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The governance of Mini-bond issuers on ExtraMOT PRO

Supervisor: Prof. Giancarlo GIUDICI

MSc dissertation by: Silvia LAZZARIN 903194

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Abstract

The global financial crisis of 2007-2008, the European Sovereign Debt crisis, the consequent credit crunch and the increased regulatory constraints for the banking system had a detrimental effect especially for Small and Medium Enterprises (SMEs) and their financing possibilities. In this context, given the lower availability of bank credit for SMEs, a new financing channel for these companies' growth was needed. Accordingly, in 2012 the Italian Government introduced a new regulatory framework to provide SMEs with an alternative financing channel with respect to bank debt: the Mini-bonds.

Listing securities on the Stock Exchange represents an important discontinuity moment for the company, as it represents an opportunity for opening towards the institutional investors' market and adopting profoundly different governance and organizational systems. This occurs not only with share capital, but also when bonds are listed.

On the basis of a research conducted by the School of Management of Politecnico di Milano and Borsa Italiana, this dissertation provides an econometric analysis for assessing the impact of the instrument listing on the governance choices of the Mini-bond issuers on the ExtraMOT PRO market.

Abstract (Italian version)

La crisi finanziaria globale del 2007-2008, la crisi del debito sovrano europeo, il conseguente credit crunch e i maggiori vincoli regolamentari per il sistema bancario hanno avuto un effetto fortemente negativo soprattutto per Piccole e Medie Imprese (PMI) e loro possibilità di finanziamento. In questo contesto, data la minore disponibilità di credito bancario per le PMI, si è reso necessario un nuovo canale di finanziamento per la crescita di queste aziende. Nel 2012 il Governo Italiano ha quindi introdotto un nuovo quadro di regolamentazione per fornire alle PMI un canale di finanziamento alternativo rispetto al debito bancario: i Mini-bond.

La quotazione di titoli in borsa rappresenta un importante momento di discontinuità per l'azienda, in quanto rappresenta un'opportunità per aprirsi al mercato degli investitori istituzionali e adottare sistemi organizzativi e di governance profondamente diversi. Ciò si verifica non solo con il capitale azionario, ma anche con la quotazione di obbligazioni.

Sulla base di una ricerca condotta dalla School of Management del Politecnico di Milano e Borsa Italiana, in questa tesi viene sviluppata un'analisi econometrica per valutare l'impatto della quotazione dello strumento sulle scelte di governance delle emittenti di Mini-bond sul mercato ExtraMOT PRO.

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Executive Summary

The global financial crisis of 2007-2008 and the consequent sovereign debt crisis had detrimental consequences for the health of the banking system, imposing severe constraints for the banks' balance sheets and reducing their lending capacity. This phenomenon, the credit crunch, is analyzed in the first chapter, stressing how it provides a negative impact especially on Small and Medium Enterprises (SMEs) as they possess a limited net worth, which can negatively affect the quality and the quantity of available information regarding their investment projects and collateral.

The second chapter analyzes Small and Medium Enterprises, considering their peculiar role in the European economic ecosystem and the specificity of their financing choices, proposing a focus on SMEs collecting debt capital and using Mini-bonds.

Moreover, the SMEs' financing context in Europe and Italy is presented, firstly providing a comparison and secondly focusing on Italian SMEs, the measures implemented for supporting them (with a special regard for the Piani Individuali di Risparmio) and their performances.

In 2018, the 99,8% of all non-financial enterprises was constituted by slightly more than 25 million SMEs in the European Union. These companies employed nearly 97.7 million people, constituting 66,6% of total employment, and provided 56,4% of total added value, for EUR 4,357 billion. SMEs are peculiar types of companies not only because of their primary role in economic development and employment, but also because of their financial structure.

Considering the premise of the SMEs' preference for external debt over equity, their higher opacity, their greater collateral constraints and their shorter credit histories, the empirical evidence suggests that these companies are more likely to become credit constrained when banks are hit by adverse exogenous shocks. These effects have been highlighted especially during the 2007-2008 financial crisis; this context set the pathway for new, alternative financing channels for providing a solution for the SMEs' funding gap, such as the Mini-bonds.

The Mini-bond industry was born in Italy in 2012 thanks to regulatory innovations, which allowed to "liberalize" the possibility of raising capital on the market for SMEs through these instruments.

The third chapter provides a complete overview about the Mini-bond industry in Italy: the

evolution of the regulatory framework, the issuers and issuances' characteristics, the advantages and disadvantages of these instruments, the players involved, the ExtraMOT PRO exchange and bond markets for SMEs in Europe.

Mini-bond are debt securities of any maturity and commercial papers issued by Italian companies, especially SMEs, subscribed by professional investors only (even after the approval of the Budget Law 2019, allowing also the authorized equity crowdfunding portals to place Mini-bonds) and offering a contractually defined remuneration through the payment of coupons. Since its introduction, the Mini-bond industry has considerably increased: the issuing companies analyzed by the Osservatorio Mini-bond of Politecnico di Milano which placed Mini-bonds under € 50 million from 2012 to 2019, form a sample of 536 companies, 314 of which are SMEs. The issuers of 2019 have been 183 firms, 129 of which entered the Mini-bond market for the first time (whereas the values for 2018 were respectively 145 and 101 companies).

As observed in the previous years too, the vast majority of the issuing companies belongs to the manufacturing sector (in 2019, the 55,8% of the sample), while as far as the geographical location is concerned there is a clear prevalence of the Northern regions, especially Lombardia (25,2% of the total sample).

The Mini-bond issues collected by the Osservatorio during the year 2019 for an amount of less than € 50 million are 207. In 2018, only 166 issues have been recorded instead; the increase in flow is equal to + 24.7%. Starting from 2012, the total sample is constituted by 801 Mini-bond placements. The total nominal value reached at the end of 2019 is € 5.5 billion; the flow contribution relating to 2019 alone was € 1.183 billion, which slightly exceeds the previous record of 2017 (€ 1.175 billion) and provides an increase of 21% compared at the 2018 volume (€ 977 million). Overall, it can be observed that the Italian Mini-bond industry has now mobilized resources for circa one billion euros yearly.

As far as the reasons for issuing Mini-bonds are concerned, if the total sample is divided in SMEs and large companies, it can be observed that the reasons linked to internal growth are common to both large and small-medium enterprises. However, the latter use Mini-bonds more frequently to finance short-term needs, suggesting that they have more difficulty in obtaining credit from commercial banks, while large companies show a greater propensity towards external acquisition.

As regards the maturity, the reimbursement schemes and the coupons, for the total sample it can be observed that the average maturity is 5,2 years, the amortizing reimbursement scheme is

slightly preferred (it has been adopted by the 57.7% of the sample), while most Mini-bonds offer a fixed coupon with an average value of 4,89%.

It is noteworthy that the 74% of the total issues are not accompanied by a rating (597 cases).

On the other hand, 70 issues (the 9% of the total sample) have an 'investment grade' rating (i.e. with a rating of at least BBB- in the scale used by Standard & Poor's, or equivalent) and 'only' 29 (the 4%) have a rating lower than the indicated threshold ('speculative grade').

Italian Mini-bonds commonly present a call or a put options; almost half of the total sample has both options (360 issues, corresponding to the 44.9%).

As far as collaterals and covenants are concerned, a collateral has been used in 267 cases, corresponding to the 33% of the total sample, whereas the usage of financial covenants in Italian Mini-bonds is more frequent: it is indeed present in 406 cases (corresponding to the 51% of the sample).

Furthermore, several actors are involved in the Mini-bond issuing process, supporting the companies and the institutional investors: financial advisors, legal consultants, arrangers, rating agencies, registrar agents and depository banks, and informational web portals.

As far as Mini-bond investors are concerned, private debt funds are at the top of the ranking in 2019 too, with a total share of 32%, which is growing well compared to last year.

Another important novelty regarding the Mini-bond industry has been the launch in September 2019 of the ExtraMOT PRO³ market, the new segment on ExtraMOT PRO for supporting SMEs with high growth potential and bringing them in the international context spotlight. ExtraMOT PRO³ is dedicated to bonds and debt securities issued by firms which are not listed on regulated stock exchanges, SMEs or with an issue value lower than € 50 million. It is a new service well suited for firms already known by capital markets, and is open to professional investors only.

Lastly, it is noteworthy to observe the development of specialized markets and platforms for Mini-bonds also in other European countries: novelties in the sixth Report of the Osservatorio Mini-bond have been Malta, Poland and other European countries.

The fourth chapter defines the research hypotheses, the dataset and the methodology employed for the econometric analysis aimed at analyzing the behavior in terms of governance choices of the companies which listed a Mini-bond on ExtraMOT PRO, addressing a literature gap as no previous studies on this specific subject have been provided in literature so far.

