% or $9.40 billion), P2P Business Lending (9% or $7.59 billion), P2P Property Lending (4% or $3.88 billion), Real estate crowdfunding (2942 millions), Equity-based crowdfunding (1509 millions), Reward-based crowdfunding (871 millions), and Donation-based crowdfunding (639 millions).

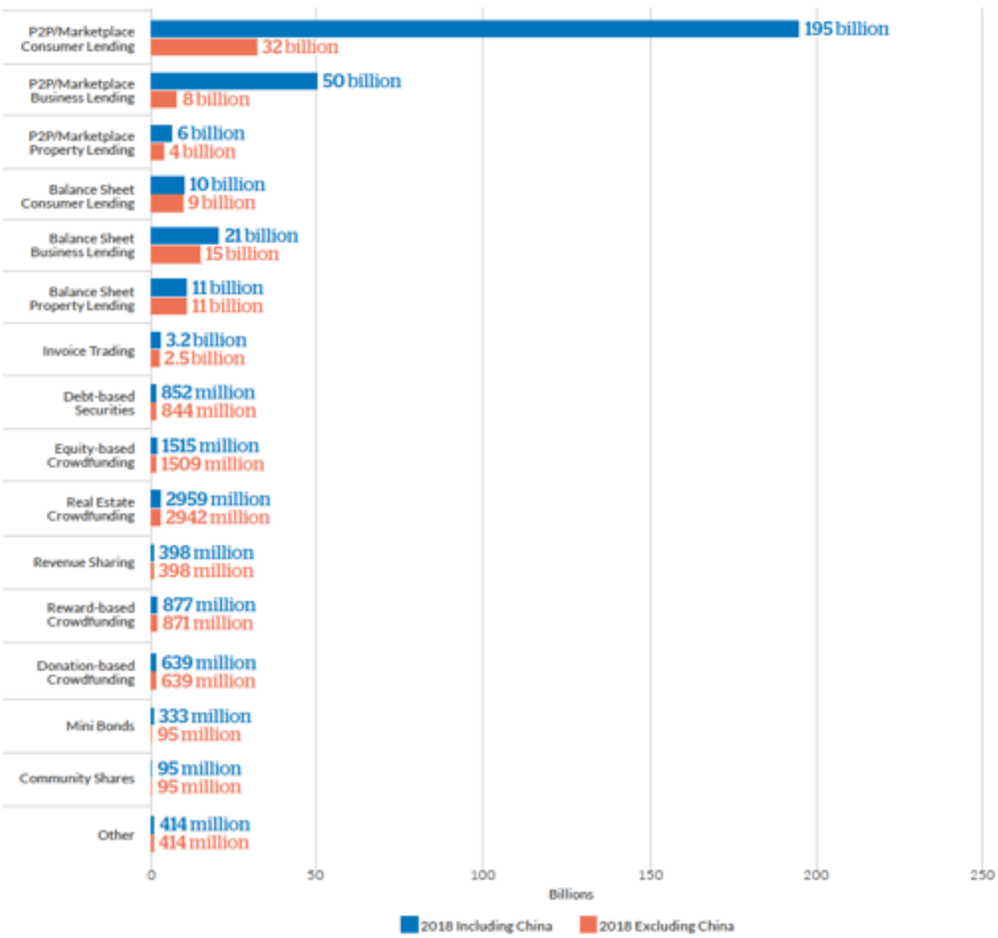

Figure 4.10: Global volume by alternative finance type in 2018, USD

Source, University of Cambridge, 2020.

As for the overall alternative investment market, also in the case in which the only crowdfunding market is taken into account, China represented the largest crowdfunding volume in the world with a market share of about 37% in 2018, while Europe and United States were respectively at 18% and 33% of the total (Global Crowdfunding Market Size, Status and Forecast, 2019).

Moreover, the crowdfunding market (P2P lending, equity investment, reward, hybrid, and others) is witnessed to grow USD 89.72 billion, at a compounded annual growth rate (CAGR) of 17% from 2018 to 2022, as shown in figure 4.11 (Technavio, 2018).

Figure 4.11: Forecast about Crowdfunding market growth between 2018 and 2022

Source: Technavio Research Report, 2018

As seen in the present section, the crowdfunding market had a huge growth rate since 2012 and, despite the decrease between 2017 and 2018, the global crowdfunding market will probably continue to grow in next years, becoming an even more diffuse and reliable source of alternative financing.

4.5.2 The European Crowdfunding market

Focusing on the European alternative investment market, it is possible to notice that alternative funding for businesses across Europe has increased considerably since 2014, becoming an important source of finance for entrepreneurs, start-ups and SMEs. In addition, €536m of business finance was raised through online alternative funding models in 2015, providing capital to 9,442 businesses (University of Cambridge, 2016).

Though slightly more modest year-on-year growth has been seen between 2013-14, significant year-on-year growth occurred between 2014-15 - up 167% (see figure 4.12).

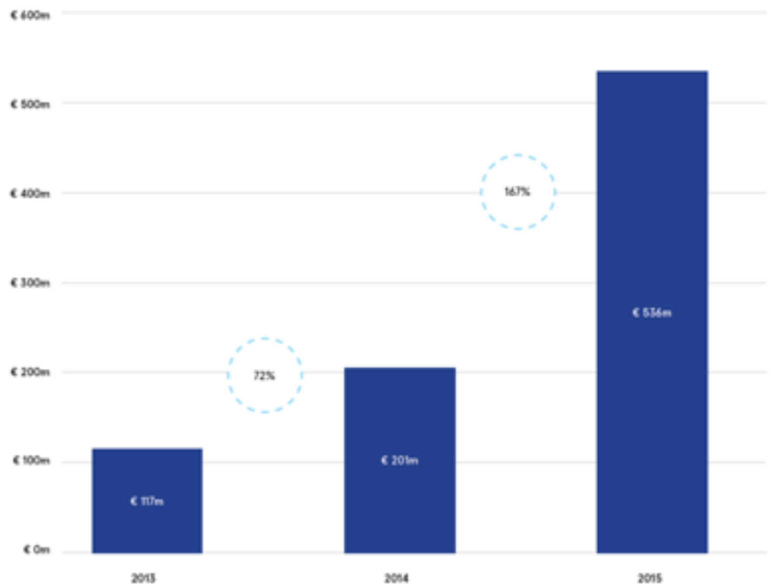

Figure 4.12: European Online Alternative Finance Volume (excluding UK) between 2013 and 2015

Source: University of Cambridge, European Alternative Finance Benchmarking Report, 2016

However, it should be noted that, while a high funding volume was noted in 2015, the number of SME fundraisers grew at a slower pace. In fact, in 2013, 2,858 SME fundraisers participated in the online alternative finance space, with a growth of 103% to 5,801 SME fundraisers in 2014; while between 2014 and 2015, an increase of only 63% was registered, which, coupled with the considerably larger total volume of 2015, was indicative of larger average fundraises by SMEs compared to previous years.

Moreover, analyzing the market in terms of total volume of individual countries, the UK dominated the market as a funds raised (with 4,348 billion euros), followed by France (319 million euros), Germany (249 million euros), Netherlands (111 million euros), Finland (64 million euro) and Spain (50 million euro). Italy, on the other hand, was in eighth place with 32 million euros (see figure 4.13).

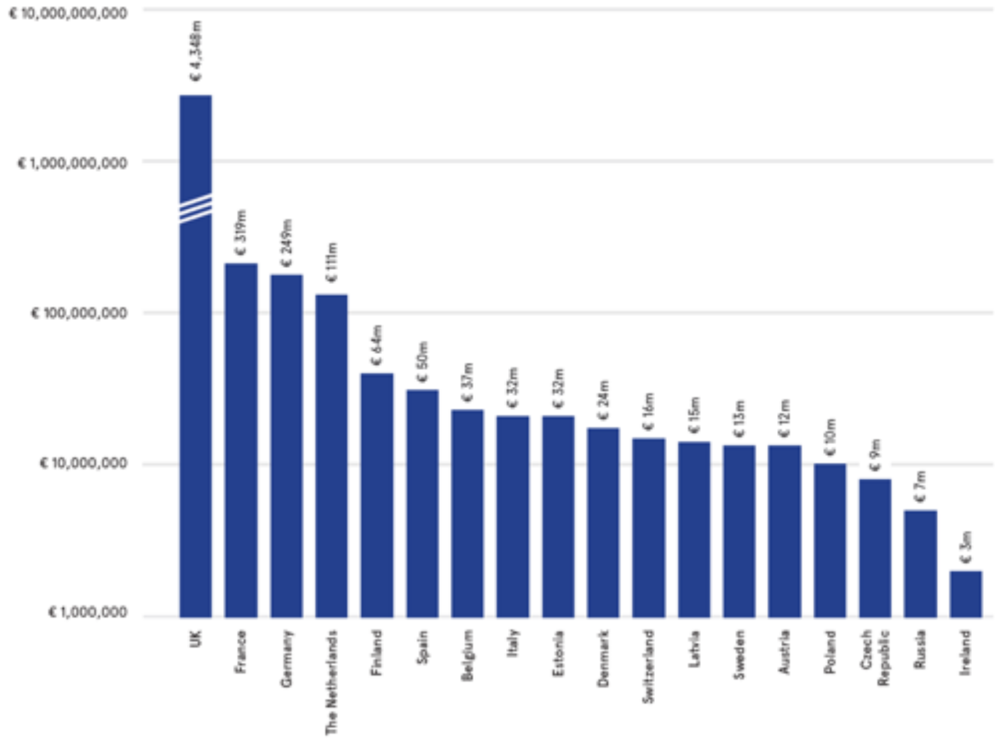

Figure 4.13: European Online Alternative Finance Volume by Country, 2015

Source: University of Cambridge, European Alternative Finance Benchmarking Report, 2016

While the top three countries accounted for nearly the 70% of Europe's total volume and distribution, given the increase in platform participation by country number, it is clear that alternative finance activities were already spreading across Europe (University of Cambridge, 2016).

Moreover, dividing the market volume in terms of the different alternative financing methods' market share – as done in section 4.5.1 – it is easy to understand that each of the online alternative finance models in Europe continued to grow between 2013 and 2015 (see figure 4.14).

In particular, debt-based securities grew by an average of 155% over the period – a very significant development for the market – while Peer-to-peer business lending grew by an average of 131% between 2013-15 and slowed only slightly from 2013-14 to 2014-15 (135% and 128% respectively). On the other hand, the peer-to-peer consumer lending annual growth rate significantly decreased from 75% in 2013-14 to 33% in 2014-15.

Furthermore, equity-based crowdfunding had an average three-year growth rate of 83% and experienced an overall rise in market growth from 74% in 2013-14 to 93% in 2014-15.

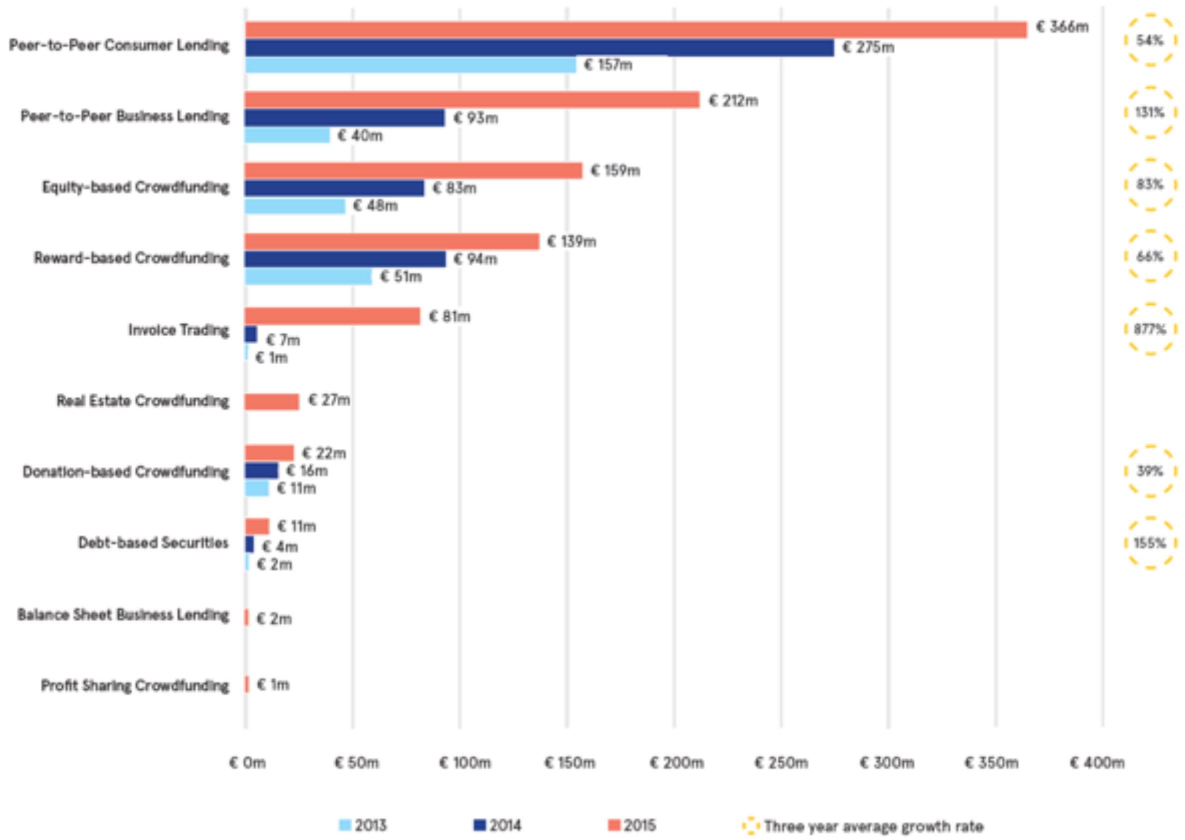

Figure 4.14: European Online Alternative Finance Volume by Model (excluding UK) between 2013 and 2015, in Euros

Source: University of Cambridge, European Alternative Finance Benchmarking Report, 2016

The latest data about European crowdfunding and alternative finance market indicates that the alternative finance market in Europe grew also in 2018 (University of Cambridge, 2020).

The overall European alternative finance market volume reached $18 billion in 2018, with an average annual growth rate of 69% between 2013 and 2018. Though there has been an exponential growth of 152% between 2013-14, from 2014 onwards the rate of growth, though positive, has been declining year on year (41% in 2016, 40% in 2017). However, in 2018, the growth rate has surpassed the previous year, increasing to 52% (see figure 4.15).

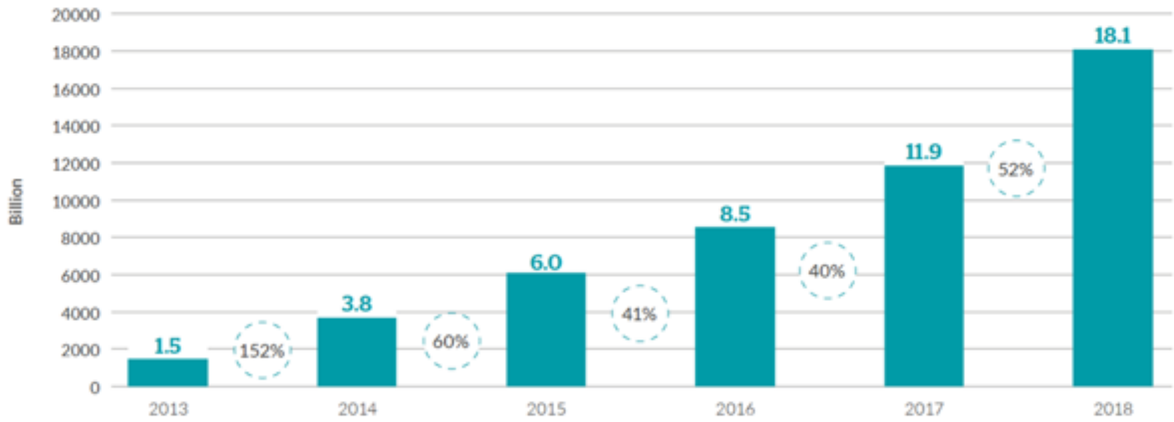

Figure 4.15: European Alternative Finance Market Volume between 2013 and 2018 in USD (including UK)

Source: University of Cambridge, 2020

Moreover, analyzing the alternative finance volume by country, it is possible to notice that the UK was still the most significant contributor to European alternative finance market volumes in 2018 (see figure 4.16) – leaded by its streamlined regulation – with 91% of the UK volume ($9.3 billion) derived from debt-based models, 8% from equity-based models ($870 million) and the remainder from non-Investment models ($76.6 million).

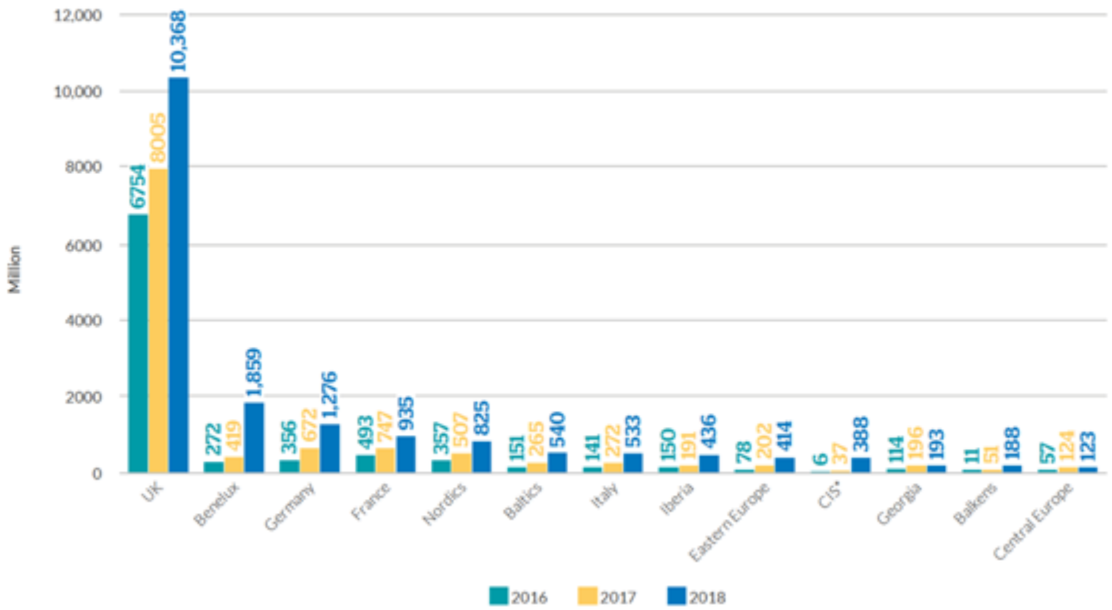

Figure 4.16: European Alternative Finance Market Volumes by Country between 2016 and 2018, in USD

Source: University of Cambridge, 2020

For what concerns continental Europe, the markets showed considerable heterogeneity, as can be seen from figure 4.16. In this heterogeneous context, the Benelux region – Belgium, Netherlands, Luxembourg –, due to especially strong growth of debt-based models in the Netherlands, ranked second with $1.86 billion market volume, with an impressive growth rate of 343% from 2017 to 2018. The growth rate overwhelmingly (98%) results from the growth of debt-based models ($1.8 billion), while equity-based (1%, $26 million) and non-investment (1%, $17 million) account for the remaining volume.

Furthermore, in the period between 2016 and 2017 the German market grew from $356 million to $672 million at 85% and, between 2017 and 2018 it grew to $1.28 billion (at a growth rate of 90%). This volume put Germany at the third place in Europe after the UK and Benelux, the same position it held in 2017. It must be noticed that, unlike the UK and the Benelux countries, only 69% of its total volume in 2018 was a result of debt-based activities ($882 million), in fact $351 million (28%) have been raised on platforms intermediating equity instruments and $42 million (1%) on non-investment models.

It is possible to find a similar pattern in France, since $647 million (70%) have been raised through debt-based models, $225 million (24%) came through equity instruments, $55 million (6%) through non-investment instruments.

After the UK, France has the second-largest alternative finance market for non-investment instruments – such as reward-based and donation-based Crowdfunding. Looking at the overall market, France experienced only moderate growth in 2018 but, despite this slower growth, French alternative finance activity will likely surpass the $1 billion mark in 2019 (University of Cambridge, 2020).

As regards Italy, in 2018 its market volume grew by 95% (up to $532 million), ranking Italy on the seventh place in Europe. In particular, the Italian market had a strong debt-based sector, with a volume of $495 million in 2018 (93%). Equity-based instruments and non-investment instruments only contributed $23 million (4%) and $13 million (3%), respectively.

As done before, it is possible to divide the alternative market volumes in terms of the different alternative financing methods' market share, in order to understand the growth rate of each one in last years (see table 20).

	2018	2017	2016
P2P/Marketplace Consumer Lending	$2889.4 m	$1570.3 m	$771.2 m
Balance Sheet Property Lending	$1378.4 m	*	*
P2P/Marketplace Business Lending	$996.8 m	$526.2 m	$387.5 m
Invoice Trading	$803.0 m	$604.3 m	$278.7 m
Real Estate Crowdfunding	$600.1 m	$291.8 m	$121.1 m
Equity-based Crowdfunding	$278.1 m	$237.9 m	$242.0 m
Reward-based Crowdfunding	$175.4 m	$179.1 m	$211.1 m
Debt-based Securities	$167.8 m	$84.8 m	$25.3 m
P2P/Marketplace Property Lending	$144.7 m	$75.1 m	$105.3 m
Balance Sheet Consumer Lending	$99.8 m	$3.4 m	$18.5 m
Balance Sheet Business Lending	$80.5 m	$24.4 m	$0.0 m
Donation-based Crowdfunding	$62.4 m	$107.0 m	$65.4 m
Minibonds	$42.8 m	$59.9 m	$35.9 m
Other	$6.3 m	$32.8 m	$11.2 m
Revenue Sharing	$3.5 m	$1.8 m	$9.3 m
Community Shares	$1.6 m	$0.0 m	$0.0 m

Table 20: European Alternative Finance Market Volumes by model between 2016 and 2018, in USD (excluding UK).

Source: University of Cambridge, 2020

As shown in table 20, debt-based alternative finance activities, especially from P2P Lending models, dominated the alternative finance markets across Europe in 2018. In this regard, P2P consumer lending remained the predominant model in terms of volume, raising $2.8 billion in Europe (excluding the UK). This volume has continuously seen substantial annual growth, having grown by 89% from 2017. In 2017, P2P Consumer Lending contributed $1.5 billion to the total volume, while 2016 saw a volume of $771 million.

P2P Business Lending in Europe has also grown by double digits, reaching $996 million in 2018, up from $526 million in 2017, representing a growth rate of 89%. Given the emphasis on business-focused funding, it is not surprising that these models will continue to see rapid growth, especially from one year to another (having grown by 36% from 2016 to 2017).

Real Estate Crowdfunding has also seen impressive increases, reaching triple-digit growth in the last three years to become the fifth-largest sector in the alternative finance market. Having started at $121 million in 2016, the market grew to $291 million in 2017 and $600 million in 2018.

However, in contrast to the Real Estate Crowdfunding model, Equity-based Crowdfunding had grown at lower rates. In fact, in 2016 Equity-based Crowdfunding accounted for a volume of $241 million, which declined to $237 million in 2017 and has rebounded to $278 million in 2018.

In 2018, Reward-based Crowdfunding in Europe (excluding the UK) continued its decline from previous years. In 2016, $211 million has been raised on Reward-based Crowdfunding platforms, which declined to $179 million in 2017 and $175 million in 2018.

Lastly, Donation-based Crowdfunding platforms raised $62 million in 2018, down from $106 million in 2017, but on the level of their 2016 rate of $65 million. In this regard, there is the possibility that this decline may be superficial as the data provided by the University of Cambridge do not include donation volumes raised via Facebook, since it chose not the share these figures. Nevertheless, Facebook did release an estimate that between 2015 and 2019, it raised $3 billion for personal fundraisers and nonprofit causes (Facebook, 2020). In this respect, it is likely that Facebook is emerging as a competitor to donation-based crowdfunding platforms.

As seen, the European crowdfunding and alternative financing market is very heterogeneous across the different European countries. Anyway, in terms of growth rates of the different crowdfunding and alternative financing types, it is in line with respect to the Global crowdfunding market, having recorded a significant increase in last years. Having seen that, it is interesting to look at the Italian crowdfunding market, in order to understand if it is already a concrete source of financing for Italian SMEs in terms of market growth rates and volumes.

4.5.3 The Italian Crowdfunding market

After having analyzed the global and the European crowdfunding and alternative financing markets, it is useful to focus exclusively on Italy, in order to have a clear picture of the Italian crowdfunding market.

Looking once again at the information available in the Cambridge European Alternative Finance Industry Report 2016, it is possible to depict the Italian situation in terms of alternative financing and crowdfunding. The Italian online alternative finance market raised a total of €32m in 2015, capturing an estimate 90-95% of the visible market in the country. Although this volume is small relative to its European neighbors, it has registered the largest year-on-year growth rate, with 287% between 2014-15, with respect to the other major European economies. By way of comparison, the Italian online alternative finance market grew by 580% between 2013-14, from €1m to €8m. Likely contributing factors towards this surge in growth include both the increasing number of platforms joining the market, with 46% of surveyed platforms beginning to trade in 2015 (see figure 4.17).

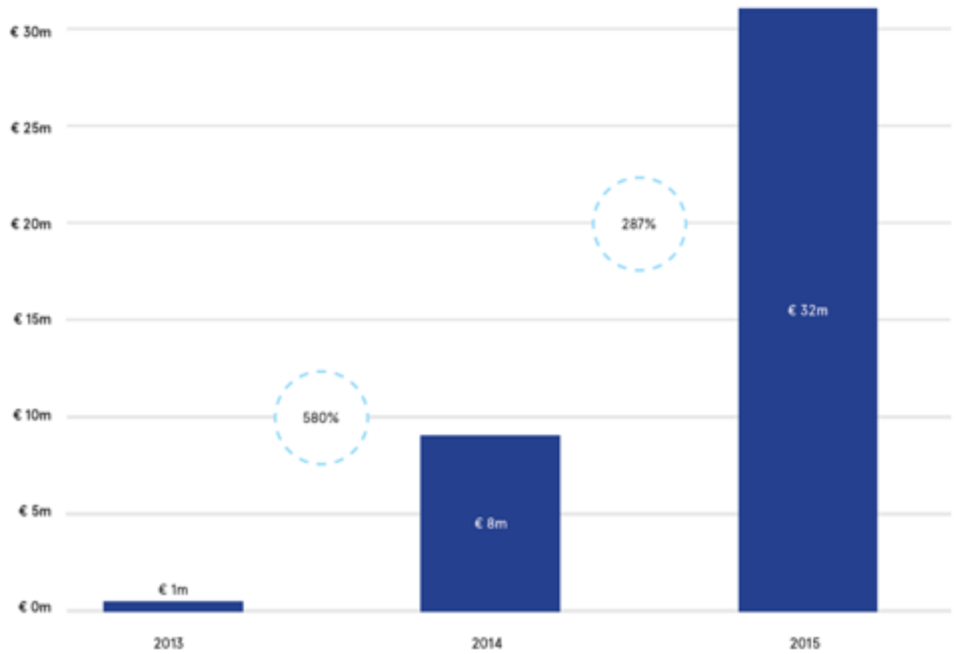

Figure 4.17: Online Alternative Finance Market Volumes in Italy 2013–2015 (€ EUR)

Source: University of Cambridge, European Alternative Finance Benchmarking Report, 2016

Despite having the highest level of growth in Europe in 2015, Italy's market share of online alternative finance in Europe was only the 3% of total market activity in Europe, excluding the UK. However, a combination of a difficult environment for traditional banks in conjunction with progressive changes to the regulatory environment for the crowdfunding space, have been the bases for the crowdfunding industry's growth in Italy (University of Cambridge, 2016).

In fact, looking specifically at the Italian crowdfunding market, it is possible to notice that in 2019 the volume of crowdfunding has almost doubled if compared to previous years. The exponential increase of 59% highlighted a stable and healthy growth in the sector (see figure 4.18). Among the increases of the various crowdfunding platforms, the numbers reached in equity stood out, thanks to a growth rate of 114% recorded in 2019, a remarkable value and the highest among all types of crowdfunding.

Figure 4.18: Italian Crowdfunding Market Growth in 2019

Source: Starteed, Crowdfunding Industry Report, 2019

Moreover, it is interesting to look the positive result of the 2019 from a five-year perspective. In this regard, it is possible to notice a constant growth, certainly favored by a better regulatory environment and to the professionalization of the matter (see figure 4.19).