After discussing the main results of the research study on governance changes of ExtraMOT PRO issuers conducted by the School of Management of Politecnico di Milano and Borsa

Italiana, the research hypotheses for the econometric analysis are defined concerning determined organizational and human resources choices, i.e. the introduction of risk management procedures, the introduction of a performance-based remuneration system for top managers, the appointment of a Chief Financial Officer and the appointment of an investor relations manager. All these themes have been verified not to be expressly requested for listing a Mini-bond on ExtraMOT PRO and to provide a positive impact on the firm's performance.

For performing the econometric analysis, the treatment effect of the Mini-bond listing on ExtraMOT PRO has been assessed with respect to a control sample of companies which have issued a Mini-bond, but without listing it on ExtraMOT PRO (in total, 496 firms have been object of the analysis). Each hypothesis is assessed both under a long-term perspective, i.e. considering a step effect, for several years after the instrument's issue, and under a short-term perspective, i.e. considering an impulse effect, for only the year of the emission or immediately after it. The aim of this approach is to evaluate whether companies have implemented determined organizational or human resources choices also some years after the listing on ExtraMOT PRO, or if these choices have been implemented already with the instrument listing on such market; furthermore, the usage of such different alternative specifications provides a confirmation of model robustness too.

The econometric analysis has been firstly performed on the entire sample of treated companies (i.e. those companies who listed a Mini-bond on ExtraMOT PRO, obtained from the ExtraMOT PRO survey) and the respective control sample (obtained from the database of the Osservatorio Mini-bond of Politecnico di Milano). Secondly, a separate analysis has been performed on the treated sample and control sample considering SMEs only (in total, 262 firms). The decision to provide a separate analysis considering SMEs only has been driven not only by the fact that such companies have a crucial role in the Italian economy, but also by the consideration that such companies suffer from higher funding gap and greater information asymmetry. It has been therefore interesting to analyze whether they present a peculiar behaviour with respect to the total sample, considering that especially for these companies the instrument listing can be the first occasion for gradually approaching the institutional investors' market and implementing more sophisticated governance practices.

For the implementation of the econometric model, the creation of a panel data set has been necessary, in order to ensure a longitudinal structure of data with both cross sectional and time

series dimension. A random effects logit model has been identified as the model which best fitted the data.

In the fifth chapter the models' results are presented for the overall sample of Mini-bond issuers (treated sample and control sample). Although all the treatment measures have been found to be positive and statistically significant, different magnitudes have been provided among the different coefficients of the *Mini-bond on ExtraMOT PRO* treatment.

In particular, the coefficients of highest magnitude have been observed for the step effect treatment measure for the implementation of risk management procedures (7.050606), for the appointment of a Chief Financial Officer (2.756919), and for the appointment of an investor relations manager (5.725694), whereas for the implementation of performance-based compensation systems for the top executives the impulse measure related to the issue has been found to have the strongest effect (with a coefficient of 2.941607). The impulse treatment measure related to the logarithm of the issued amount has been instead found to have the lowest impact in all the regressions. The control variables – i.e. the logarithm of the total assets, the logarithm of the company's age and the presence of institutional investors dummy variable - have been confirmed to provide a positive and statistically significant effect in all the models.

In the sixth chapter the models' results are presented for the overall sample of Mini-bond issuers (treated sample and control sample), considering SMEs only.

As far as the models regarding SMEs only are concerned, the coefficients of highest magnitude have been observed for the step effect treatment measure for the implementation of risk management procedures (5.347342), for the appointment of a Chief Financial Officer (1.977087), and for the appointment of an investor relations manager (4.763036), whereas for the implementation of performance-based compensation systems for the top executives the impulse measure related to the issue has been found to have the strongest effect (with a coefficient of 3.8196). The impulse treatment measure related to the logarithm of the issued amount has been instead found to have the lowest impact in all the regressions. The control variables – i.e. the logarithm of the total assets, the logarithm of the company's age and the presence of institutional investors dummy variable - have been confirmed to provide a positive and statistically significant effect in all the models.

The seventh chapter is the conclusion, which summarizes the dissertation's main results, underlining how the existing literature about Mini-bonds has been enriched by this research, the limitations of the work and the recommendations for future research developments.

CHAPTER 1: CREDIT CRUNCH

The phenomenon of bank credit crunch is characterized by a significant reduction in credit supply between two time periods (Berger and Udell, 1994). However, the literature does not provide a commonly adopted definition of bank credit crunch; it has also been defined as “a situation in which the supply of credit is restricted below the range usually identified with prevailing market interest rates and the profitability of investment projects” (Council of Economic Advisors, 1992), “a significant leftward shift in the supply curve for bank loans, holding constant both the safe real interest rate and the quality of potential borrowers” (Bernanke et al., 1991) and “a significant contraction in the supply of credit reflected in a tightening of credit conditions” (Udell, 2009).

Credit crunch is the most severe form of credit rationing, defined by Stiglitz and Weiss (1981) as follows: “ We reserve the term credit rationing for circumstances in which either (a) among loan applicants who appear to be identical some receive a loan and others do not, and the rejected applicants would not receive a loan even if they offered to pay a higher interest rate; or (b) there are identifiable groups of individuals in the population who, with a given supply of credit, are unable to obtain loans at any interest rate, even though with a larger supply of credit, they would”.

The credit rationing characterizes the periods of recession. In particular, the global financial crisis of 2007-2008 and the consequent sovereign debt crisis implied detrimental consequences for the banks' health, assessed not only in terms of capital cushions' erosion, profitability, but also in terms of disruptions in their access to wholesale funding and their ability to provide assets' securitization. Furthermore, the crisis caused strong pressure on the liquidity positions within the banking system, eventually resulting in more serious constraints for the banks' balance sheets which consequently reduced their lending capacity too (Wehinger, 2014). Nevertheless, the credit supply contraction is not the only trigger of credit crunch: the phenomenon can be caused also by a shrinkage in the demand for credit, or a reduction in both (Bernanke et al., 1991).

The decrease in the demand for credit can be indeed observed as the same exogenous adverse shocks detrimental for the banking system can also lead to a contraction in aggregate demand,

driving companies to reduce investments, working capital and, eventually, their credit demand. These shocks may also reflect in a temporary increase in uncertainty, inducing companies to delay their investment and borrowing decisions. Moreover, the exogenous adverse shocks can negatively impact on the balance sheets of the borrowers and aggravate the information asymmetry and limited contractibility, leading banks to reduce their lending to riskier borrowers or increase the lending spreads (Dell’Ariccia et al., 2008).

The first phenomenon described is also called “flight to quality”, theorized by Bernanke et al. (1994), according to which “borrowers facing a high agency cost should receive a relatively lower share of credit extended and hence should account for a proportionally greater part of the decline in economic activity”. The “flight to quality” is assumed to have a less severe impact on firms having a sufficient net worth, equity or collateral at risk to align their incentives with the lenders’ objectives and to diminish the exposure of the lenders towards possible losses (Bernanke, 2018).

Accordingly, Small and Medium Enterprises (SMEs) suffer most under the credit crunch effects, as they possess a limited net worth, which can negatively affect the quality and the quantity of available information regarding their investment projects and collateral (Berger and Udell, 1995). This can be reflected also in higher screening and monitoring costs, as well as increased deadweight losses due to adverse selection or principal-agent problems .

Information asymmetry arises indeed in situations in which one market side is imperfectly informed, negatively influencing the correct functioning of the market and provoking two distinguished phenomena which characterize the decision regarding the interest rate charged by a bank: adverse selection and moral hazard (Akerlof, 1970).

The former phenomenon is observed when the buyer has insufficient information on the quality of the goods offered by the seller the latter phenomenon is instead found when one market side (i.e. the seller) has insufficient information regarding the actions performed by the other side (i.e. the buyer). Therefore, adverse selection is a hidden information problem, whereas moral hazard is a hidden action problem. However, both phenomena eventually result in under-provision and reflect in the external finance premium requested , i.e. the difference between the cost of external and external funding sources.

Consequently, as time evolves, banks accordingly adjust the lending contract’s terms, and the firm’s financing behavior is inherently influenced by its size: small, younger firms have to bear greater leverage constraints if compared to larger, established and well-known companies (see

among others Angori et al., 2019).

It is therefore of crucial importance for SMEs to reduce their dependence from bank loans and to find alternative finance instruments for their investment projects.

CHAPTER 2: SMALL AND MEDIUM ENTERPRISES

This chapter will analyze Small and Medium Enterprises, considering their primary role in the European economic ecosystem and the peculiarities of their financing choices, proposing a focus on SMEs collecting debt capital and using Mini-bonds.

Moreover, the SMEs' financing context in Europe and Italy will be presented, firstly providing a comparison and secondly focusing on Italian SMEs, the measures implemented for supporting them (with a special regard for the Piani Individuali di Risparmio) and their performances.

2.1 Small and Medium Enterprises in Europe

The European Commission has defined Small and Medium Enterprises through the Commission Recommendation of 6 May 2003, according to which “the category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million” (European Commission, 2003).

Within the general category it is possible to observe two further subdivisions:

- a Small Enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million;
- a Microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million.