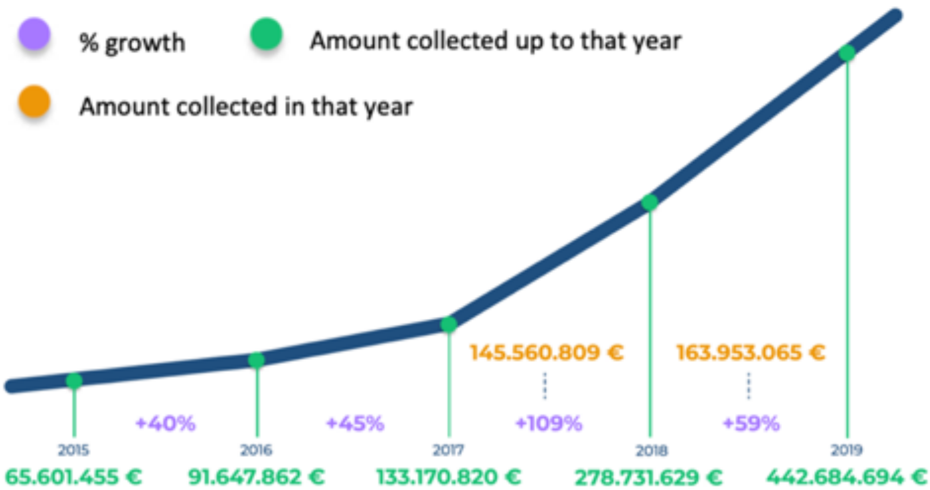

Figure 4.19: Italian Crowdfunding Market Growth between 2015 and 2019

Source: Starteed, Crowdfunding Industry Report, 2019

As can be seen from figure 4.19, the crowdfunding market volume exhibited a constant growth between 2015 and 2017; in 2018, instead, the data showed that the generated overall volume was of about 146 million Euros, when only at the end of 2017 the total amount collected by the entire sector was around 133 million Euros. Therefore, the market almost doubled its volume in a single year, mainly because of the consistent growth of Equity-based and Lending-based Crowdfunding platforms.

Moreover, it should be noted that in 2018 the Equity Crowdfunding continued its sustained growth, tripling its volumes with respect to 2017. The opening of the market to all SMEs allowed the introduction of a new segment, the real estate one, which contributed to the increase in deposits. Nonetheless, innovative startups were still driving the market, also thanks to the increase in tax deductions for investors.

In addition, despite the increase in the number of authorized equity platforms in 2018 (see figure 4.20), there has been a concentration of volumes in a few large portals, which have managed to reach a sufficient size in order to generate an appreciable network of possible investors. The success rate of the offers also increased, as the dynamics of investor choices and the appropriate marketing techniques have become clearer (Starteed, 2018).

Figure 4.20: Increase in the number of Equity-based CFPs between 2014 and 2018

Source: Starteed, Crowdfunding Industry Report, 2018

Furthermore, looking at the Italian crowdfunding market in terms of the different crowdfunding models, it is possible to notice that all crowdfunding models have recorded significant growth, although the increase in the entire sector is mainly attributable to the results of the Equity-based and Lending-based crowdfunding platforms, which have been able to take advantage of the increasingly favorable regulatory environment (see figure 4.21).

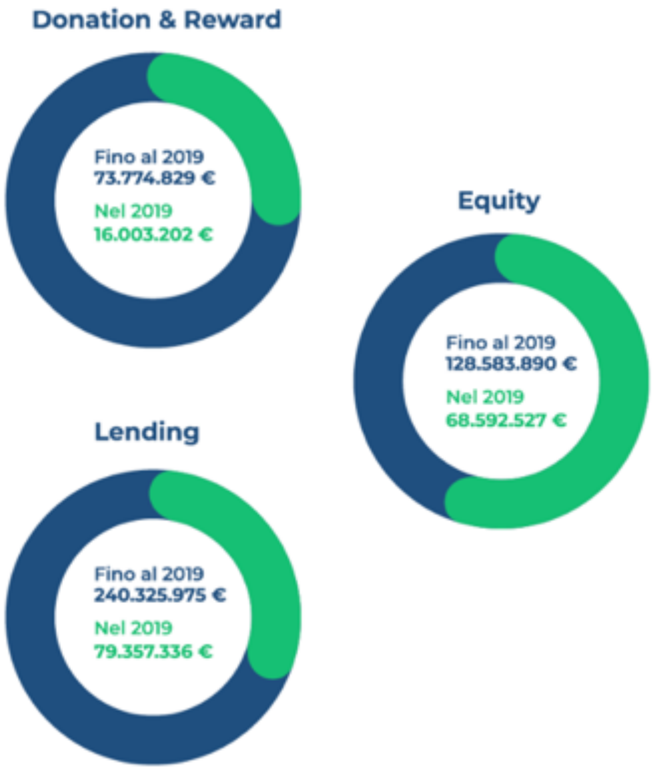

Figure 4.21: Italian Crowdfunding Market Volume by CFP type

Source: Starteed, Crowdfunding Industry Report, 2019

For these two models, it should be underlined the proliferation of real estate platforms which – thanks to the prospects of almost certain and short-term returns – have satisfied the interest of many investors. Moreover, the only crowdfunding type that has experienced a greater growth with respect to previous years was Equity-based crowdfunding, with an increase of 114%. For what concerns the Donation&Reward-based crowdfunding, the most relevant successful cases regarded experiences of partnership and collaborations promoted by entities with a view to Open Innovation and Corporate Social Responsibilities (known as CSR).

In addition, decomposing the Italian crowdfunding market according to the different crowdfunding types it is useful to understand that the scenario changes a lot depending on the type of crowdfunding. In fact, the analysis on the market for Equity-based platforms in 2019 highlighted a mature growth in the sector characterized by a very high number of new platforms authorized by Consob to enter the market. The numbers of Equity-based crowdfunding increased exponentially – starting from 2017 – thanks to a foreseeable growth in the volumes collected by the consolidated platforms but also from the results achieved by new players on the market (see figure 4.22).

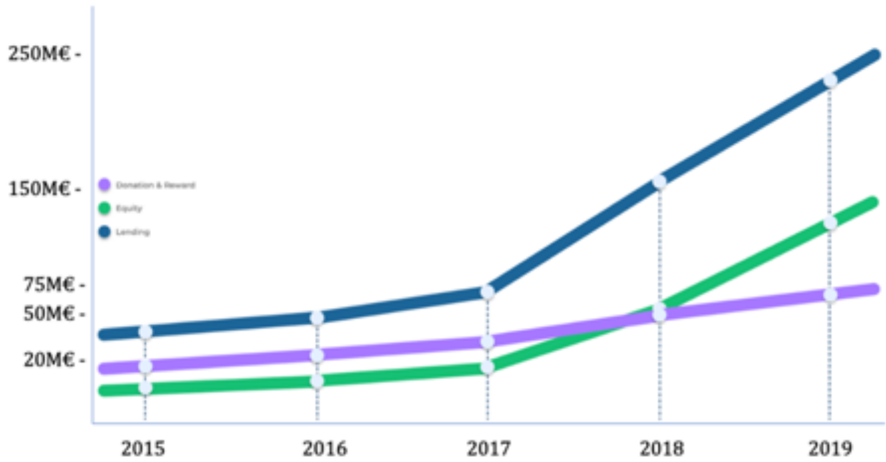

Figure 4.22: Italian Crowdfunding Market Volume by CFP type between 2015 and 2019

Source: Starteed, Crowdfunding Industry Report, 2019

Moreover, as can be seen from figure 4.22, Lending-based crowdfunding has always been the crowdfunding type that collected the highest amounts of funds, and also in 2019 it has recorded a strong growth thanks also to the arrival of large players on the Italian market which contributed significantly to the increase in sectorial volumes.

As regards the Donation&Reward-based crowdfunding platforms, their scenario is very different, since very few of them produced significant results for the growth of the sector. In fact, almost half of the market was inactive and the majority hosted campaigns that collected small numbers.

As just seen in this section, devoted to the Crowdfunding in Italy, the Italian crowdfunding sector – despite the delay and the large margins for improvement – is in good health and it is already becoming an important tool for financing projects in several areas.

4.6 Crowdfunding for Italian SMEs

Given the growth of the Italian crowdfunding market volume in last years – as seen in section 4.5.3 – it is interesting to focus on the availability of the crowdfunding tool for all the Italian SMEs in search of financing.

In this regard, the correct way to do that is to focus at first on the Italian crowdfunding framework in the embryonic stage of the evolution crowdfunding, with an European and an Italian situations surrounded by a lot of confusion due to the presence of different national regulations (Bedino et al., 2012).

After that a timeline – starting from 2012 – will be provided showing the evolution of the legislation about crowdfunding in Italy, in order to understand how all the changes in regulation have been matched by an increase in the crowdfunding market volume.

4.6.1 The Italian framework before a Crowdfunding legislation

In order to analyze the initial Italian crowdfunding framework as a possible source of financing for SMEs, it is useful to start from a research on Italian crowdfunding platforms conducted in 2012 (Giudici et al., 2012). At that time, it was possible to find eight CFPs at work in Italy: Eppela, SiamoSoci, Starteed, Boomstarter, Kapipal, Produzionidalbasso, FundForCulture and YouCapital (see table 21).

Eppela is a reward-based CFP which opened its web site in May 2011, and the majority of its projects are related to cultural initiatives. The selection is made according to the profile and track record of the project initiator (that may post only one project). A commission equal to 5% of funds raised is charged, only if the project reaches the target fundraising initially declared (that cannot exceed € 10,000).

SiamoSoci aims at proposing investing opportunities in innovative ventures. Investors are allowed to bid equity shares over a minimum amount of € 5,000. There is no selection among proposals submitted by entrepreneurs, and no commission are charged. The service provided by the platform is limited to presenting the project, the business plan, the proponents, and some references. Investors have also the opportunity to group together.

Starteed has been opened in 2012. Followers are strongly encouraged to post comments and suggestions on the projects, because their activism is measured through a 'personal influence' rate, that generates 'credits' that can be granted to fund new projects or spent within a network of retail stores. The return for investors is not monetary but is proportional to the effort and value created for the project.

Boomstarter is a generalist 'reward-based' Crowdfunding Platform, in which commissions on fundraising are equal to 4% on successful projects, and 9% on other projects that do not meet the target funding within six months.

	Participation rights	*Fee*	*Direct management of funds*	*Focus*
eppela	Reward-based	5%	Yes, with Paypal, on an 'all or nothing' basis	Generalist
SiamoSoci	Equity stakes	Not now, expected in the future	No	Start-up ventures
starteed	Reward-based, with a rating system	Not at the moment	Yes, with Paypal, on an 'all or nothing' basis	Generalist
Boom Starter	Reward-based	4% if target funds are reached, 9% else	Yes, with Paypal	Generalist
kapipal	Reward-based	Zero	No	Generalist
ProduzioniDalBasso	No particular model predefined	Zero	No	Artists
Fund For Culture	Donation-based or reward-based	7%	Yes	Culture and no-profit
youcapital	Donation-based	Zero	Yes, through bank transfer or Paypal	Journalism / reporting

Table 21: Characteristics of the Italian CFPs in 2012

Source: Giudici et al., 2012

Kapipal's general aim is to help people to collect money, for every objective. In is interesting to notice that donors may receive non-monetary rewards, but no financial incentive is allowed.

Produzionidalbasso is a free platform specialized on artist productions. *FundForCulture* and *YouCapital* are niche platforms, focusing on cultural and heritage no-profit projects, and journalism/communication, respectively.

It is interesting to notice that in Italy, at the time of the research (2012), there were no equity-based and lending-based CFPs. Indeed, in Italy (but also in Europe) the was not a proper legislation about equity crowdfunding and, whenever a public solicitation of raising money for investing in securities had to be made, a prospectus had to be issued authorized by the financial market authority (CONSOB).

The only exception – in terms of crowdfunding platforms – was represented by *Siamosoci*, which is a hybrid model, since the platform does not enable direct investments, but only creates the matching. Equity subscription and payment is managed directly by the parties, out of the platform.

However, something has changed in 2012, since Italy has adopted a regulation on equity crowdfunding – the first country in Europe to do so – related to innovative startups. In this regard, the following section will provide a detailed timeline with the evolution of the legislation, in order to understand how all the changes in regulation have been matched by an increase in the crowdfunding market volume (especially regarding equity-based crowdfunding).

4.6.2 The Crowdfunding Legislation in Italy

As said above, Italy has been the first country in Europe – and one of the first in the world – to adopt a specific legislation on equity crowdfunding, which gave the possibility of using this innovative form of financing, at first only to innovative start-ups, a particular category of companies introduced into the Italian legal system by section IX (articles 25-32) of the Law Decree 18 October 2012, n. 179, containing "Further urgent measures for the growth of the country", later converted into Law 17 December 2012, n. 221 (the so-called "Growth Decree 2.0").

The objective pursued by legislators was to introduce further urgent measures for the growth of the country, capable of fostering sustainable growth, technological development, entrepreneurship and employment, especially among young people.

In particular, art. 30 of the Growth Decree 2.0 introduced, in the first three paragraphs, some new provisions in the Consolidated Law on Finance, Legislative Decree 24 February 1998, n. 58 ("TUF") relating to equity crowdfunding, specifically: (i) paragraph 5-novies of art. 1, which defines what an equity crowdfunding portal is, (ii) art. 50-quinquies, which defines and regulates the activity of portal managers, and (iii) art. 100-ter, which regulates the offers to the public of financial instruments conducted through the portals.

Moreover, in Article. 26 of the Growth 2.0 Decree, some exceptions to company law were also provided for innovative start-up companies set up in the form of S.r.l. In particular, it concerns the derogation from the prohibition for the participation fees of S.r.l. to be the subject of an offer to the public of financial products, set by art. 2468, first paragraph of the civil code. Article. 26, paragraph 5 of the Growth Decree 2.0 – by derogating from this prohibition – has made it possible to offer the public innovative start-up shares established in the form of S.r.l. also through the portals for raising capital, referred to in the aforementioned art. 30 of the Growth Decree 2.0, thus conforming, in certain aspects, these companies to the discipline of S.p.a., which are companies that can sell their shares on the market, a process characterized by the ease with which shares can circulate , while the ordinary regime of transfer of the shares of S.r.l. – provided for by art. 2470 of the Italian Civil Code – provides a more complex mechanism (deed of transfer with subscription authenticated by a notary and subsequent filing with the Company Register).

The "Regulation on the collection of risk capital through online portals" – based on the limitation of the discipline on equity crowdfunding to *innovative start-ups* only – has been adopted by Consob (the National Commission for Companies and the Stock Exchange) with resolution no. 18592 of June 26, 2013, following a public consultation promoted by the Supervisory Authority itself.

The regulations also required Consob to specify the basic principles to protect non-professional investors and therefore to exercise vigilance on the platforms operating in the market.

The barrier posed by the legislator to the possibility of raising capital online has been gradually eroded over the past few years, also on the basis of the pressure from the sectorial operators.

In fact, at the beginning of 2015, a first important expansion of the audience of companies which are allowed to raise capital online took place thanks to the new legislation, through the extension of this possibility to *innovative SMEs*, another special category of companies introduced in the Italian system by art. 4 of the Law Decree 24 January 2015, n. 3, containing "Urgent measures for the banking system and investments", later converted into Law 24 March 2015, no. 33 (the so-called "Investment Compact"), as well as to "collective investment saving bodies and other companies that invest mainly in innovative start-ups or in innovative SMEs".

This intervention by the primary legislator was followed in February 2016 by the revision of the Consob regulation on equity crowdfunding, preceded also in this case by a public consultation.

More recently, the number of companies that can benefit from the regulatory relief resulting from the new regulation has been extended to all small and medium-sized Italian companies, regardless of their date of establishment, the innovativeness of the corporate object or the activity exercised, as well as their legal form.

This occurred first through the introduction of paragraph 70 of art. 1 of the Law 11 December 2016, n. 232 ("2017 Stability Law"), approved in a hurry by the Senate - for the known contingent reasons following the outcome of the constitutional referendum of 4 December 2016 - in the same identical version licensed by the Chamber on 24 November 2016; and then with the "correction" contained in paragraph 1 of art. 57 of the Law Decree 24 April 2017, n. 50 (the so-called "Corrective Decree"), with which the legislator intended to remove any doubt on the applicability of the equity crowdfunding legislation also to SMEs established in the form of S.r.l. (and therefore not only to those constituted in the form of S.p.a.),

In this regard, Table 22 provides a summary of the timeline about the legislation on crowdfunding in Italy.

Timeline	Legislation on Crowdfunding
PHASE 1 (2012)	**Growth Decree 2.0**: the exclusive right of innovative start-ups on equity crowdfunding
PHASE 2 (2015)	**Investment Compact Decree**: enlargement to innovative SMEs and to collective investment schemes and other companies that invest mainly in innovative start-ups or innovative SMEs
PHASE 3 (2016-17)	**Stability Law**: extension to all SMEs (in the form of S.p.a.)
PHASE 4 (2017)	**Corrective Decree**: definitive extension to all SMEs (also in the form of S.r.l.)

Table 22: Timeline of Crowdfunding's legislation in Italy

Source: Cucchiarato, 2017

4.6.3 The Italian framework after the Crowdfunding legislation

After having provided a timeline of the legislation on crowdfunding, it is interesting to notice that the gradual enlargement of the typology of companies that can use crowdfunding has been matched by an increase in the crowdfunding market volumes and platforms, especially regarding the equity-based one.

In fact, in 2015 in Italy there were 82 crowdfunding platforms. Of these, 69 were active (as of 21 October 2015) and 13 were in the launch phase. Compared to the previous mapping of the crowdfunding platforms – done in 2014 – there have been a strong increase, since in May 2014 there were only 41 active platforms, with an increase of 68% to date (see figure 4.23).

Alongside the traditionally recognized models in the crowdfunding sector, namely Rewards, Donations, Equity, Debt, it must be noticed that there have been introduced platforms that offered more than one model, defined as hybrid.

Moreover, it is interesting to notice that, of the aforementioned 69 active platforms, 31 (45%) were Rewards-based platforms, 13 (19%) were Donation-based, 13 (19%) were

Equity-based and 3 (4%) Debt/Lending-based. The hybrid platforms were 9 (13%) and, among them, the most popular were the Reward+Donation-based ones (see figure 4.23).

Compared to the data about 2014, according to the Consob register, the percentage of active Equity platforms had grown from 5% to 19%, while Hybrid platforms decreased, in particular the Reward+Donation-based ones, from 24 to 12% (Consob, 2014).

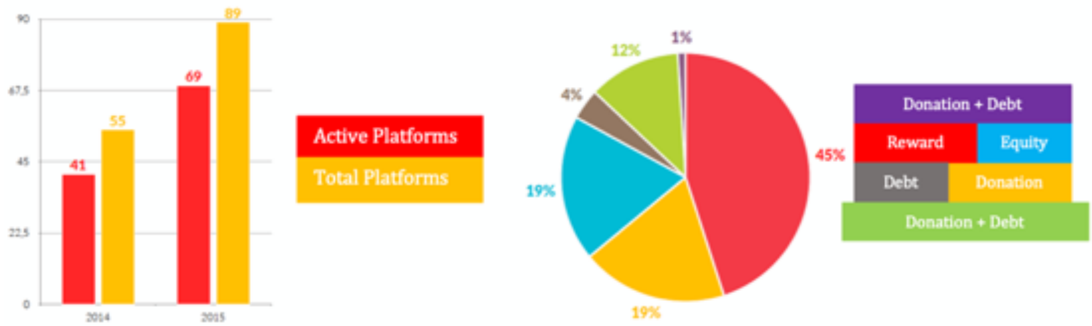

Figure 4.23: Active and total CFPs in 2014 and 2015 (on the left)

Total CFPs in 2015 divided by Crowdfunding type (on the right)

Source: Starteed, Crowdfunding Industry Report, 2015

Looking at the scenario in 2017, in can be noticed that there were 67 active crowdfunding platforms, with their majority represented by the Donation/Reward model (see figure 4.24).

Model	N. of platforms	%
Donation/Reward	46	72
Equity	13	20
Lending	5	8

Figure 4.24: Total CFPs in 2017 divided by Crowdfunding type

Source: Starteed, Crowdfunding Industry Report, 2017

For what concerns 2018, the market was characterized by a greater number of Donation/Reward platforms (see figure 4.25). Most of these were generalist platforms, which hosted projects of various kinds. Furthermore, the sector has seen a significant increase in Equity-based platforms, thanks to development in the Regulations on online investments, which decisively contributed to the growth of the Equity-based sector in Italy.

Figure 4.25: Total CFPs in 2018 divided by Crowdfunding type

Source: Starteed, Crowdfunding Industry Report, 2018

As regards the 2019 crowdfunding market, it is possible to notice that it has been characterized by an overall growth both in terms of volumes and platforms (see figure 4.26).

More specifically, the Donation&Reward-based market was characterized by a high number of inactive or closed platforms and funding has been focused on a limited number of platforms. In this regard, the ones that collected more funds in 2019 were Produzioni dal Basso, Rete del dono, Forfunding, Eppela and Buonacausa.

The market for Equity-based crowdfunding platforms was undergoing a strong transformation, characterized by positive trends such as a high number of active platforms and the entrance of new players thanks to the regulations introduced by Consob, which has extended the possibility of subscribing bonds and other debt instruments through Equity-based crowdfunding platforms also to retail investors. The platforms that collected more funds in 2019 were Mamacrowd, Crowdfundme, Two Hundred, Walliance and Backtowork24.

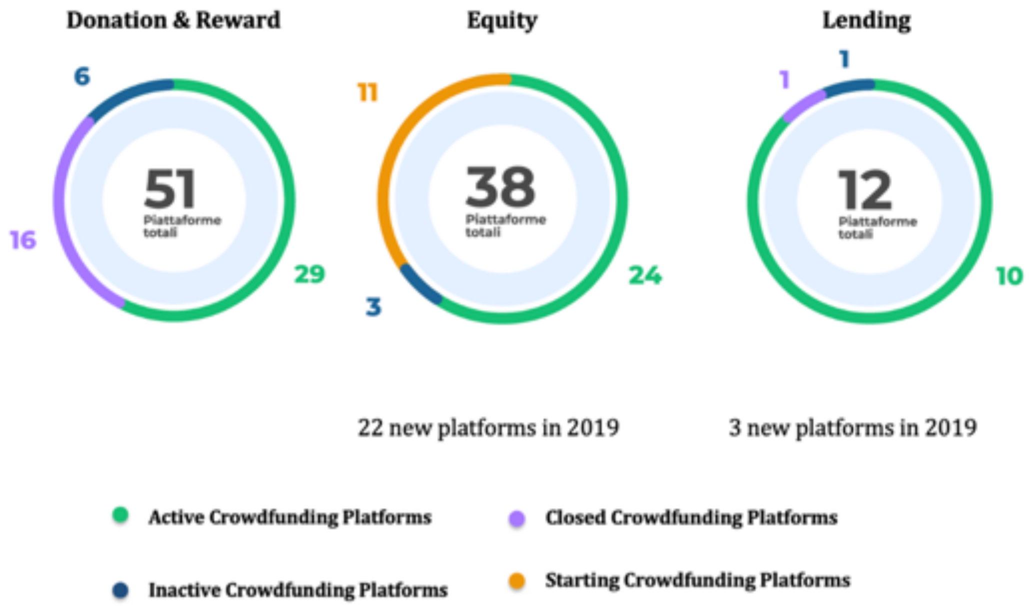

Figure 4.26: Total CFPs in 2019 divided by Crowdfunding type

Source: Starteed, Crowdfunding Industry Report, 2019

The Lending-based market in 2019 could be depicted as a growing market, despite the regulatory context that is not yet clear and favorable for Lending-based crowdfunding, especially for some of its variations. Anyway, lending will probably represent the crowdfunding sector with the greatest growth potential in the future, especially for what concerns real estate projects and large players that will enter the market. The platforms that collected more funds in 2019 were October, Borsadelcredito, Soisy, Ethical performance and Prestiamoci.

This section has shown that the crowdfunding market is growing year after year and the legislation about crowdfunding has finally removed any doubt on the applicability of the equity crowdfunding legislation also to SMEs established in the form of S.r.l., as can be demonstrated by the record of equity crowdfunding in 2019, with the Mamacrowd alone ending the year with 68 campaigns and 29 million euros raised (Business Insider, 2020).

After having seen the evolution of crowdfunding as a source of financing for Italian SMEs, it is interesting to analyze in depth the different aspect of crowdfunding's potential as a source of financing.

4.7 The potential of Crowdfunding

Obviously, the potential and the effectiveness of crowdfunding may vary because of the differences in every crowdfunding project and between the platforms on which they are exposed.

However, it is possible to underline some particular aspects in which crowdfunding has a big potential as a medium to let everyone know about a project: fundraising, pre-sale, marketing, market research, co-creation.

Fundraising is the aspect that confers the biggest potential to crowdfunding, since it may help to overcome an early-stage gap of start-ups, provide SMEs with capital to fund certain projects, or contribute to the realization of social projects (Belleflamme et al., 2010).

All of these projects frequently reflect some sort of niche project or projects that have a strong regional focus. As a consequence, crowdfunding offers not only the possibility to raise money for start-ups and new ventures but also makes funding possible for niche projects which perhaps are perceived as non-profitable, and thus are not able to raise money from traditional sources.

Therefore, crowdfunding not only enables prominent and lucrative projects to be funded but also helps to develop less prominent projects. Thus, crowdfunding may be described as an emerging long tail offer in the financial service industry.

For what concerns the pre-sales aspect, this kind of application of crowdfunding involves businesses collecting payments in advance for products to be delivered at some later point of time. Doing so, the fixed costs of producing a product can be financed before production starts (Haas et al., 2014).

Moreover, in the majority of the cases, project initiators collect money to develop a future product which usually exists only in form of a prototype. The project initiator guarantees the delivery of the final product in return for the contributor’s pledge. The value of the pledge is determined by an assessment of the market value of the product. During the campaign, products might be offered at a discounted price to encourage potential backers to support the crowdfunding campaign.

Taking into account the marketing aspect, it should be noted that crowdfunding is heavily based on social media and online communication, simplifying and accelerating the flux of information about a project across geographical borders (Agrawal et al., 2011). This means that, for backers, promoting crowdfunding projects by forwarding information to friends and other interested parties is very easy and much faster than using offline techniques. Due to their financial investments, backers frequently show a high level of involvement, making use of the available communication tools in order to create awareness for projects. As a consequence, crowdfunding enables the creation of viral marketing effects.

A very important aspect is represented by market research, since, due to the fast and easy access to capital, the rapid exchange of information with potential backers allows for an initial testing of business ideas. In this regard, successfully funded or even overfunded projects may serve as acceptance tests of potential products and value propositions.

In particular, crowdfunding tends to explicit the true beliefs regarding a product or a service more than rating scale-based product evaluations and other crowdsourcing approaches, because potential customers must invest their own money in a crowdfunding project (Riedl et al., 2013).

Last but not least, there is the co-creation aspect. This particular aspect suggests that many crowdfunding projects have benefited from the crowd's feedback, which can reach from simple questions regarding a future product or service, to concrete suggestions for improvement, or even innovative new ideas. Crowdfunding, therefore, is based on the fundamental idea of co-creation, in the sense that customers or backers are directly integrated into value creation (Blohm et al., 2013).

Anyway, crowdfunding has not only advantages – as highlighted in the aforementioned aspects – but it also involves some risks. In this regard, the next section will provide an overview of risks embedded in the crowdfunding process, both on the project initiators' side and on the backers' one.

4.8 The risk factor in Crowdfunding

As said above, crowdfunding has pros and cons, both for project initiators/entrepreneurs and for backers/customers.

As regards project initiators/entrepreneur, there are several benefits for the entrepreneur who uses this form of financing, but there are also costs and risks that should not be underestimated. An inherent risk to the financing method is that of reputational damage or the image of the entrepreneur, since the fundraising trend is visible to an indistinct public.

Clearly, if the financing is successful and the project goes well, the promoter's reputation will also grow positively. However, in the event that fundraising fails, the bankruptcy will be visible and public.

The fact that a project cannot obtain funding from the crowd can mean that the value of the product that is intended to be launched on the market is not recognized by potential consumers, or that the business plan is not considered suitable for the development of the business.

Moreover, many project initiators who use crowdfunding as pre-sales mechanisms do not possess scalable production facilities. As a consequence, many products and other rewards may be delivered with delay, potentially damaging the reputation of the project initiator. This may also decrease profitability of the project due to unforeseen extra costs (Haas et al., 2014).

In short, an unsuccessful crowdfunding campaign can lead to a downward revaluation of the company's market.

On the side of backers/customers, the most important aspect must focus on the perceived risk in a crowdfunding campaign, because it is one of the major factors that influence customers' decision to buy or finance something, and it mainly occurs due to information asymmetries ex ante transactions – and moral hazard ex post – in which the seller usually possesses more information than the buyer. For instance, backers may not receive the return as specified. In this regard, start-ups going bankrupt or delayed delivery of pre-sold products are among the most prevalent problems (Gierczak, Bretschneider, & Leimeister, 2014). In general, the greater is the perceived risk, the less likely a consumer is to purchase (Forsythe et al., 2003).

Lastly, from the point of view of the project initiator, knowing the possible risks that may arise in a crowdfunding campaign will help to design and implement potential risk-reducing strategies into the crowdfunding platforms and projects in order to attract the crowd to invest and therefore to increase the success of their campaign.