Table 2.1 underlines how significant is the contribution of SMEs to the European economic growth and job creation. In 2018, the 99,8% of all non-financial enterprises was constituted by slightly more than 25 million SMEs in the European Union. These companies employed nearly 97.7 million people, constituting 66,6% of total employment, and provided 56,4% of total added value, for EUR 4,357 billion. The most common SME sub-category is given by Microenterprises, constituting the 93,0% of all enterprises and the 93,2% of all SMEs in the non-financial business sectors. Nevertheless, the employment in the NFBS provided by Microenterprises has been only 29,7% of the total, whereas Small and Medium enterprises represented respectively the 20.1% and the 16.8% of the total NFBS employment. Regarding instead the value added contribution produced by the various SME categories, it can

be noted that it is more evenly distributed than the employment contribution: Medium-sized SMEs provided the 18,0% of total value added, while Small and Micro enterprises provided respectively the 17,6% and the 20,8% of total value added (European Commission, 2019).

	Micro SMEs	Small SMEs	Medium-sized SMEs	All SMEs	Large enterprises	TOTAL - All enterprises
<i>Enterprises</i>						
Number	23,323,938	1,472,402	235,668	25,032,008	47,299	25,079,312
%	93.0%	5.9%	0.9%	99.8%	0.2%	100%
<i>Value added</i>						
Value in € (million)	1,610,134	1,358,496	1,388,416	4,357,046	3,367,321	7,723,625
%	20.8%	17.6%	18.0%	56.4%	43.6%	100.0%
<i>Employment</i>						
Number	43,527,668	29,541,260	24,670,024	97,738,952	49,045,644	146,784,592
%	29.7%	20.1%	16.8%	66.6%	33.4%	100.0%

Table 2.1: Number of SMEs and large enterprises in the EU-28 NFBS in 2018, their value added and employment

Source: Eurostat, National Statistical Offices, DIW Econ (2019)

Within the different EU-28 countries it is possible to observe different percentages for SMEs, as far as their total number and their contributions to total employment and value added is concerned (see figures 2.2 and 2.3, respectively). As a matter of fact, while the SMEs' presence within the EU-28 members is always greater than 98,0% with respect to the total, when considering more in details their contribution to total employment and value added quite different observations can be made.

As far as the employment is concerned, it is possible to observe a sharp difference between the two opposite situations of Greece (in which SMEs contribute for the 87% of the total) and the United Kingdom (in which SMEs contribute for the 54% of the total).

When instead the total value added is considered, the two opposite and mostly noteworthy contributions are given by Malta (in which SMEs provide the 82% of the total) and Ireland (in which SMEs provide the 42% of the total).

Considering more in details the Italian situation, it is possible to observe that SMEs constitute more than 99% of Italian companies. Italian SMEs generate the 76% of total employment and the 69% of total value added, providing a greater contribution in both categories with respect to the EU-28 average.

These data clearly highlight the fundamental role played by SMEs in Europe; given the strong dependence of the European economy on SMEs, their development and growth is crucial in all the countries.

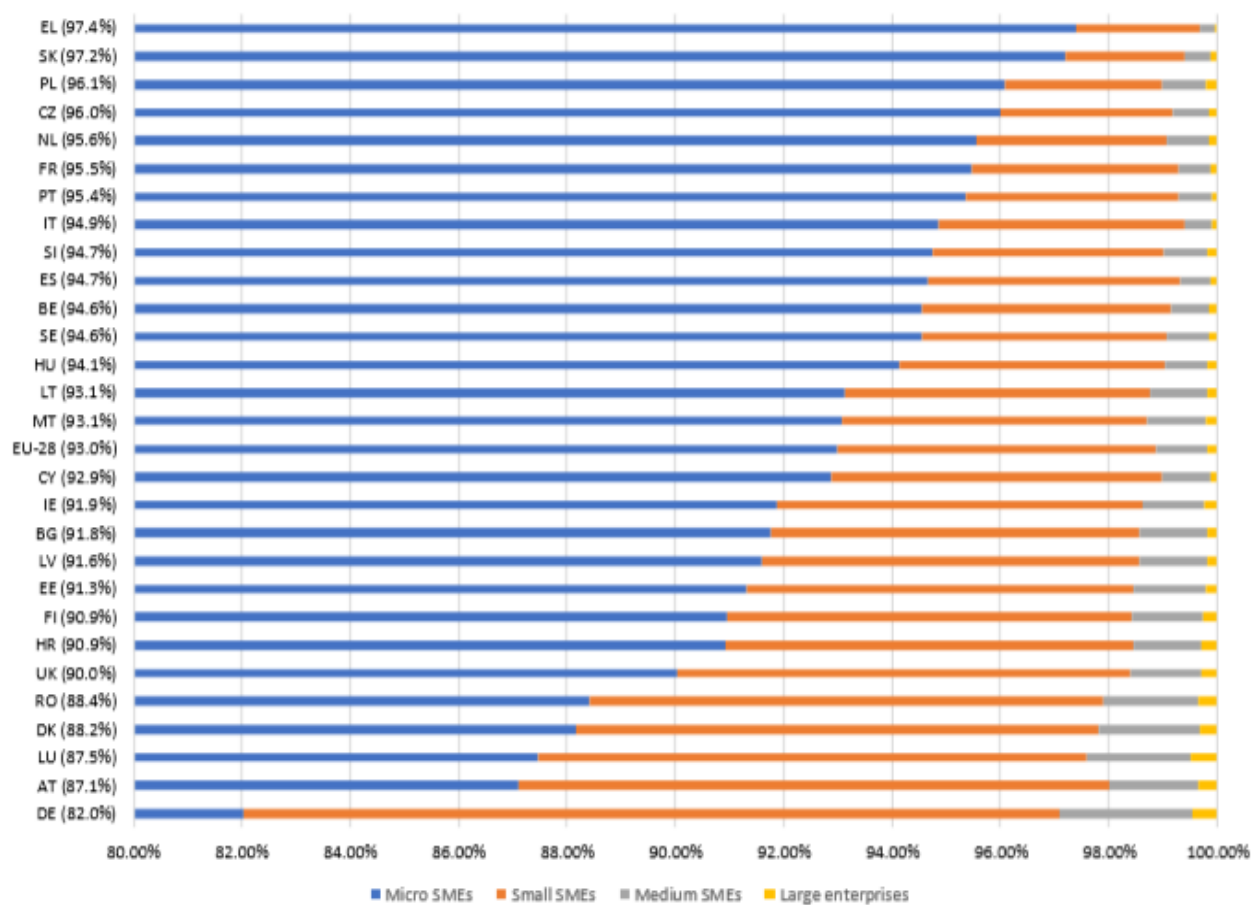


Figure 2.2: Share of micro, small and medium-sized SMEs in the EU-28 and Member States in 2018

Source: Eurostat, National Statistical Offices, DIW Econ (2019)



Figure 2.3: Share of non-financial SME value added and employment in the EU-28 Member States in 2018

Source: Eurostat, National Statistical Offices, DIW Econ (2019)

2.2 SMEs' financing: literature review

As shown in paragraph 2.1, Small and Medium Enterprises are the backbone of the European economy. They are peculiar types of companies not only because of their primary role in economic development and employment, but also because of their financial structure.

Accordingly, the determinants of their access to capital markets and their financial structure will be analyzed, proposing a focus on SMEs collecting debt capital. Moreover, relevant papers regarding Mini-bonds will be analyzed.

To start with, the Modigliani and Miller theorem, which is a cornerstone of modern corporate finance literature, has to be recalled. Substantially, it provides conditions under which the financial structure choice is not relevant in order to determine the overall company 's value. Modigliani (1980) illustrates the theorem as follows. "[...]with well-functioning markets (and neutral taxes) and rational investors, who can 'undo' the corporate financial structure by holding

positive or negative amounts of debt, the market value of the firm – debt plus equity – depends only on the income stream generated by its assets. It follows, in particular, that the value of the firm should not be affected by the share of debt in its financial structure or by what will be done with the returns – paid out as dividends or reinvested (profitably).”

When the key assumptions of the theorem are relaxed, several factors, such as information asymmetry, agency costs, costs of financial distress, tax advantages and transaction costs lead internal and external financing sources to be no longer perfect substitutes. Accordingly, the investment decisions of the firm will be affected by financial factors, such as debt leverage, internal liquidity and dividend payments. Moreover, external financing sources will be more costly than internal financing sources, and an external finance premium will be required by the market for the former typology.

The Pecking Order Theory (Myers, 1984) states that firms have a particular preference order as far as financing sources are concerned. The different information asymmetry between the firm and potential financiers lead the relative costs of finance to differ among diverse sources. Accordingly, inside finance is preferred over external debt, and the latter is preferred over external equity. Clearly, if the information asymmetries are higher – as occurs for SMEs - the difference in the cost of capital for the various financing sources will be wider, and the Pecking Order Theory preferences will be more pronounced. Consequently, the SMEs’ capital structure is indeed often much more weighted towards internal financing sources rather than towards external debt or equity (Beck and Demirguc-Kunt, 2006; Beck et al., 2008).

As far as the SMEs’ access to capital markets across Eurozone countries is concerned, Bonigni et al. (2019) developed an in-depth analysis. Firstly, the authors determined the factors influencing the probability of SME to access financing on the capital markets, both at the firm and at the country level. Secondly, they defined an index of market suitability to indicate the percentage of firms potentially suitable for market-based finance. The results obtained by the authors’ analysis suggest that a large number of companies potentially suitable for market-based finance remain unexploited, even if several countries within the Eurozone have realized SMEs’ “potential”. While the main firm-related variables considered in the study have been size, listed status and growth opportunity, the overall business conditions have been measured by GDP growth, the development degree of domestic financial markets and the quality of the legal and judicial enforcement system.

Furthermore, the paper highlights that strong differences among the considered countries can be observed: in particular, Spain, Portugal and Italy recur to a lesser extent to market-based finance with respect to Nordic countries, probably due to financial distress.

Analyzing more in details the determinants of SMEs' access to bank financing, Ozturk and Mrkaic (2014) made the following observations. Firstly, they found a negative relation between firm leverage and access to finance; secondly, in stressed economies only, the cost of bank funding is negatively associated with the firms' access to third-parties founding sources; thirdly, subsidies are positively correlated to SMEs' access to finance; finally, the financing availability is positively impacted by the company's size and age.

Berger and Udell (1998) have observed how for small businesses the optimal financial structure is determined by the firm's age: at the beginning of the company's lifecycle the most appropriate founding sources are equity capital, provided by business angels and venture capitalists, followed by short term loans, whereas for more mature companies bonds, long term loans and other founding sources are more suitable. While more recent studies, such as Serrasqueiro and Macas-Nunes (2012), have found results in line with Berger and Udell (1998), other analyses, such as Lucey and Mac an Bahird (2006) observed a higher exploitation of external equity capital in companies with a high growth rate; in addition, they found that the company's fixed assets and the required personal collaterals are negatively correlated. Therefore, the company's age appears not to be enough to justify financial structure choices.

Other important determinants of the SMEs' financial structure are the nature of their relationships with banks and the transparency provided.

Companies able to develop closer relationships with the banking system are indeed able to obtain lower interest rates, fewer collateral requirements and greater credit availability (Angelini et al., 1998; Berger and Udell, 1995; Howorth and Moro, 2012).

Benoit Coeurè (2013) underlines the major role of transparency, as the SMEs' higher opacity, less informative financial statements and shorter credit histories eventually reflect in increased fixed costs in external assessment and monitoring.

Moreover, it is crucial to consider also the specific country's industrial and economical situation when analyzing the determinants of SMEs' capital structure choices, focusing in particular on SMEs collecting debt capital, remarking the premise of their preference for external debt over equity coherently with the Pecking Order Theory.

According to Jappelli and Pagano (2002), SMEs' bank lending is higher and credit risk is lower in countries with greater information sharing among lenders, regardless of the public or private nature of the information sharing mechanism. Moro and Fink (2013) remark the fundamental role of trust in financial markets, and observe that SMEs operating in a context in which they are more able to be trusted from loan managers they are able to obtain more credit and are less credit constrained.

McNamara et al. (2017) observed that the SMEs' debt is higher in countries with more efficient bankruptcy environments in terms of debt recovery and less strict regulatory environments. In particular, a more efficient bankruptcy system is more associable with long term debt, whereas the efficiency of the information and legal context is more associable to short term debt. The regulatory environment has been found to be more relevant for both long term and short term debt instead. Acharya et al. (2011) provide evidence that SMEs' leverage is higher in contexts in which creditors' rights in bankruptcy are weaker. This inverse relation becomes usually stronger in countries where management is dismissed in reorganization or following changes in creditor rights are implemented. Furthermore, Demirguc-Kunt and Maksimovic (2002) state that the companies' usage of long term external financing is higher in countries with a greater efficiency of enforcement in the judicial environment, while Scholes et al. (1992) point out that firms having a higher marginal tax rate will be more likely to select long term debt, in order to exploit the tax deductions provided by this financing choice.

The negative effects of information asymmetries, collateral constraints and other imperfections in financial markets on SMEs' financing have increased in particular during the 2007-2008 global financial crisis (Holton et al., 2013). In this context, alternative financing channels have emerged in order to provide a solution for the SMEs' funding gap and information asymmetry problems, and researchers have started to assess their impact.

The particular alternative financing channel represented by Mini-bonds has been exploited in several countries. Papers regarding this topic are still relatively limited in number, as it is a financing instrument of rather recent introduction; however, interesting studies have already been done, whose main results are the following. Mietzner et al. (2016), analyzing the German Mini-bond context, have observed that credit rating agencies have understated the credit risk regarding Mini-bond offerings and, consequently, tended to inflate the ratings. This is consistent with the higher Mini-bond defaults than expected using historical default probabilities in the respective ratings classes. This environment has created an opportunity for low quality firms to

obtain financing through Mini-bonds. For high quality firms competing for external debt financing, this created instead an incentive to signal their quality through Mini-bond underpricing. The authors have empirically confirmed that higher underpricing is correlated with higher quality of the Mini-bond issuer and lower early default rates. Altman et al. (2016) have instead analyzed the Italian Mini-bond market, developing an innovative model for assessing the SMEs' creditworthiness and applying it to the Mini-bond issuers. Their results have confirmed that the information asymmetry in the market is still high, affecting the level of risk/return trade-off; this eventually discourages investors and small businesses that would be interested to exploit this new financing channel for their business' growth.

However, the Italian Mini-bond market has been able to considerably develop and grow in the recent years; a more detailed literature review on the topic will be analyzed in Chapter 3.

2.3 SMEs' financing: the context in Europe and Italy

This paragraph will present an overview on the actual financial context for Small and Medium Enterprises, firstly providing a comparison between the European and the Italian situation, and secondly providing a focus on Italy and the measures undertaken by the Italian Government to promote access to financing.

The European Investment Fund's Research and Market analysis division has developed the EIF SME Access to Finance (ESAF) index in order to summarize the various sources of information related to small businesses' access to financing. The ESAF index is a composite indicator that synthetizes the access to finance for all Member States, providing a useful instrument for comparing the situation for the overall SMEs' financing market in the European Union, as well as a tool for specific sub-segments analyses. The ESAF index is composed by four sub-elements, three of which provide information regarding different financing sources (loans, equity, credit and leasing), whereas the fourth is related to the general macroeconomic environment.

Figure 2.4 confirms that Italy is one of the European Union Member states which relies more on bank loan financing, occupying the fifth place, whereas it realizes a much worse performance on the equity market, occupying the twenty-first place (Torfs, 2019).

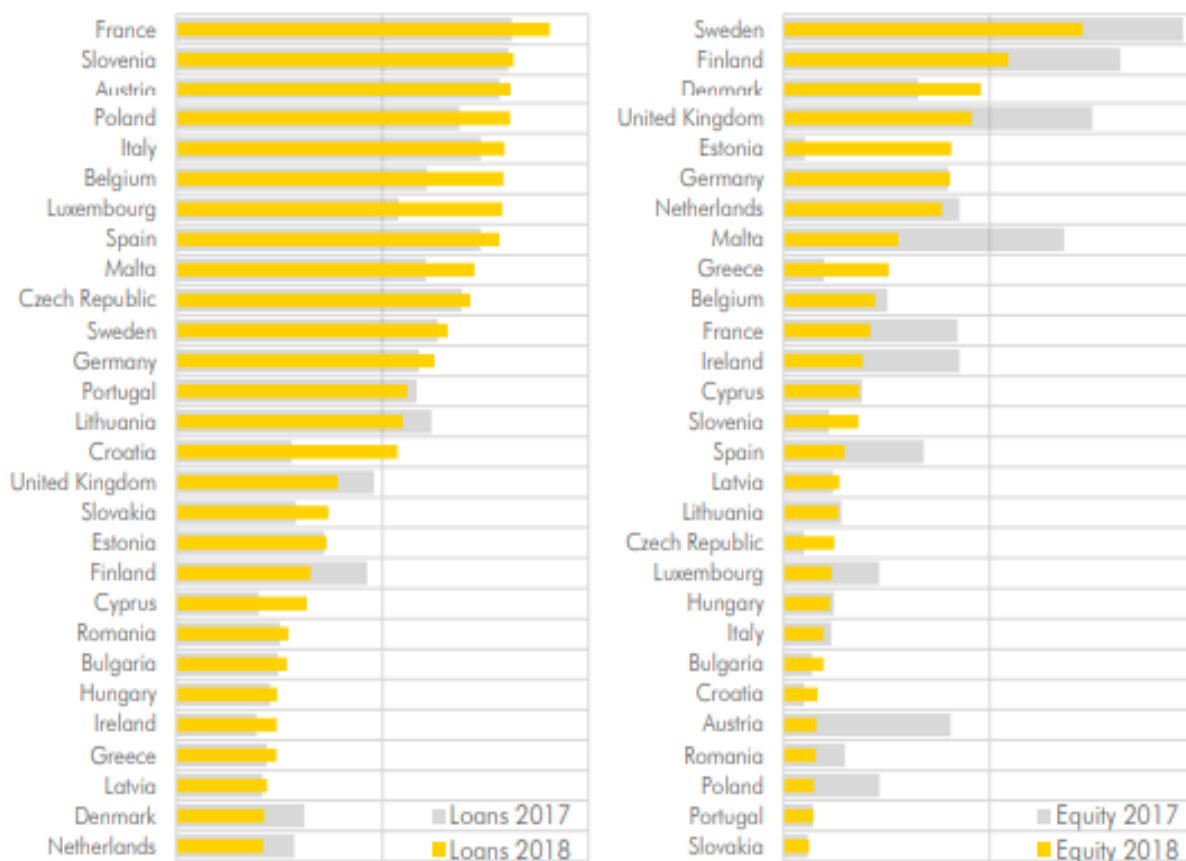


Figure 2.4: ESAF subindexes – Loans and Equity

Source: Torfs (2019)