In conclusion, the purpose of the present chapter is to provide an in-depth analysis of crowdfunding, starting from its origins, encompassing its theoretical foundations, up to differentiate the different crowdfunding types.

Moreover, the present chapter analyzes not only the crowdfunding market – starting from the global market, focusing then on the European market, up to zoom on the Italian one – but also the impact of a legislation on Crowdfunding on the market growth, in order to understand if it has become a concrete source of financing for SMEs.

This kind of in-depth analysis is fundamental in order to introduce the fifth chapter, which will provide a case study involving both the public and the private sector in a crowdfunding campaign designed to recover a dilapidated and unusable municipal area.

Chapter 5: Crowdfunding as an opportunity for the collaboration between Public and private sectors

5.1 From an unusable area to an opportunity through Crowdfunding

This concluding chapter presents a case study proposing an alternative financing solution for a public area located in Friuli Venezia Giulia, more precisely in the city of Cervignano del Friuli.

In particular, it will focus at first on the Municipal Public Implementation Plan which regards this public area – explaining why this area and this case in particular have been chosen – then it will show the regulatory framework relating to it (such as the urban planning standards and the Superintendence indications), and finally the focus will be on the main problem of the case study: the lack of funds.

In fact – as already said – the credit crunch and the decline of the Italian economy in last years has damaged not only SMEs but also the Italian State, because the lack of tax-income from enterprises.

In addition, the chapter will provide an alternative financing solution – specifically a crowdfunding proposal – whose purpose is to show that crowdfunding may be a concrete alternative way to fund the revaluation of a dilapidated an unusable municipal area.

From this point of view, crowdfunding could be seen as a marketing tool to amplify the range of possible investors that can be reached, creating at the same time value for the public, profits for the investors and work for SMEs (acting as a booster for the economy of local SMEs).

Lastly, the chapter will investigate the possible reactions of the Municipality and of the citizens in order to understand if the project could be welcomed by them.

Anyway, it is useful to start from the presentation of the case study, thanks to which Municipal Public Implementation Plan can be introduced.

5.2 Presentation of the case study

The starting point to understand the potential of crowdfunding in this case is presenting the Municipal Public Implementation Plan governing the redefinition of this area.

The present project concerns the Municipal Public Implementation Plan (in Italian: "Piano Attuativo Comunale" – PAC) denominated "EX CASERME PASUBIO", which implies the urban redevelopment of an area located in a central zone of Cervignano del Friuli (UD), near the railway station, neighbouring the urban area characterized by more recent residential expansions.

More precisely, the project involves the requalification of the area in order to allocate and centralize all the public services that are currently offered in distant locations (such as schools, INAIL, and the Health district), to provide some new services such as the swimming pool and spa (connected also with the needs of the Health district), to build some new residences, and to realize a sizeable central green area that could help change the image of the city.

In this regard it is useful to start from the objectives of the Municipal Public Implementation Plan (PAC), in order to understand the ratio of the project and why this area in particular has been chosen.

5.2.1 Objectives of the PAC

The primary objective of the PAC is the reconversion and redevelopment of the area under the urban and construction profile according to three distinct principles, which have been established by the Municipality in order to provide some clear rules to which the project must comply.

The first principle regards the connection of the area to the surrounding neighbourhoods through the creation of cycle-pedestrian connections, which are becoming ever more important for the future of mobility.

The second one consists in the insertion of a plurality of public functions from the swimming pool associated with rehabilitation – both preventive and thermal functions – to the new health district headquarters, with the possibility of two small residential interventions whose realization can be undertaken by both private and public subjects including any public building. The ratio behind this principle consists in reclaiming a large area to use it mainly as a source of different public services that are currently offered in distant locations and often in old and not functional buildings.

The third one regards the creation of a school complex from primary schools to high schools and technical institutes, following the same ratio of the second principle, in order to concentrate the different educational levels in a single area (with obvious logistic benefits for bus and train connections).

Another important objective is the realization of an urban park – in the central belt of the area – which directly connects the man-made part of the city with the sports area and which constitutes the main axis of the urban planning organization of the area, providing also an excellent connection with both the railway station and the bus station.

Furthermore, by inserting micro activities complementary into the park function – including commercial ones – the project combines the presence of private and public interest services with a pedestrian and cycle path that winds through them, making the park a suitable place for both daily activities and for cultural and entertainment events. With this in mind, the construction of an arena or an area equipped for events located in the center of the park is also planned.

In asking why this area in particular has been chosen for the project, it must be noticed that, at the time of the construction, the area of the barracks was peripherical with respect to the city but, after the residential expansion, it became central. This means that, coherently with the three aforementioned principles, its requalification could bring new life to the city, exploiting the area to provide and centralize important public services.

In fact, by summing the benefit from the requalification of the area to the fact that it would host public offices and schools, it is easy to understand the reasons why this area in particular has been chosen.

In addition to that, following the aforementioned objectives, the area – until now separated from the city due to its previous use – will be able to enter into a close relationship with the city center, becoming at the same time an integrated and complementary part of it.

For these reasons, the area has all the potential to transform itself into one of the reference poles of the town of Cervignano del Friuli, especially for the functions that will be installed and for the wide environmental breath granted to the entire area.

Anyway, it is important to analyze the current situation of the area to contextualize the objectives of the project.

5.2.2 Current Situation

The area of the Barracks "Monte Pasubio" consists in an area with a total extension of about 11 hectares, within which there are buildings and artefacts that differ in size, construction period, typology and function, organized according to a not always orderly and identifiable scheme (see figure 5.1).

Figure 5.1: The area of the Barracks Monte Pasubio

Source: Municipality of Cervignano del Friuli

It is a very extensive settlement characterized mainly by disordered spontaneous vegetation which has almost completely obstructed the passageways and has taken over the buildings, which are highly degraded and in a state of complete abandonment (see figure 5.2).

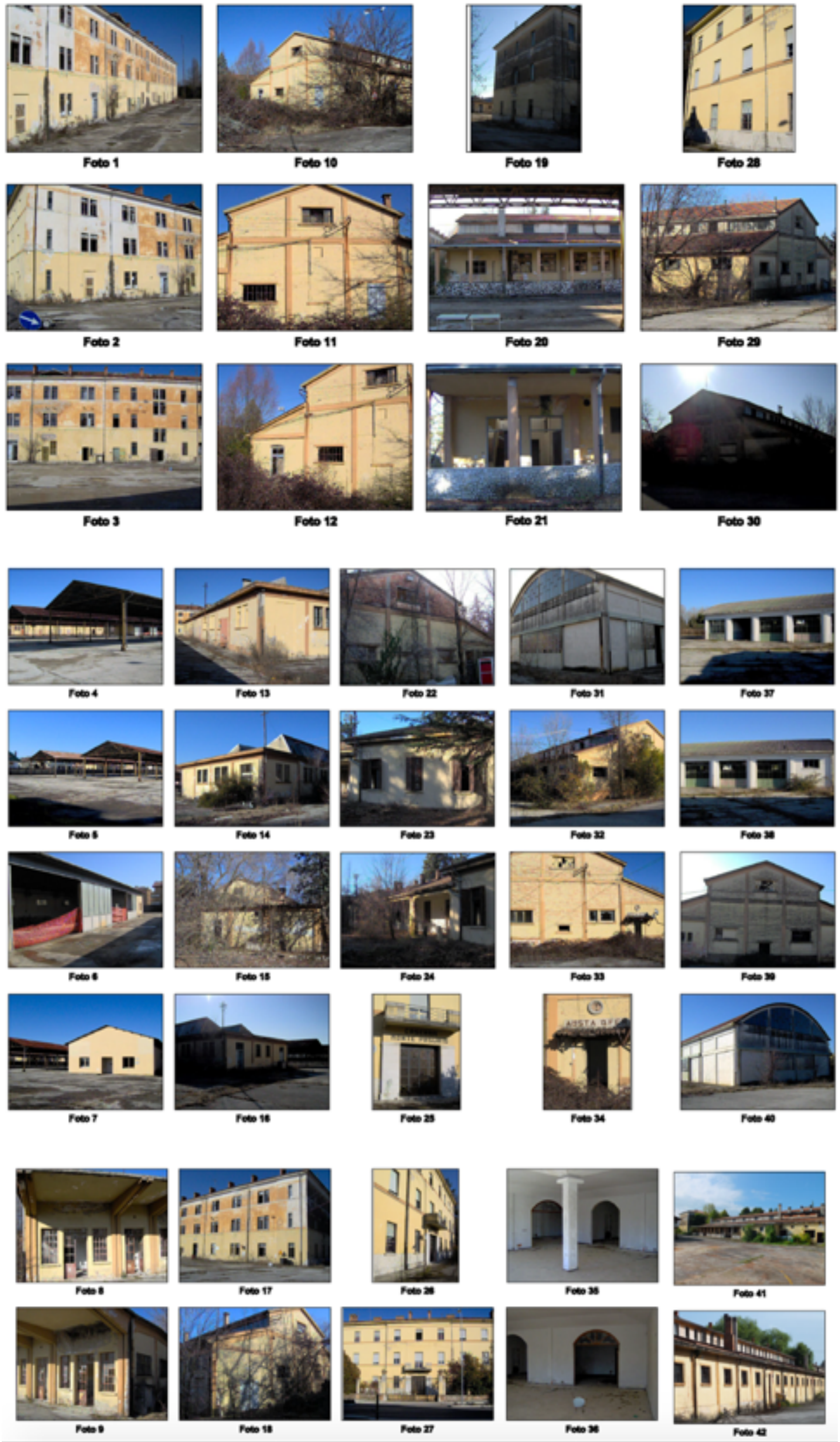

Figure 5.2: Current situation of the barracks

Source: Municipality of Cervignano del Friuli

Although the original functions of the buildings are not currently identifiable and classifiable (since they are too much decayed and there is not enough documentation about them), it is possible to identify them as a command building with related offices, an officers' clubhouse, a building used as a refectory, kitchen and warehouses, a building used as accommodation for troops, a building used as a chapel, cinema, conference room and shop, several buildings used as accommodation and/or dormitory on the upper floor and workshops, garage for vehicles and other equipment used for institutional purposes on the lower floor, walls and sentry boxes, parade ground, deposits and sheds.

The former barracks are surrounded by a heavily degraded and partially plastered brick wall that covers some sections of the III Armata Street, while the remaining parts are characterized by poor quality prefabricated elements consisting of cement. The sentry boxes are located at the corners of the area.

The area is accessible via 6 driveways, two of which overlook III Armata Street and the remaining 4 on Chiozza Street (see figure 5.3).

Figure 5.3: The area with Chiozza and III Armata Streets highlighted

Source: Municipality of Cervignano del Friuli

Given the current situation of the area of the barracks, it possible to analyze the regulatory framework, in order to have clear in mind which are the indications and the urban planning standards of the area.

5.2.3 Regulatory framework: indications and urban planning standards

Another fundamental aspect is represented by the regulatory framework to which the PAC must comply. In this regard, it is important to notice that the current legislation of the Plan is defined by Variant no. 79, and the area in which the intervention will be done is classified as a *Unitary Project Area n1 EX CASERMA MONTE PASUBIO*.

Moreover, the urban and construction standards of the Homogeneous Territorial Area (in Italian: "Zona territoriale Omogenea" – Z.T.O.) substantially reconfirm those indicated in art. 9bis of the Implementing Technical Standards (in Italian: "Norme Tecniche di Attuazione" – N.T.A.) of the current Municipal General Development Plan (in Italian: "Piano Regolatore Generale Comunale" – P.R.G.C.), which are summarized in Table 23.

Territorial manufacturability index (in relation to the intended use of the Residence - Management - Services - Retail trade with surfaces less than 400 square meters of sale)	m^3/Ha 15.000
Max coverage ratio for collective services and equipment	m^2/m^2 40%
Distance from the roads	m 7.50
Maximum height of buildings	12.50 m
Distance between walls of buildings in front, even if blind	10 m
Distance from the borders	10 m

Table 23: Urban and construction standards of the area

Source: Municipality of Cervignano del Friuli

Furthermore, the land area intended for construction included approximately an area of 18,800 m^2 for urban planning, while approximately 91,400 m^2 are devoted to green areas and urbanization.

After having understood the objectives of the PAC, the current situation and the regulatory framework governing the area, it is possible to explain the municipal project and its modes of intervention.

5.2.4 The project and the modes of intervention

In order to achieve the objectives expressed in section 5.3.1, the PAC provides for the demolition of almost all buildings since they are very degraded. In fact, given that the buildings are of little historical interest and are in bad shape, their recovery and re-functionalization are not advisable, neither from a historical point of view nor from an economic one.

Moreover, two closed-end access roads have been designed (each one with its related parking spaces) in order not to burden the vehicular traffic and to allow an optimal use of the area. Other parking areas are located along the external parts of the PAC or along the access road and connected to III Armata Street.

That has been thought in order to encourage citizens to cross the area using pedestrian and cycle paths, taking advantage of the many existing accesses to connect the area to the rest of the town.

Furthermore, it must be noted that the existing fence will be maintained as required by the Archaeological Superintendence, Fine Arts and Landscape of Friuli Venezia Giulia. In this regard, any change to the accesses or demolition that may become necessary must be agreed with the Superintendence.

It should be also noted that the perimeter of the area excludes a part of the former Pasubio barracks located to the north east (see figure 5.5, page 9), but that of fact is physically included within the existing fence. This area, albeit external to the project PAC, is functional for the connection with the neighboring sports area.

Therefore, the plan is to allocate a portion of the “excluded area” to public parking and to include the other portion into the Urban Park with the terminal part of the cycle and pedestrian path that crosses the entire area.

As better highlighted in the graphic table of the demolitions (figure 5.4), the project foresees the demolition of almost all the buildings for the considerations mentioned before. In fact, according to the PAC, buildings would be maintained only if their conditions at the time of the constructions works allow their recovery without exorbitant costs.

Figure 5.4: Table of demolitions (highlighted in yellow)

Source: Municipality of Cervignano del Friuli

Moreover, the PAC provides for the division into Minimum Units of Intervention (in Italian: "Unità Minime di Intervento" – U.M.I.), to allow the execution of the interventions even at different times (as can be seen in figure 5.5).