The left panel of figure 2.5 shows how over one in four SMEs still declares severe difficulties in accessing to finance. This indicates significant structural credit market failures, which leave SMEs’ financing demands unsatisfied. The share of SMEs belonging to the Eurozone reporting access to finance a very important issue has slightly increased during the first semester of 2019 (up to 27%). It is noteworthy that also large companies have increasingly reported access to finance as a relevant problem since late 2017. Ultimately, the two series seem to be slowly converging.

The right panel of figure 2.5 shows instead that the share of SMEs identifying access to finance as a relevant problem changes significantly among different countries. The worst performer is Greece, with 45% of its SMEs declaring to have significant problem in accessing finance, although it has slightly improved by 7% if compared to 2018. Italy occupies instead the second worst position, with an increased number of SMEs reporting problems in accessing finance in 2019 with respect to 2018 (European Investment Fund, 2019).

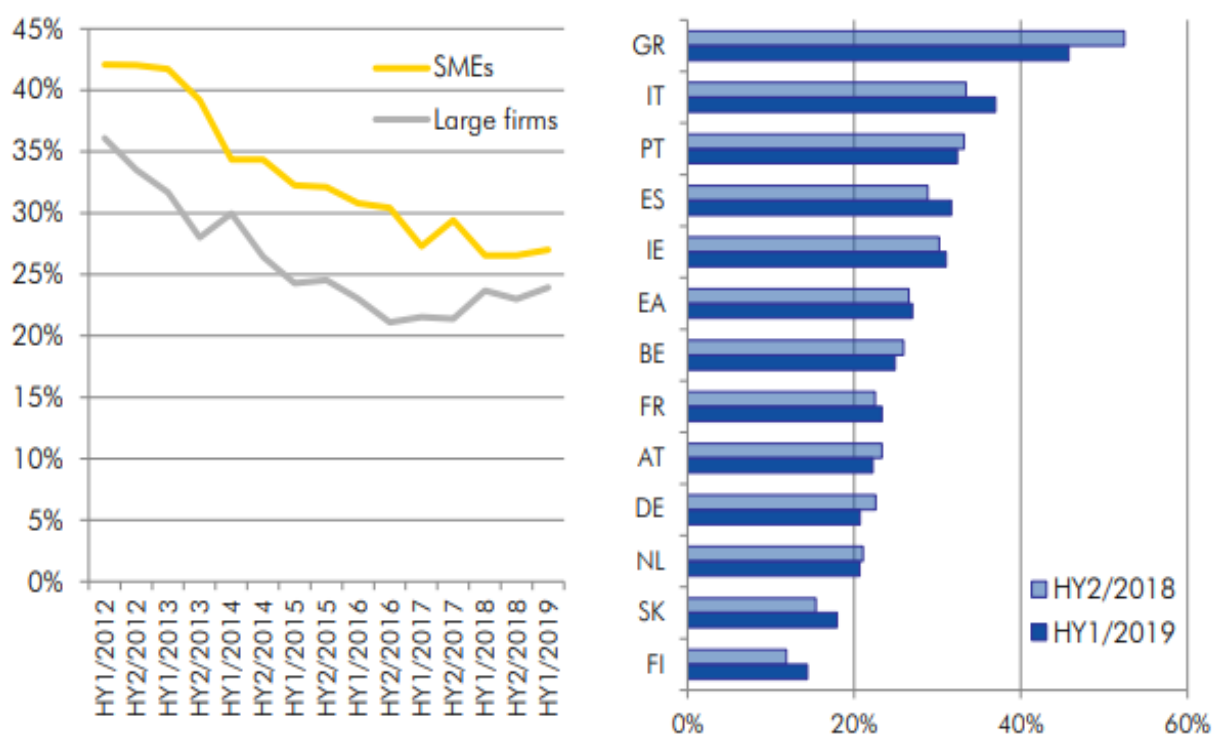


Figure 2.5: Percentage of Euro area SMEs ranking access to finance as a highly important issue
 Source: European Investment Fund (2019)

Accordingly, in order to reduce the SMEs’ problems in accessing finance, the European Commission has fostered the “Small Business Act” for Europe (SBA). The SBA is a comprehensive policy framework based on ten principles, designed in order to improve the approach to entrepreneurship in Europe, to simplify the regulatory and policy environment for SMEs, and to remove the remaining barriers to their development.

Analyzing the SBA profile of Italy (see figure 2.6) it emerges that Italy has a worse performance if compared to the EU average in 8 out of the 9 SBA principles displayed in the graph. In particular, the greatest gaps with respect to the European Union average can be observed in responsive administration, state aid and public procurement and access to finance.

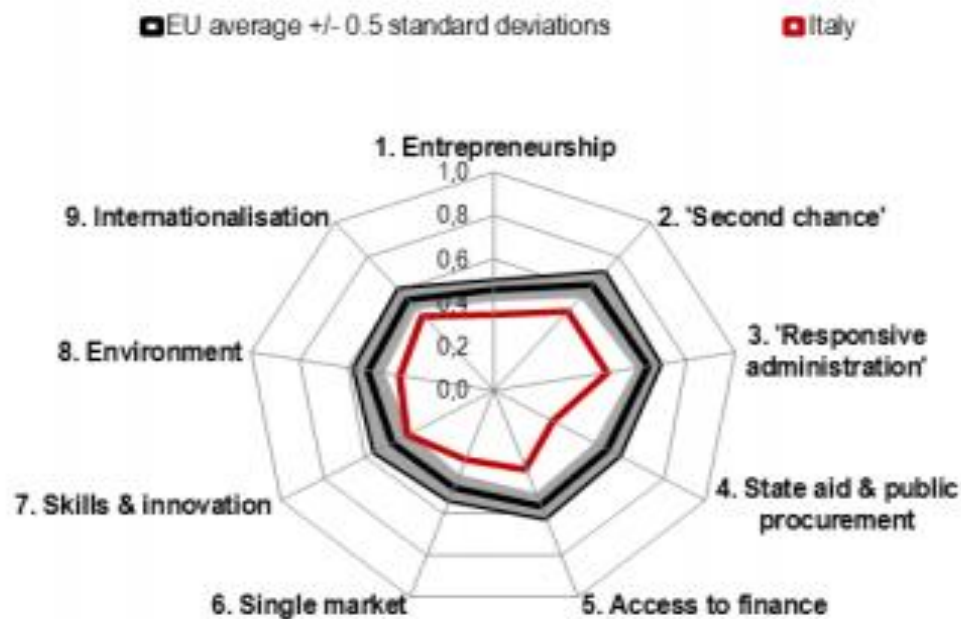


Figure 2.6: Italy's SBA profile

Source: European Commission (2019)

Figure 2.7, which shows more in details the SBA profile of Italy regarding access to finance, remarks that Italy performs below the EU average. However, some progress has been reported for some indicators. In particular, the cost of borrowing for small loans has slightly improved since 2016. Moreover, the average time needed to be paid by customers is a major issue for SMEs in Italy, in which the third longest value in the EU can be observed. However, the situation is improving under this aspect too, with the average duration falling by 20 days between 2016 and 2017. Furthermore, access to public financial support, including guarantees, has improved too since 2014, as well as the availability of equity funding for new and growing companies.

It is important to underline that Italian SMEs have been negatively affected by the credit crunch effects since 2008. In 2017, recovery signs started to manifest, and SMEs benefitted from alternative financing sources, such as Mini-bonds, Peer-to-peer lending, invoice trading and direct lending funds.

In the recent years, the Italian Government has indeed been promoting support measures to

promote investments and alternative financing sources, including:

- tax incentives for risk capital (40% fiscal benefit for investors in innovative start-ups);
- support for equity crowdfunding for start-ups and innovative SMEs;
- the launch of ‘individual savings plans’ (the Italian Piani Individuali di Risparmio, PIR) to foster the financial flow from household savings into SMEs’ capital.

Significant measures for improving the access to finance for SMEs have been launched too. This has included the refinancing of the Central Guarantee Fund for SMEs, the increase in tax benefits for depreciation for firms investing in capital goods (super-depreciation and hyper-depreciation) and investments in ‘Impresa 4.0’.

Besides, during 2018 and the first quarter of 2019, further measures have been implemented to promote access to finance:

- A reduction in the tax rate on corporate income from 24% to 15% - the so-called ‘Mini-IRES’;
- The ‘Tax credit on consultancy fees for listing SMEs on the stock exchange’ (Credito d’imposta per le spese di consulenza relative alla quotazione delle PMI), which is a tax credit valued at 50% of the consultancy fees for the SMEs willing to be listed on the Stock Exchange;
- The ‘Fund for SMEs in Southern Italy’ (Fondo Imprese Sud) has created a public fund to support the SMEs’ growth in the Southern regions of Italy and leverage additional private funds, with a budget of €150 million;
- The ‘Restart L’Aquila programme’ (Programma Restart L’Aquila), implemented in 2018, aims to encourage investments in projects in the tourism sector in parts of central Italy affected by the earthquake of 2009, with a budget of €10 million;
- The ‘Tax credit for advertising expenditures’ (Bonus Pubblicità), introduced in 2017, which established a 90% tax credit for SMEs and start-ups to cover their advertising campaigns’ cost (European Commission, 2019).

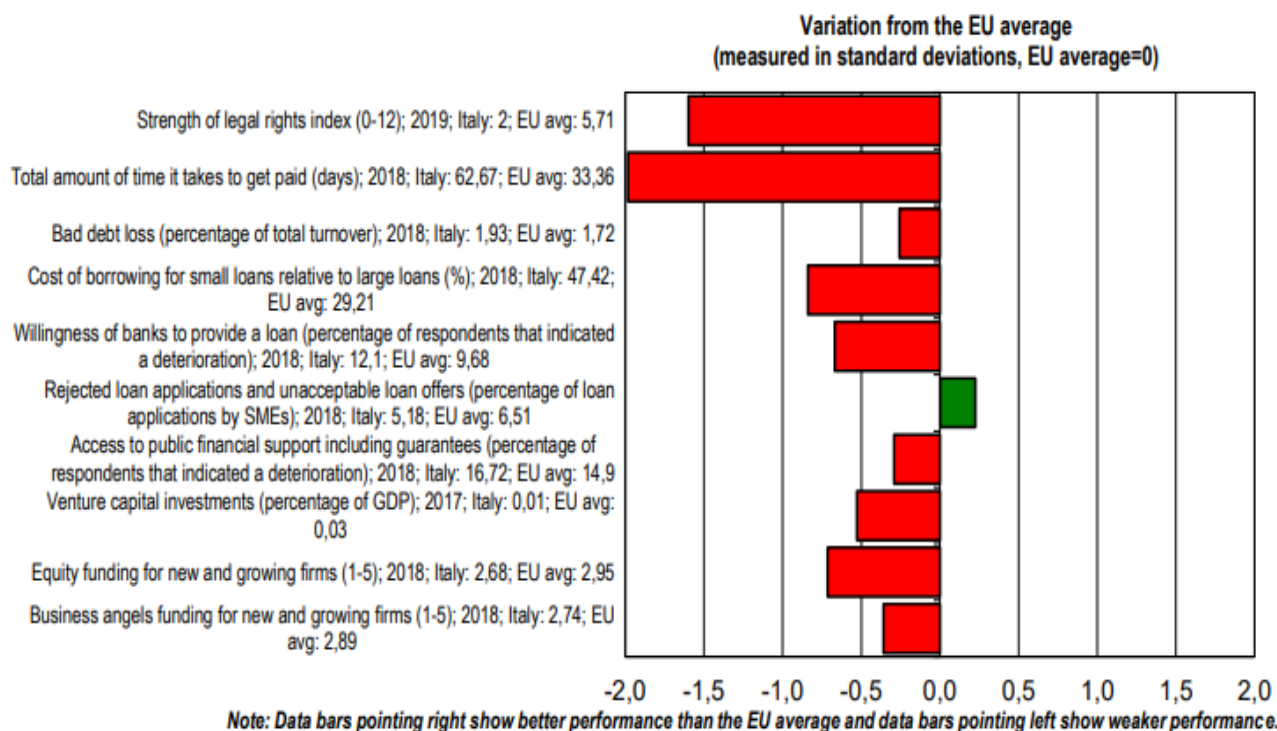


Figure 2.7: Italy's SBA profile – access to finance

Source: European Commission (2019)

2.4 The performance of Italian SMEs

As shown in figure 2.8, Credit crunch had a strong negative impact on the total number of Italian SMEs; however, the positive dynamics that followed in order to recover from the negative effects of the crisis have brought to a peak in 2018, with a record of new companies. The growing number of new companies has been favored also by the introduction of the simplified Srl (Ltd), i.e. the juridical form allowing to subscribe new firms at a very low cost. Nevertheless, the propulsive effect implied by this new measure has ended, as in the first six months of 2019 a decrease in the number of new companies is observed. Moreover, in 2019 the number of firms which have undergone a process of default or liquidation has increased, especially within the industry and the services; these effects are attributable to the new conjunctural slowdown.

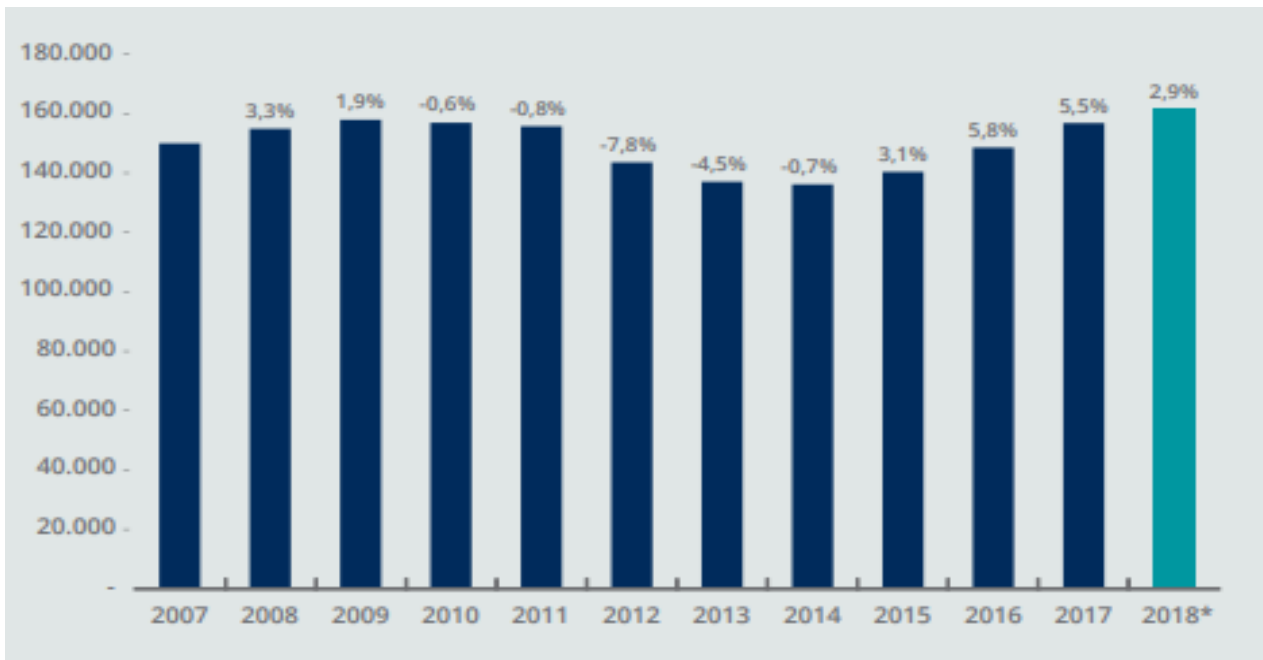


Figure 2.8: Number of SMEs in Italy and yearly growth rate

Source: Cerved (2019)

As shown by figure 2.9, in 2018 a decrease dynamics regarding the revenues' growth has been registered in comparison to 2017 (considering SMEs, a +4,1% with respect to the previous +4,8% is observed), although it still remains stronger than 2016 (in which the growth rate of the SMEs' revenues has been only +2,0%). This dynamic is observed within all company sizes: large companies have had a +3,8% increase in revenues, whereas SMEs have had a marginal better performance (+4,1%) in 2018. Furthermore, companies of medium size have registered a slightly better revenues' growth rate with respect to small companies (+4,2% and +3,9%, respectively).

The decreasing dynamics observed for 2018 within all company sizes is observed within the various company sectors too (see figure 2.10), with the exception of constructions and utilities, which in 2018 have registered the strongest revenues' growth rates for SMEs (+4,7% and +7,8%, respectively). In particular, the companies belonging to the latter sector have been positively impacted by the raw materials' price increase occurred in 2018 too.