Figure 5.5: Zoning of the area

Source: Municipality of Cervignano del Friuli

The minimum intervention units and the intended used permitted within them are identified as summarized in table 24:

Minimum Intervention Units	**Intended uses permitted in each UMI**
UMI 1: Urban Park and Residence	-Residence; - Retail trade with areas of less than 400 m^2; - Urban park.
UMI 2: School Center	Education of any order and degree.
UMI 3: School Center	Education of any order and degree.
UMI 4: Urban Park and School	- Secondary School; - Urban park with what is indicated in UMI 5.
UMI 5: Urban Park	- Green and sports equipment and outdoor shows; - Green and paved areas equipped for play and leisure; - Retail commercial and public businesses with areas of less than 50 m^2.
UMI 6: Swimming Pool with wellness center	- Swimming pool and spa connected also with the needs of the healthcare company; - Retail trade and public businesses with areas of less than 50 m^2.
UMI 7: Healthcare Company Headquarters	- Equipment for assistance and health: basic health equipment; - Retail trade and public businesses with areas of less than 50 m^2.
UMI 8: Residence	- Residence; - Retail trade with areas of less than 400 m2 of sale.

Table 24: U.M.I. and the intended used permitted within them

Source: Municipality of Cervignano del Friuli

It should be noted that building permits may also be requested separately but, as a priority, it must be preventively carried out at least the necessary urbanization works that allow their functionality.

As regards the urban park, it will extend along the main diagonal of the area and allow citizens to cross it completely by connecting the city center with the sports area through the school and service fabric (see figure 5.6).

In consideration of the extension of the park, it is allowed its realization in lots and in different steps, even if on the basis of a unitary project at least of a definitive level.

Figure 5.6: Preliminary Project Proposal

Source: Municipality of Cervignano del Friuli

5.2.5 The preliminary nature of the project

Before proceeding, it is important to notice that figure 5.6 depicts a preliminary project proposal, which means that the project is not definitive and will probably be subject of variations (see figure 5.7).

In fact, for what concerns the U.M.I. 3, a competition of ideas has been launched by the Ministry of Education, University and Research (in Italian: "Ministero dell'Istruzione, dell'Università e della Ricerca" – MIUR) in 2016.

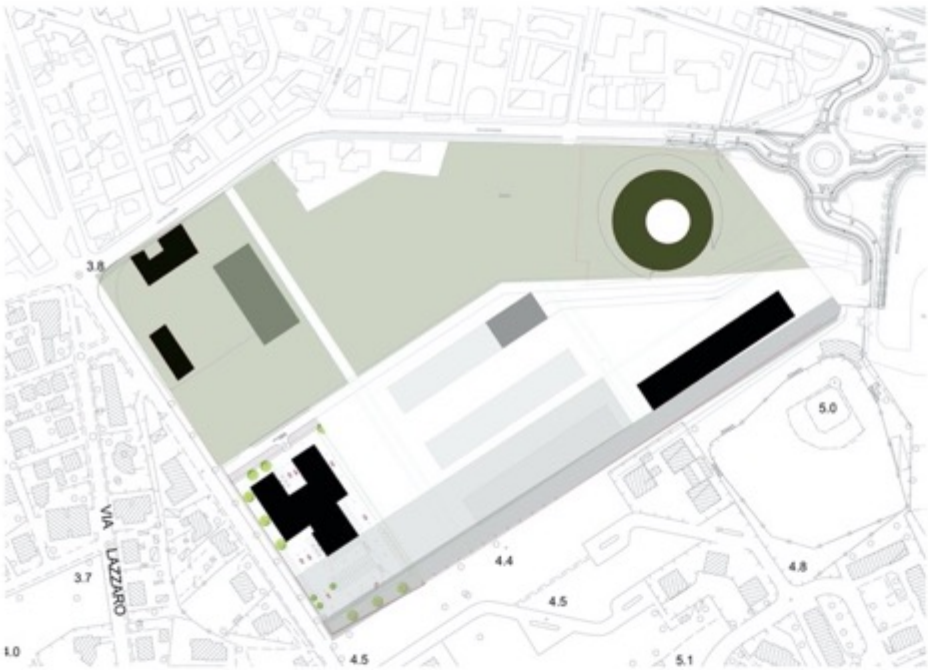

Figure 5.7: Variation of the Preliminary Project Proposal

Source: Municipality of Cervignano del Friuli

The winning project consists in a courtyard building with a circular plan surrounded by a soil modeled by embankments and integrated into the design of the future park (see figure 5.8).

A single-storey and low-impact school, strongly characterized by the form in which public and private spaces intersect, educational activities and activities open to the territory (see figure 5.9). An innovative school with flexible teaching spaces functional to diversified activities and articulated relationship spaces.

Figure 5.8: Innovative School Project – Tab. 1

Source: Arbau Studio, 2016

The circular shape makes the courtyard a large *agora* towards which all spaces look and from which they take light, and the fan-shaped plan of the classrooms breaks with the box-like structure in favor of a less rigid and constricting space. Study of the shape and choice of wood as a construction material, allow to combine architectural choices and sustainability in terms of seismic safety, energy performance and comfort (Arbau Studio, 2016).

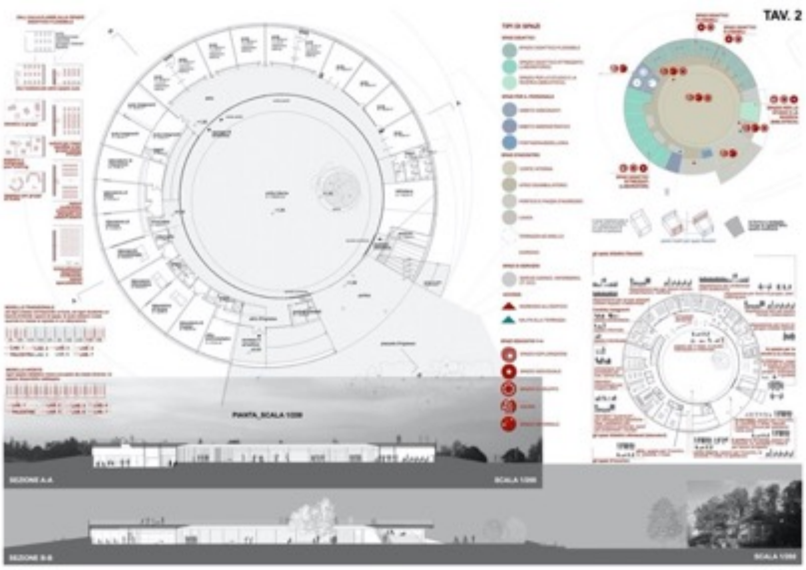

Figure 5.9: Innovative School Project – Tab. 2

Source: Arbau Studio, 2016

After having illustrated the overall project, it is possible to show which are the potential positive spillovers generated by the realization of the project.

5.2.6 Positive spillovers generated by the project

As can be seen from the previous sections, the project has been studied in every detail. In fact, it has been not only thought to concentrate the public services, but also to redesign the center of the city and provide some new useful infrastructures such as roads, parking and technological networks. In particular, the attention to every detail, the eco-friendly approach, and the possible positive spillovers may become fundamental in putting in good light the project from the perspective of the citizens.

In this context, the project involves the construction of two blind-access roads, sized to allow access to both cars and heavy vehicles in a two-way lane, with widths according to the provisions of the highway code and radii of curvature suitable.

The area will be accessible through cycle-pedestrian paths both inside and outside the park, through two main axes that will cross it and that may also be utilized by public rescue or service vehicles: the widths of these paths will be approximately 4.00 meters, while the secondary paths will be less than 2.50 meters in width.

Moreover, parking areas have been thought near the buildings and their surfaces have been identified as follows: relative parking spaces for residential and business uses to an extent not less than 3.50 m^2 per inhabitant, while residential and relationship parking for commercial activities with a sales area of up to 400.00 m^2 to an extent not less than 200% of the sales area.

For what concerns technological networks, the sewage network will develop through a double underground path, one for rainwater and one for black water, with inspection and collection wells, whose section and depth will be determined when drafting the executive projects of the works of urbanization, which will be approved before their execution.

The public lighting network, already present along the sidewalks of the streets bordering the sector, will be extended to the whole area, along the access roads, pedestrian paths, green areas and public car parks, and will be carried out according to current regulations.

As regards the power supply network, the supply of electricity is expected through the construction of a new Enel cabin and a new underground network, and the connection to telephone network, optical fiber and broadband is foreseen through the lines on via III Armata and via Chiozza.

The connection to the methane gas network is foreseen, in its final configuration, through multiple injection points in order to balance the pressures and always guarantee gas access, extending the existing lines on via Chiozza and Via III ^ Armata inside of the sector.

Lastly, the water supply will be ensured through an artesian well which, through a technical pump room and an internal network of underground pipes, will serve all the buildings. The location of the well and the pump room is purely indicative and will have to be assessed during the executive planning as well as the fire water reserve which will be the only one serving the various activities.

Given this focus on possible positive spillover, it is interesting to look in the next section at one last aspect that guarantees that the project will reflect the objectives and the regulatory framework set.

5.2.7 Check Plan Objectives

It must be noticed that the PAC – no matter what type of design and project are chosen – must comply with different conditions.

In particular, the Flexibility report of the structure plan imposes a limit of residential cubic volume not exceeding 50% of the total volume and requires that the private building intervention must have a maximum area of 50,000 square meters. Moreover, the location of the urban park must in any case be safeguarded, and the integration with the urban area and the neighboring sports area are invariant elements. Once verified that the PAC complies with the aforementioned conditions, it is possible to affirm that it has been drawn up in compliance with the superordinate general rules.

After having provided an in-depth explanation of the Municipal Public Implementation Plan (PAC) – which is fundamental in order to understand the current situation of the area, the limitations set by the plan and the division in U.M.I.s – and having understood the ratio of the project and why this area in particular has been chosen, it is possible to present the case study, explaining why I have chosen this area as the object of my case study and why crowdfunding could be an interesting solution for the revaluation of the area.

5.3 The Crowdfunding Proposal

First of all, I would like to explain how the idea of this crowdfunding proposal was born. I became aware of crowdfunding a few years ago and I remained so impressed and enthusiast that I decided to discuss the potential of crowdfunding in my bachelor's degree thesis.

In particular, one of the crowdfunding sectors that has impressed me most is Real Estate Crowdfunding, since it combines the recovery of dilapidated areas and buildings (in order to restructure them or to develop new residential areas) to the typical marketing potential of crowdfunding (amplifying the range of possible investors that can be reached). In few words, it exploits the potential of the internet providing funds to the real economy and good investment occasions for backers.

However, the main limit of Real Estate crowdfunding is that it is efficient and effective prevalently in big cities and big urban areas, where the real estate market is more active and the prices are higher. This limit has led me to the conclusion that, at the moment, the only way to apply Real Estate crowdfunding to small cities/areas is to propose an almost risk free and innovative investment, which is able to generate hype and curiosity in the eyes of investors.

This is exactly the mental process that led me to formulate my crowdfunding proposal regarding the area of the former barracks of Cervignano del Friuli, with the purpose of designing an innovative financing proposal in order to recover a degraded municipal area, creating value for investors, providing better services and infrastructures to citizens, and increasing the local economy of SMEs at the same time.

In particular, the project proposal I have thought may be considered an innovative proposal, since real estate equity crowdfunding has never been applied to a project regarding a public area.

More precisely, my proposal basically consists in using equity crowdfunding to finance the "EX CASERME PASUBIO" Municipal Public Implementation Plan, providing the investors a return on the investment based on the profit from the sale of apartments or from the rent that will be paid on each building by the Public administration. In this way, on one hand the Public Administration would be able to realize the project, while on the other – as a consequence – the regional construction sector and a lot of SMEs connected to that sector would benefit from the project.

For what concerns the rent of the buildings to the Public Administration, the investment may be considered almost risk-free because the Public Administration can guarantee a constant and certain flux of money for investors.

After this premise, it is important to specify the reasons why I have chosen specifically this area as the object of my case study. I have decided to apply my proposal to this area because I am familiar with the situation of the former barracks – since they are in my home city – and because, as will be explained in section 5.3.1, crowdfunding may be the easiest and fastest way to complete a project that has been designed several years ago and that is still standing at the moment because of the lack of funds.

Moreover, another important aspect that made me choose this area as the object of my case study is that this kind of unusable areas, typical of all the former barracks, are very frequent in my region (since it is a border region).

In this regard, my case study not only wants to structure a solution for this unused and decayed area in my city but wants also to provide a general framework that can be applied also to other cases similar to this one.

Bearing in mind the current situation of the area and all the details of its PAC, it is time to explore the crowdfunding proposal, seeing what are the reasons that make it suitable for this specific situation, understanding what are the typical conditions required by crowdfunding platforms, specifying the assumptions of the crowdfunding project proposal, analyzing how the crowdfunding proposal may be structured – understanding if there is more than on approach in order to structure it – and, lastly, providing a draft of the proposal's business plan.

5.3.1 Reasons that make crowdfunding suitable

As stated above, the project proposal consists in utilizing equity crowdfunding to finance the "EX CASERME PASUBIO" Municipal Public Implementation Plan. In this context it is interesting to explain the reasons why crowdfunding may be well-suited for this project.

First of all, it is useful to recall what said at the end of chapter 2: "as a simple algebraical equation, fewer firms means fewer taxes paid, and fewer taxes paid means fewer funds for the State, creating a sort of vicious cycle". This implies that the credit crunch and the decline of the Italian economy in last years has damaged not only SMEs, but also the Italian State, because of a reduction of tax-income from enterprises.

In this context, the State and the Municipalities progressively have less and less money that can be invested in infrastructures and projects like the one presented in this chapter, especially after the Covid-19 pandemic – not yet solved at the time of writing – which will probably affect even more the State's coffers.

Furthermore, it is important to notice that Italy is one of the countries with the highest households' savings level (CSEF, 2015; Il Giornale, 2020). This means that there are a lot of potential private investors that can support a crowdfunding campaign of this type, contributing to the development of infrastructure and at the same time gaining a fair return in exchange for their support.

In addition, the modularity of intervention allowed by the PAC may be perfect in order to propose different crowdfunding campaigns – for example, one for each U.M.I. – instead of one large crowdfunding campaign for the whole area, and to put into effect a step-by-step project, which may be easier to finance.

After that, as a crowdfunding characteristic, investors are capillary distributed, which implies that they may be less strong than a unique investor in influencing the project in the decision-making phase, and it is more probable that assumptions – that will be seen in section 5.3.3 – would be respected.

Lastly, the main limit of real estate crowdfunding is that, at the moment, it is effective only in big cities and densely populated areas, in which the real estate market is more active, the potential audience is larger, and the prices are higher (possibly implying higher returns). However, in this case the public administration may help overcome the problems of audience of peripherical regions, reducing at the minimum the asymmetries of information and giving a huge visibility to the project (since no one has done it before).

Given the reasons that make the real estate equity crowdfunding suitable for the project, it is important to understand which are the typical conditions required by crowdfunding platforms, in order to structure a good and effective crowdfunding project proposal.