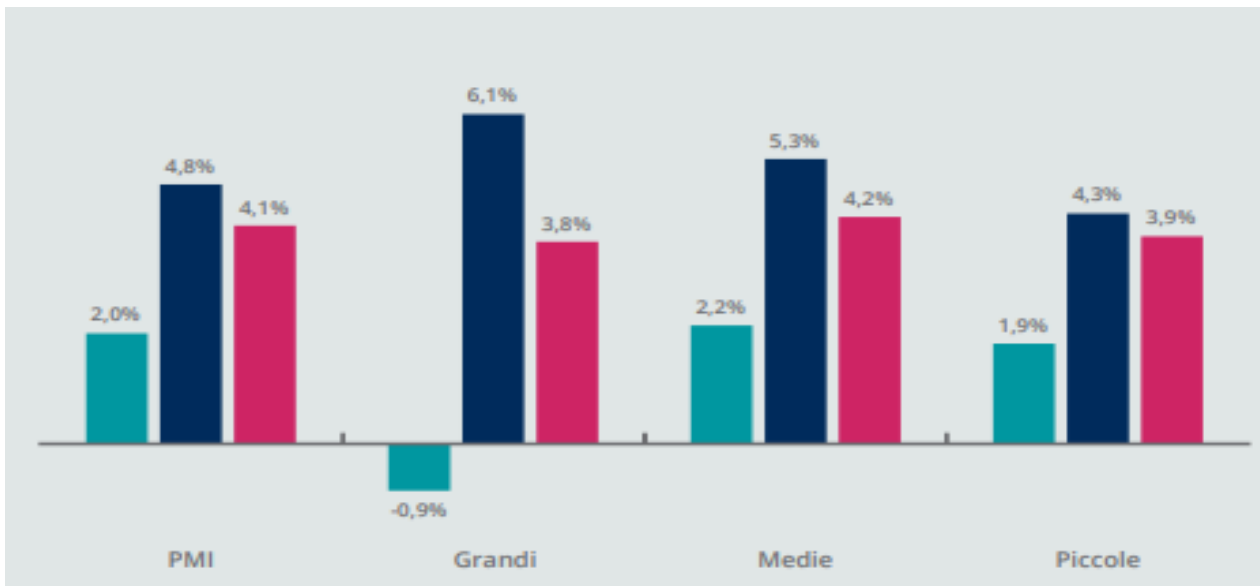


Figure 2.9: Revenues by firm dimension in 2016, 2017 and 2018
Source: Cerved (2019)

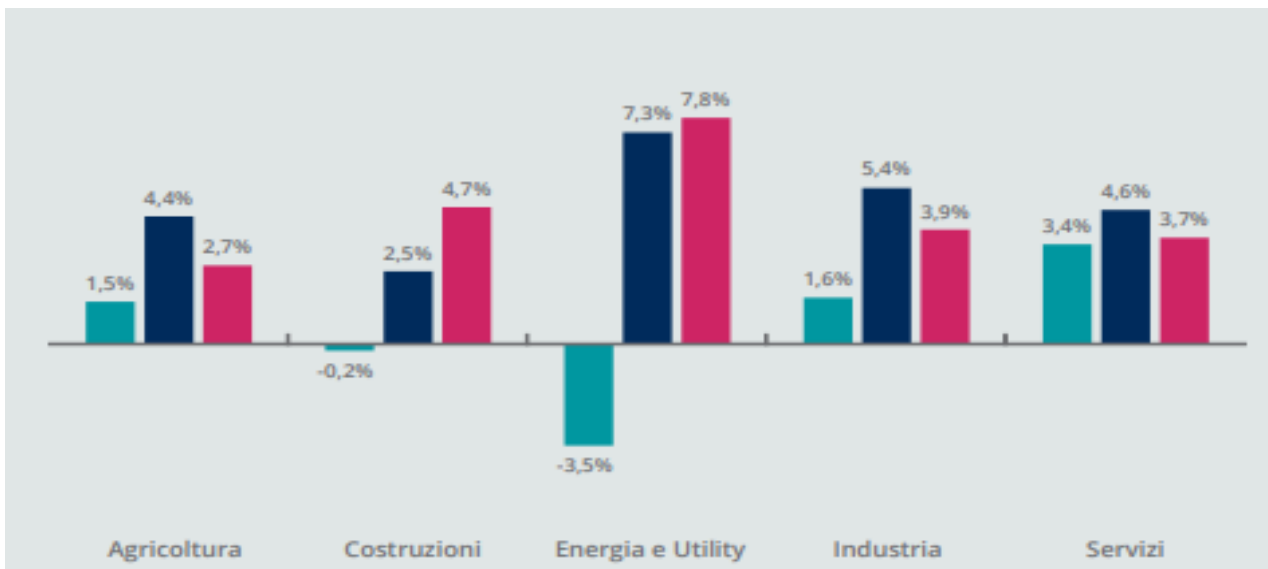


Figure 2.10: SMEs' revenues growth in 2016, 2017 and 2018, by sector
Source: Cerved (2019)

As far as the value added is concerned, a considerable gap between the dynamics of SMEs and large companies is observed (see figure 2.11): while the former companies have experienced a growth trend in 2018 in line with the value observed in 2017 (4,2% and 4,1%, respectively) large companies have experienced a strong decrease trend instead (+1,5% and 3,4% in 2018 and 2017, respectively). SMEs seem therefore to be more able to contain their operating costs, with a growth trend in their value added which is in line with the trend observed for the revenues.

Figure 2.12, which shows a comparison between the value added provided by SMEs among the different sectors, displays that the services have experienced the strongest growth in value added in 2018 (+4,8% with respect to the previous year), as well as constructions (+4,4% with respect to the previous year). The growth trend in the value added provided by the other sectors has been instead decreasing: the strongest negative trends are observed in agriculture (+0,0% in 2018) and energy and utilities (from 5,4% in 2017 to 1,5% in 2018), notwithstanding the increase in revenues observed for the latter sector in figure 2.10. Since on average the companies belonging to the energy and utilities sector are of larger size, this negative peak can in part explain the worst performance observed for large companies.

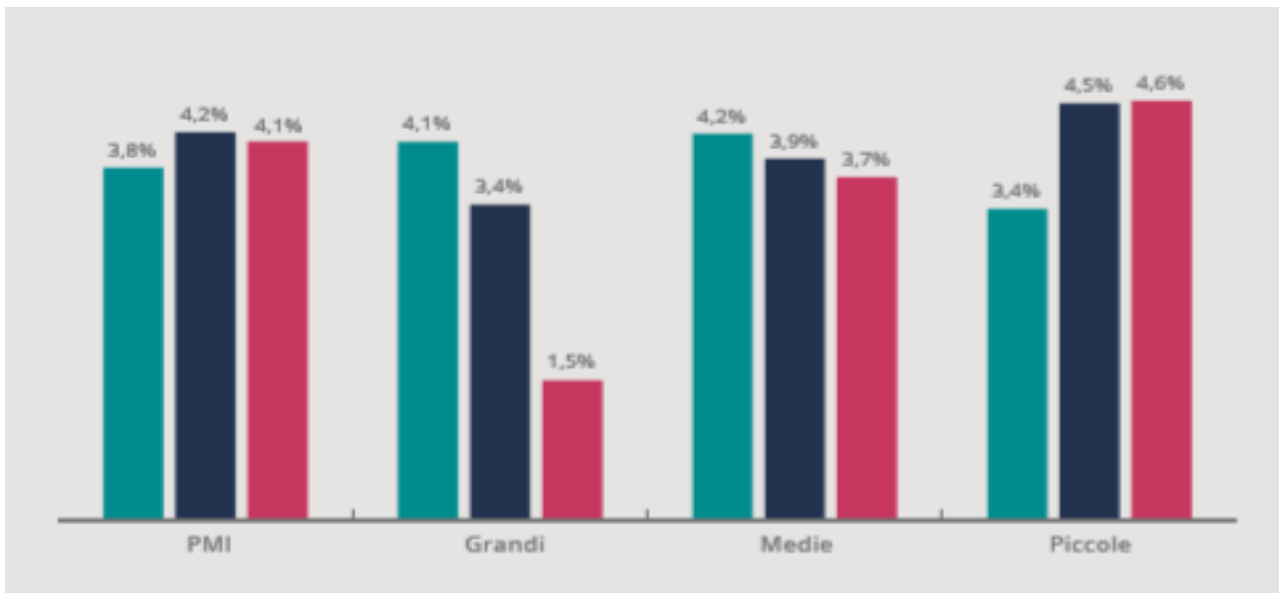


Figure 2.11: Value added by firm dimension in 2016, 2017 and 2018
Source: Cerved (2019)