5.3.2 Typical conditions of real estate equity crowdfunding platforms

As regards Real Estate Equity Crowdfunding projects, every Crowdfunding Platform has its procedure and conditions. However, looking at those of Walliance and Concrete Investing – the two Real Estate Equity Crowdfunding Platforms authorized by Consob – it is possible to provide a general set of evaluation and requirements criteria.

Every real estate development initiative that is proposed undergoes a severe evaluation process by the internal committee of the crowdfunding platform. The committee works in different stages.

First of all, the project is controlled by a **Pre-evaluation Team**, in which the analysts evaluate the potential of the project and make a first screening. If the project appears to be of interest, the preliminary phase relating to the actual selection procedure starts.

In particular, the Pre-evaluation Team will verify: the truthfulness of the information presented by the entrepreneur during the registration phase and the correspondence between the documents transmitted and the results of the public registers, the lawfulness, not contrary to public order and compatibility with the legal requirements of the activity subject of the business project and/or the way in which the Offeror intends to carry out this activity, and the possession of specific integrity requirements of the administrators of the Offeror company, as well as of the natural persons shareholders and of the administrators of the legal entities shareholders of the Offeror company who have a "qualified participation".

After that, the project is controlled by the **Evaluation Committee**, which is responsible for carrying out the actual due diligence and which – at its discretion – will decide whether or not to accept a new project within the portal.

The analysis conducted by the Evaluation Committee will be based in particular on the following elements: the characteristics of the Offeror, the characteristics of the project in all its aspects, including its economic sustainability and profitability, the technical and design verification, the verification of the coherence of the project with the purposes pursued by the crowdfunding platform, the degree of interest for potential investors of the project as a whole and/or of the organizational model of the Offeror, the adequacy and consistency of the competences possessed by the partners and administrators of the Offeror, by level of education and/or previous professional experience, with respect to the specific activity carried out and the complexity of the project, the ability of the Offeror to introduce new organizational and/or production solutions in the reference market with respect to external market conditions, the growth potential of the reference market and related marketing strategies, the competitive scenario, with particular attention to the market positioning of the Offeror's business and operation, the adequacy of the business plan with respect to the project and entrepreneurial ambition, the financial and asset evaluation of the project, in order to verify the reasonableness of the hypotheses used in the preparation of the business plan.

Moreover, Real Estate Equity Crowdfunding platforms usually evaluate real estate projects that are able to generate a profit in a period of time between 6 and 30 months and with a gross return that is not less than 10% on an annual basis. In addition to that, the financial structure of the operation, generally, must also comply with the criteria showed in table 25.

Financial Criteria of Compliance	
Financing needs of the project that can be covered by a credit institution	From 30 to 50%
Project initiators' resources	From 20 to 40%
Financing needs that can be raised through the crowdfunding campaign	Approximately 30%

Table 25: Financial criteria of compliance

Source: Walliance – Concrete Investing

However, the parameters shown above must be considered as basic general criteria, since they may vary in relation to the peculiarities of each project, following which may be applied more or less wide margins of flexibility.

For what concerns the amount that can be collected through a Real Estate Equity crowdfunding campaign, its maximum is € 8,000,000 (Consob, 2018). It is important to notice that every Real Estate Crowdfunding platform may then establish a minimum amount to be asked for the crowdfunding campaign (in the case of the platform Walliance, the minimum amount is € 500,000.00), usually set in order to cover fixed accounting and legal costs.

Lastly, according to the crowdfunding platforms, the project must be clearly and exhaustively displayed, and must be accompanied by all the necessary documentation, such as: the Chamber of Commerce registration, the Statute of the Offeror company, the Substitutive certification declaration certifying the absence of measures in the general criminal record certificate, the Curriculum Vitae of the legal representative of the Offering company, a Business Plan, a Presentation of the Offeror company, and a Financial Plan.

After having understood the typical conditions required by real estate equity crowdfunding platforms, it is useful to specify what will be the fundamental assumptions of the crowdfunding project proposal.

5.3.3 Assumptions of the proposal

In order to make effective my crowdfunding proposal regarding the area of the barracks "Monte Pasubio", it is important to specify some clear requisites that must be respected.

In particular, the project must be coherent with the objectives of the PAC – as underlined in section 5.2.5 –, meaning that the project must be eco-friendly (since it involves a large green area). The attention to the planet and the use of eco-compatible materials is not only a pure environmentalist assumption – which is a *sine qua non* condition –, but it could be important in the promotion of the project to eligible investors, especially to the eco-friendlier ones.

The second fundamental assumption of the project, related both to environmental aspects and to the mere return on the investment (ROI), is the speed of construction. In fact, materials such as the XLam, which is a cross-laminated timber, allow the project initiator to boost the speed of construction on one side, and to use an eco-friendly and sustainable construction material on the other, with incredible seismic safety standards, and great energy standards (implying important cost savings as regard maintenance costs).

Moreover, increasing the speed of construction means also that the construction would be finished before with respect to traditional construction technologies, which in turn means being able to start to generate returns and pay back investors sooner.

The third assumption is also very important and consists in the modularity of the project's execution, which has been already thought in the Municipal Public Implementation Plan (PAC) and allows to stay below the € 8,000,000 maximum threshold for crowdfunding campaigns set by Consob.

In particular, the modularity of the project allows to set up different crowdfunding campaigns – maybe following the zoning proposed for the U.M.I.s – tailoring them according to the type and intended use of the building in that specific U.M.I., proceeding with a step-by-step project procedure.

Assumptions	**Details**
ASSUMPTION 1: Coherence with the PAC	Eco-friendly project: attention to the planet
ASSUMPTION 2: Speed of construction	Eco-friendly and eco-compatible materials Fastness in starting to pay back investors
ASSUMPTION 3: Modularity of the project	Different crowdfunding campaigns for the different buildings (based on PAC's U.M.I.)
ASSUMPTION 4: Transparency	As much documentation as possible to overcome asymmetry of information
ASSUMPTION 5: Fair returns and protection of municipal property	Choose the adequate ROI

Table 26: Assumptions of the Crowdfunding Proposal

Source: Personal Elaboration

Another assumption is transparency, which on one hand is fundamental since the project involves the public administration, while on the other puts in good light the project in the eyes of investors. In fact – as already pointed out in section 4.8 – on the side of investors, the most important aspect in a crowdfunding campaign is the perceived risk, because it is one of the major factors that influence investors to finance a project, and it is mainly due to information asymmetries ex ante transactions – and moral hazard ex post – in which the seller usually possesses more information than the buyer. In general, the greater is the perceived risk, the less likely a consumer is to purchase.

In this regard, it is fundamental to provide all the necessary documentation – as said in section 5.3.2 –, in order to almost eliminate the asymmetry of information.

The last assumption is to provide a fair return to investors but at the same time to safeguard the municipal property. This means proposing an adequate return on investment for the backers, that should be commensurate to the risk and length of the project, safeguarding at the same time the public administration from paying too much in interests.

Bearing in mind the aforementioned assumptions, it is possible to explain how the crowdfunding campaign may be structured.

5.3.4 Structure of the proposal

The structure of my crowdfunding proposal must respect both the Italian regulation on crowdfunding and the conditions of the real estate equity crowdfunding platforms, while being consistent to the aforementioned assumptions.

In addition to that, my crowdfunding proposal must also be structured in such a way that overcomes the basic limitations of equity crowdfunding regulation – for example, the € 8,000,000 maximum threshold for crowdfunding campaigns set by Consob.

Lastly, the proposal should also be structured in a way that lets the Municipality directly or indirectly ask for funds and without having to do a government tender – in case of success of the campaign – which would inevitably lengthen times.

After this premise, it is possible to start from the corporate structure mostly adopted by project initiators in real estate crowdfunding – the Special Purpose Vehicle (SPV) – and then apply some changes in order to made it suitable for the case.

In particular, a SPV (in Italian: "Società di Scopo") would be established. Usually, if the project is developed in Italy, the SPV can directly develop the real estate project or can finance a company that already owns the real estate property. In this case, the SPV would directly develop the project.

In fact, since the Municipality cannot directly ask for funds on a real estate crowdfunding platform, it would grant a ninety-nine-year concession to the SPV on the area. This move has a two-fold purpose, in fact, on one side it would overcome the limitations of equity crowdfunding regulation and it would safeguard the Municipality properties (with respect to a normal sale of land), while on the other it removes the necessity of doing a government tender – in case of success of the campaign – which would lengthen times.

Therefore, through the crowdfunding campaign launched on a real estate crowdfunding platform, the crowd would invest in a company that has a ninety-nine-year concession and that directly develops the real estate project.

Then, if the crowdfunding campaign would reach the minimum target, the Capital Increase (in Italian: "Aumento di Capitale" – AUCAP) of the company that develops the project would be perfected.

After that, there are two possibilities that can be chosen in order to remunerate investors.

The first one, which could be applied to U.M.I. 1 and U.M.I. 8 (plus U.M.I. 5 for the realization of the urban park) – in which one of intended uses allowed is residence – is the classical real estate equity crowdfunding mechanism: the project is financed by the crowd, the money is used in order to build the residential constructions and then the apartments/houses are sold in order to gain a profit and remunerate investors.

In particular, at the conclusion of the real estate transaction, the profit that is generated for the SPV is collected from it and then distributed among all the shareholders/investors.

The second one, which could be applied to the other U.M.I.s, basically recalls the concept of leasing: the project is financed by the crowd, the money raised is used in order to realize the different buildings/structures, and then the SPV rents the buildings to the Public Administration.

After a certain amount of time – which will be decided *ex ante* according to the amount raised in order to realize the buildings and to the amount of the monthly rent paid by the Public Administration – the Municipality will become the owner of the assets of the SPV.

In few words, the Public Administration will pay each month a rent consisting of a principal plus interest and, after the amount of time decided *ex ante*, the investors will have gained the amount that they have invested plus the ROI established during the crowdfunding campaign proposal.

Even if this method seems unorthodox, it should be noted that the typical conditions required by real estate equity crowdfunding platforms may vary in relation to the peculiarities of the project, following which may be applied more or less wide margins of flexibility.

In this case, since the rents will be paid by the Public Administration and since the Public Administration would not leave the buildings as may happen in a normal rental contract, the investment may be perceived as risk-free, implying more flexibility by the crowdfunding platforms and intercepting those investors that are especially interested in long-term and low-risk investments.

At this point, a legitimate question may arise, asking why should be used crowdfunding instead of a normal leasing contract.

In this regard, recalling the reasons that make crowdfunding suitable for this case of section 5.3.1, it must be noted that crowdfunding investors are capillary distributed and are conditions-taker. In fact, differently from banks and leasing companies, crowd investors take the crowdfunding campaign conditions as they are, without influencing the project in the decision-making phase. So, the Municipality sets the investment horizon and the ROI, and if the investors like it, they will accept to provide their financial support, otherwise they will choose to invest in something else.

After having explained in depth the structure and the strategy behind this crowdfunding proposal, it is interesting to draft a business plan of the project.

Obviously, the project is not definitive and the majority of the costs have not been estimated but, even if the business plan draft can be seen purely as a style exercise, I have tried to make it as realistic as possible by searching the most detailed information about construction costs and real estate market values for the area.

5.3.5 Draft of a Business Plan

Before starting with the draft of a business plan, it should be noticed that the school in U.M.I. 3 will be paid by INAIL. In fact, the municipality will sell U.M.I. 3 to INAIL, which should realize the project of the Arbau Studio.

As said in the previous section, for the remaining U.M.I.s, my crowdfunding proposal may be divided into two possible approaches to remunerate investors.

The **first approach** – regarding the U.M.I.s 1, 5 and 8 – is the typical real estate crowdfunding approach, in which the project is financed by investors, the money raised is used to build the residential constructions and then the apartments/houses are sold in order to gain a profit and remunerate investors.

In this case, in order to make a business plan, it is important to establish a time horizon for the investment, estimating the costs of the realization and studying what is the price in €/m^2 for that area, in order to propose the apartments at an appropriate price level with respect to the local real estate market, being able to sell them within the investment time horizon decided ex ante.

Based on the real estate market of Cervignano del Friuli, it is possible to notice that the price for new constructions ranges between 2000€/m^2 and 2300 €/m^2 (in the central area even more). Since the U.M.I.s 1 and 8 are in a central area, it is possible to apply the same target price, posing the attention to the quality of the constructions and emphasizing its design and attention to the environment (see figure 5.10).

Figure 5.10: Example of a green condominium that will be realized in Mestre (VE)

Source: Gruppo Industrie Edili Spa

Moreover, the aforementioned price range could be more than justified by the fact that these two condominiums would be eco-friendly and innovative, located in a central area whose value is likely to increase given the vicinity to a huge park and easy access to a lot of public services such as public offices and railway station.

As regards the side of expenses, the cost that must be sustained in order to realize a condominium made in XLam and with the maximum energy standards – comprised of solar panels and all technological systems – ranges around 1500€/m^2. This value takes into account also the ancillary expenses, the cost of project planning, the works supervision, and the possible unexpected costs.

Moreover, also the demolition costs should be taken into consideration. In particular, the demolition cost for a building ranges between 30 €/m^3 and 50€/m^3 (plus the cost for transport and disposal in landfills).

Given that the dimensions of the two condominiums may be more or less 40mx20m and 100mx20m (see figure 5.11), with a maximum height of 12,50m (as established in the PAC), it is possible to obtain two 4-floors condominiums (intended as a ground floor plus three floors).

In fact, in Italy the minimum internal useful height of the premises is 2.70 m. To this measure add a slab thickness of at least 35 cm total 3.05 m for each floor (3.05mx4 floors = 12.20m).

Figure 5.11: Plants of the two condominiums

Source: Municipality of Cervignano del Friuli

Figure 5.12: Buildings that must be demolished

Source: Municipality of Cervignano del Friuli

Based on these premises, it is possible to develop apartments from the first floor up to the third, while devoting the ground floor to garages – on the back – and shops/offices on the side of the street (respecting the condition of the PAC that states that are allowed commercial activities with areas of less than 400 m^2).

After having estimated the dimensions of the two buildings, it is possible to provide an Estimated Income Statement for the project (see table 27). Please note that these estimates are based only on average costs and do not represent the state of facts, since a project has not been done yet for the two buildings.

<table>
<tr><th colspan="2">Estimated Income Statement</th></tr>
<tr><th>Costs</th><th>Revenues</th></tr>
<tr><td>• Construction costs
• Demolition costs
• Project and works supervision
• Financial and Insurance Costs
• Intermediation Costs
• Various and Unexpected</td><td>• Apartments + garages sold
• Commercial areas sold

Revenues calculated at 2000€/m^2 (subtracting the estimated areas of stairwells and technical compartments)</td></tr>
<tr><td>Total Costs €16,500,000</td><td>Total Revenues €19,840,000.00</td></tr>
<tr><td colspan="2">Estimated Gross Profit €3,340,000.00</td></tr>
</table>

Table 27: Estimated Income Statement of U.M.I.s 1 and 8

Source: Personal Elaboration

The estimated gross profit from the sales of the apartments would be used to remunerate investors, pay the interests on the bank loan and build also the part of urban park contained in U.M.I.s 1 and 8.

Furthermore, it is possible to state that the time horizon for the investment could be of 1 year and a half. In that time, it is possible to build the condominiums and expect to sell all the apartments, thanks also to pre-sales.

Another important aspect is that – as already stated in section 5.3.2 – Real Estate Equity Crowdfunding platforms usually evaluate projects that are able to generate a profit in a period of time between 6 and 30 months and with a gross return that is not less than 10% on an annual basis. In addition to that, the financial structure of the operations is generally divided between credit institution at 30-50%, project initiators at 20-40%, backers at 30%. In this case, the conditions could be less stringent, because of the presence of a Public Authority that guarantees that the construction would be done properly.

Anyway, it could be beneficial to include a credit institution in the campaign, exploiting on one side the function of relationship lending (explained in chapter 3) between the local bank – for example – and the municipality, while on the other facilitating mortgage applications for those that will decide to buy an apartment of this new project.

Financial Structure		
Typology	**Amount**	**Percentage**
Equity Developer (land, calculated at 100€/m)	€1,200,000	7%
Bank	€6,520,000	37%
Advance payments on sales (estimated as 10% of total expected revenues - possible discounts)	€1,980,000	11%
Equity Crowdfunding	€8,000,000	45%
Total	€17,700,000	100%

Table 28: Financial Structure of U.M.I.s 1 and 8

Source: Personal Elaboration

As shown in table 28, the estimated value of land could be used on one side as the value provided by the project initiators (together with the funds provided by pre-sales of apartments), and on the other – since the estimated costs should be already covered by the credit institution, the pre-sales and the backers – it could be used as a markup in order to finance the construction of the part of urban park located in U.M.I.s 1 and 8.

After the estimated financial structure of the project, it is important to clearly state the ROI for investors (see table 29). In this case, the gross annual return chosen could be of 10%, since the Public Administration is able to guarantee, and the investment may be perceived almost as risk-free with respect to a normal real estate crowdfunding campaign.

ROI	
Estimated Gross Return	15%
Time horizon of the investment	18 months
Estimated Gross Return Annualized	10%
Return for a backer that invests €5,000.00:	
Gross Return	€5,750.00
Net Return	€5,555.00
Total Return for Backers	
Total Gross Return	€9,200,000.00
Total Net Return	€9,148,000.00

Table 29: ROI of U.M.I.s 1 and 8

(With net return calculated on the basis of the taxation of the capital gain per individual to the extent of 26%)

Source: Personal Elaboration

Lastly, subtracting the gross return provided to investors (€1,200,000) and the interests that must be paid to the bank/s (calculated with an interest rate of 7%, so that €6,520,000x0.07= €456,000) from the estimated gross profit (€3,340,000.00) leaves a good margin (€1,684,000) for the realization of the urban park of U.M.I.s 1 and 5, for the demolitions of the buildings in U.M.I. 5, and for cover eventual extra-costs (obviously the amount of money that can be used for the urban park in U.M.I.s 1 and 5 is the profit after taxes and not the gross profit displayed above).

Notice that the 7% interest rate is purely indicative – since interest rates are actually low and may be even lower for a project guaranteed by the Public Administration – and has been chosen in order to show that even in case of quite-high interest rates the project could be profitable.

Moreover, costs have been calculated at high-range values, in order to cover eventual estimation flaws and, in case of a precise initial estimation, gain more money.

Once the money has be spent for the urban park in U.M.I.s 1 and 5, the remaining sum – if any – would be donated from the SPV to the Municipality as a contribution for the land. After that, the SPV can be put into liquidation (obviously, before the donation, liquidation costs must be taken into account).

The **second approach** – regarding U.M.I.s 2, 4, 6, 7 – recalls the concept of leasing, since at first the project would be financed by the crowd, then the money raised would be used in order to build the different structures, and lastly the SPV would rent the buildings to the Public Administration. After a pre-determined period, decided according to the amount needed in order to realize the buildings and to the monthly rental amount paid by the Public Administration, the Municipality would become the owner of the assets of the SPV.

In short, the Public Administration would pay each month a rent consisting of a principal plus interests and at the end of the period on one side the investors would have gained the amount invested plus the ROI agreed during the crowdfunding campaign proposal, while on the other the Public Administration will become the owner of the area.

Obviously, it is important to establish an appropriate time horizon for the investment that could be suitable both in terms of the rental paid by Public Administration and in terms of the ROI pretended by investors.

Like the first approach, a combination of funding from a credit institution and from the crowd could be adopted. Moreover, since each structure would have a precise function (decided according to the PAC) and would be utilized by a precise Public institution, there is not the risk that the Public Administration would not pay or would leave the buildings empty as may happen in a normal rental contract.

However, given that a real project for the buildings that must be built in the aforementioned areas (U.M.I.s 2, 4, 6, 7) has not been done yet and given the fact that at the moment it is not known the rental that the Public Administration is willing to afford, it is very difficult to provide a sensible numerical crowdfunding campaign proposal.

Anyway, it is possible to imagine a specific length for the leasing contract (with its relative monthly/annual payment amount) and provide an explanatory example. Specifically, it can be imagined that one of the buildings would cost €5,000,000.00 and it would have been designed a repayment plan with a 20 years length.

In this regard, in order to make the investment desirable for investors, it is enough to promise a return slightly greater than a 20-year Italian Bond (see figure 5.13), which can be considered as the risk-free rate of reference.

Chiusura prec.	2,114	Prezzo	112.779	Cedola	2.950
Min-Max gg	2,132 - 2,149	Prezzo di apertura	112.474	Data di scadenza	01 SEP 2038
52 settimane	1,491 - 3,275	Range di Prezzo	112.216 - 112.497	Variazione su 1 anno	- 35,06%

Figure 5.13: Italian 20-years bond

Source: Investing.com

As can be seen from the figure 5.13, the 20-years Italian bond pays an interest of 2,12% for a 20 year-period, so that it is sufficient to promise a 5% ROI for the project, in order to entice backers to invest in an almost risk-free investment.

In this context, it is interesting to look at table 30, which shows a potential scenario for the financing of one of those buildings through crowdfunding (notice that in the table it is assumed that the whole amount has been financed by the crowd, while – as already specified – also one or more credit institutions could participate in the investment, maybe exploiting the features of relationship lending with the Municipality).

Characteristics of the investment	
Amount to be financed	€5,000,000.00
Time Horizon	20 years
Interest Rate	5%
Amount to be paid back in 20 years	€5,250,000.00
Annual Rent	
Annual Rental amount (expressed as principal + interests)	€250,000.00 + €12,500.00 = €262,500.00 per year
ROI for investors	
Estimated Gross Return	5%
Time Horizon of the investment	20 years
Estimated Gross Return Annualized	0,25%

Table 30: Possible scenario of the crowdfunding proposal

Source: Personal Elaboration

Once the predetermined time horizon has expired and the Public Administration has redeemed the buildings – as in the first approach – the SPV can be put into liquidation.

Another important aspect is that these U.M.I.s not only could be used to provide important services – such as the schools and the headquarters of the national healthcare company – but they could be used also to locate a profit-generating activity such as the swimming pool. Think about the profits that could be generated in U.M.I. 6 with the swimming pool and SPA connected also with the needs of the healthcare company.

This profit-generating aspect, combined with the innovativeness of the proposal and the guarantees on rents provided by the Public Administration, could reinforce even more the business plan for those U.M.I.s, making investors perceive a very low risk and making them more willing to invest in the project.

5.4 The opinion of the Municipality and of the citizens

The previous sections, while exposing the crowdfunding proposal, were focused mainly on the strengths of my proposal on the investors' side. Anyway, it is also important to provide a quick snapshot of the reaction of the municipality and the possible reaction of citizens to this project.

For what concerns the municipality, as emerged during my interview with the mayor Gianluigi Savino, the fundamental concern for them is to requalify the area without having to bear the costs of the whole project, since a small municipality cannot economically afford a project like that.

Moreover, another important aspect for the municipality is to do not find themselves in charge of all management costs after a certain period of time and to avoid having a single large investor who may have the power to renegotiate the terms of the contract.

In fact, as said by the mayor during the interview, they adopted the project financing formula for the crematorium of the city, splitting the costs with an operator by signing a 20-years contract for that activity.

However, he told me that the main possible issue with that type of solution (that up to know has proved to be effective) is that after the termination of the contract, the operator may decide to abandon the activity or to renegotiate the terms, leaving room for the possibility of having the crematorium vacant and unused.

In this regard, I have tried to design a project exploiting the huge number of small investors of crowdfunding, trying to safeguard as much as possible the municipality (for example through the ninety-nine-year concession), and providing that each building would be assigned to a specific institution (eliminating the risk of vacant buildings). In this way, using either of the crowdfunding solutions presented above, the project could help the municipality to reach its objective, without having to expose itself to risks or possible unexpected future costs.

As regards citizens, following what they have said in the last years in the Facebook group of the city – which can be interpreted as the new *agora* for public opinion –, the most important aspect is to give new life and requalify the area so that they can use it, providing a green and eco-friendly park with pedestrian and cycle paths, and possibly including new services such as the swimming pool and the spa (now the nearest swimming pool/spa is at 20 kilometers away from the city).

In conclusion, the purpose of the present chapter is to provide an alternative way of financing a project promoted by the Public, more specifically through a crowdfunding campaign designed to recover a dilapidated and unusable municipal area.

In addition, the two-fold crowdfunding proposal may be effective in encountering the needs of both short-term investors, who mainly invest to gain a profit in a year/few years, and long-term investors, who may invest in order to gain a lower profit but at the same time to differentiate their portfolio or to hedge against a risk associated to another investment.

Moreover, the purpose of the chapter is also to highlight why backers and credit institutions should invest in this project, with the former that can gain a fair return in an almost risk-free investment, and the latter that could invest not only for the profit but also for the promotion that an innovative project like this one may provide to all the actors involved.

Lastly, the chapter tries also to demonstrate that the project takes care not only of investors, but that wants also to provide an important added-value and additional services to Cervignano del Friuli and its citizens.

Anyway, the present chapter analyzes not only this particular situation, but seeks also to provide a general framework that could be applied to almost all the dilapidated public areas that normally cannot be refurbished or requalified, since the State and/or the Municipalities have not enough funds.

Conclusion

The present thesis was born from a quite-long reflection over how financial markets have changed in last decades since, in my opinion, they are not fulfilling at all their task of channeling funding from savers to investors.

In fact, today's stock markets primarily focus on speculating on the future prices of shares, largely disconnected from real investment or what goes on in the real economy of goods and services (The Guardian, 2013).

Based on this reflection, the present work started from the financial crisis of 2007–2008, considered by many economists as the worst financial crisis since the Great Depression of the 1930s, and showed why the crisis began in the subprime mortgage market in the United States and developed into a worldwide banking crisis in 2008.

In addition, its impact on the global economy has been highlighted discussing also why the crisis led not only to a worldwide recession but also to a sovereign debt crisis that destabilized Europe, damaging especially highly indebted countries like Greece, Ireland, Portugal, Spain, and Italy.

In this regard, the second chapter was focused on the Italian framework during the Sovereign Debt Crisis, exploring the relationship between the Italian debt situation and the credit crunch on Italian SMEs, which are a fundamental component of the Italian economic chain and have been negatively affected by this sub-allocation of funds. In particular, credit crunch had a pivotal role in this chapter, especially in the understanding of why a lot of SMEs – that could formerly obtain funds for their operations and their projects – suddenly had difficulties in acquiring such funds and frequently defaulted because they had not enough power to fight the decrease in demand for their products and/or services and the decrease in the supply of funds by banks.

Moreover, a comparison between the Italian economic structure and those of the other European countries has been provided, in order to contextualize the proportion of SMEs in the Italian economy and to better understand the impact of the crisis on Italian SMEs.

Given the focus on the credit crunch on Italian SMEs, the third chapter has provided some possible solutions for SMEs to offset credit crunch and to fund their projects and business needs, starting from the issue of shares and/or minibonds, to relationship lending, to the entrance of private investors, concluding with a brief introduction of crowdfunding and a comparison between the characteristics of the main types of financing solution.

The fourth chapter was focused specifically on crowdfunding, exploring the different crowdfunding types and their peculiarities, providing also an analysis of the crowdfunding market – from the global market up to reach the Italian one.

In particular, the analysis of the Italian crowdfunding growth rate has been juxtaposed to the chronological timeline of the crowdfunding's legislation changes, in order to understand how the progressive enlargement of the audience of companies that are allowed to launch crowdfunding campaigns has influenced the market growth rate, and to understand if crowdfunding has become a viable and concrete source of financing for SMEs.

Lastly, the fifth chapter consisted in a case study regarding a public project that has stopped because of the lack of funds. In order to tackle the problem, I have presented my crowdfunding proposal with the purpose of showing that crowdfunding may be a concrete alternative way to fund not only the revaluation of this dilapidated and unusable municipal area, but also the requalification of other public areas in cases where despite the public interest is strong there is no money to do it.

In relation with the initial reflection on financial markets, crowdfunding in the present thesis has been proposed as the most efficient and effective way of channeling funds from investors to the real economy, especially in situations like the one of the case study, matching the attractive returns for investors on one side, to the need of funds of the real economy – particularly of SMEs – on the other.

Moreover, it has been presented also as one of the most transparent and meritocratic ways to allocate funds from investors to project initiators, offering different investments types and lengths to investors and facilitating project initiators in their access to credit, without the issue for them to convince credit institutions or other intermediaries of their idea from the very beginning.

Furthermore, the case-study starts giving thoughts not only to the actual importance of crowdfunding – just mentioned above – but especially to its unexplored potential in areas where public finances are at risk of being more deficient or in difficulty after the Covid-19 pandemic, considering crowdfunding as a new way of seeing the partnership between private and public, which so far has been little used.

Bearing in mind this last aspect, I conclude by saying that the fundamental purpose of my thesis is to explain that if an innovative financing method is applied to a public project that has stopped due to the lack of funds, it can be exploited not only to solve this particular problem, but also to provide a general framework applicable to other public projects, ushering in a new era of public-private partnership projects financed through crowdfunding – with the possibility of including also a credit institution – and characterized by the maximum transparency of the projects and by great benefits to investors, project-initiators and citizens.

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