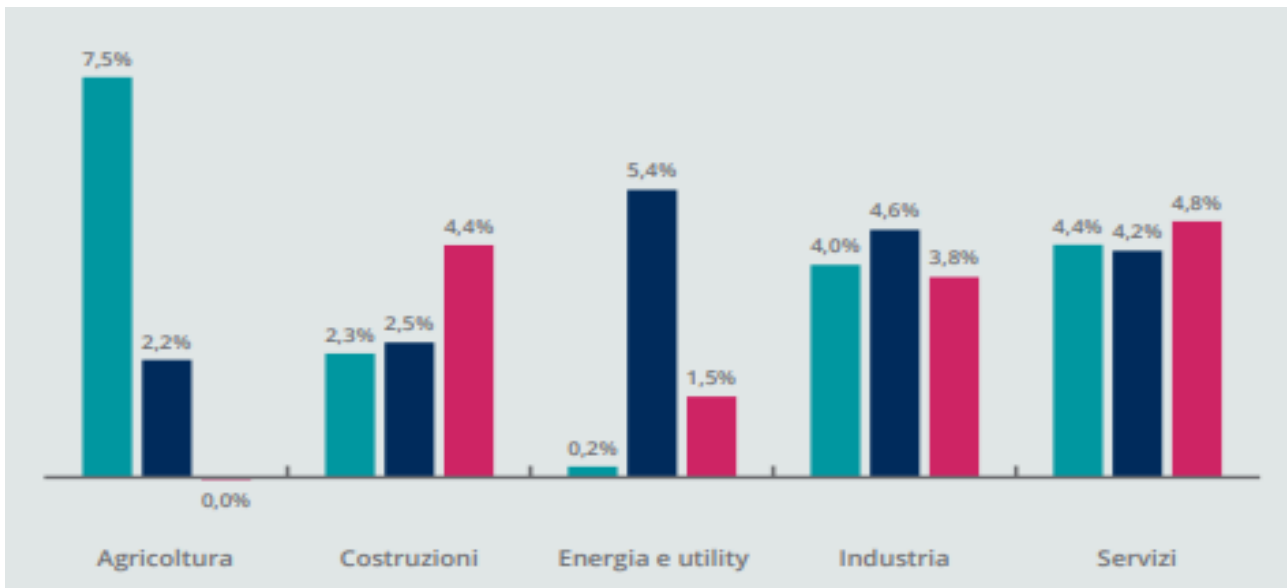


Figure 2.12: SMEs' value added in 2016, 2017 and 2018, by sector
Source: Cerved (2019)

As displayed by figure 2.13, a slightly negative trend can be observed in the SMEs' ROA too (from 5,1% in 2017 to 2,0% in 2018), whereas the negative dynamic has been sharper for medium-sized companies (from 5,2% to 5,0%). The ROA of small companies has seen no variation instead (it has remained stable to 5,1% both in 2017 and 2018), whereas large companies have been able to experience a positive ROA trend (from 4,1% in 2017 to 4,4% in 2018).

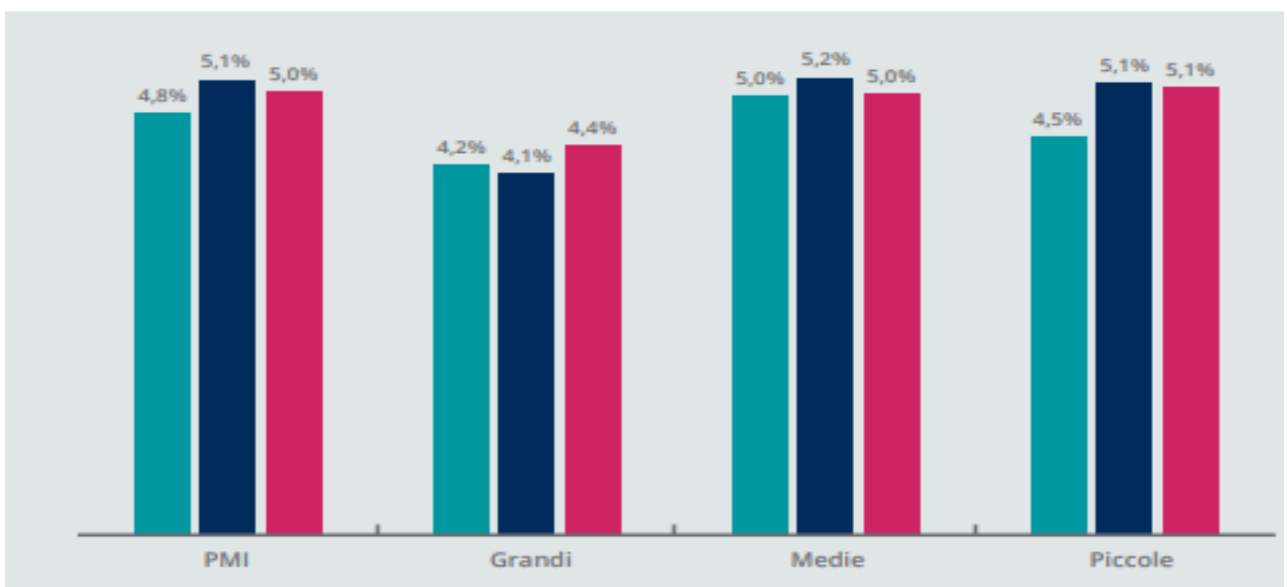


Figure 2.13: ROA by firm dimension in 2016, 2017 and 2018
Source: Cerved (2019)

Also for year 2018 the degree of SMEs' dependence on the banking system has been confirmed to be a structural factor with a strong ability to provide an influence on performance, although the gap among the various categories is slowly diminishing.

In 2018 the SMEs not exploiting bank capital for financing their business have been increasing, in line with the trend observed for the previous years. Last year 65000 SMEs have indeed decided not to use bank financing (the 40,1% of the total sample). A sharp growth trend can be observed, especially if compared with the data of 2009, in which only the 29,0% of SMEs were operating fully self-financing. This can be on the one hand attributable to the credit crunch phenomenon, while on the other hand it could be due to the exploitation of alternative financing channels.

Considering "companies not dependent on the banking system" for which bank loans weigh less than 10% of assets, there are 94 thousand SMEs (of which, 65000, without debts with banks), 59% of the total sample.

As far as the other two company categories are concerned, the "moderately dependent" SMEs, for which bank loans weight between 10% and 50% of total assets, are 60000, while the "heavily dependent" SMEs, for which bank debt accounts for more than 50% of total assets, are much less than in 2009, accounting for only the 10,5% of the total sample.

As shown by figure 2.14, the ROA of non-dependent SMEs has remained substantially stable between 2016 and 2018 (from 5,4% in 2016 to 5,6% in 2018). It is however higher than the ROA observed for moderately dependent companies, which has been 4,5% in 2018. The heavily dependent companies' ROA is experiencing a more marked positive trend instead, ranging from 2,1% in 2016 to 3,0% in 2018.

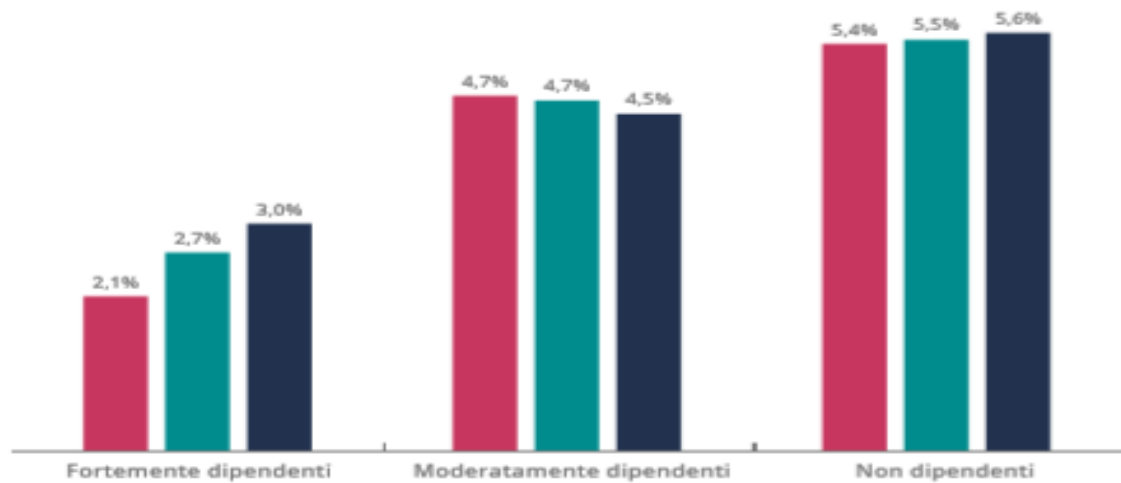


Figure 2.14: SMEs' ROA by dependence on banking system, in 2016, 2017 and 2018
Source: Cerved (2019)

Figure 2.15 shows a convergence of results too, however the highest drop is observed now among the SMEs not depending on the banking system, which show a turnover of 3,3% in 2017, reduced to 2,8% in 2018. The other two companies' categories display instead stable values, lower than the formerly discussed category; in 2018 the moderately dependent companies show a turnover of 2% and the heavily dependent companies display a turnover of 1,2%.

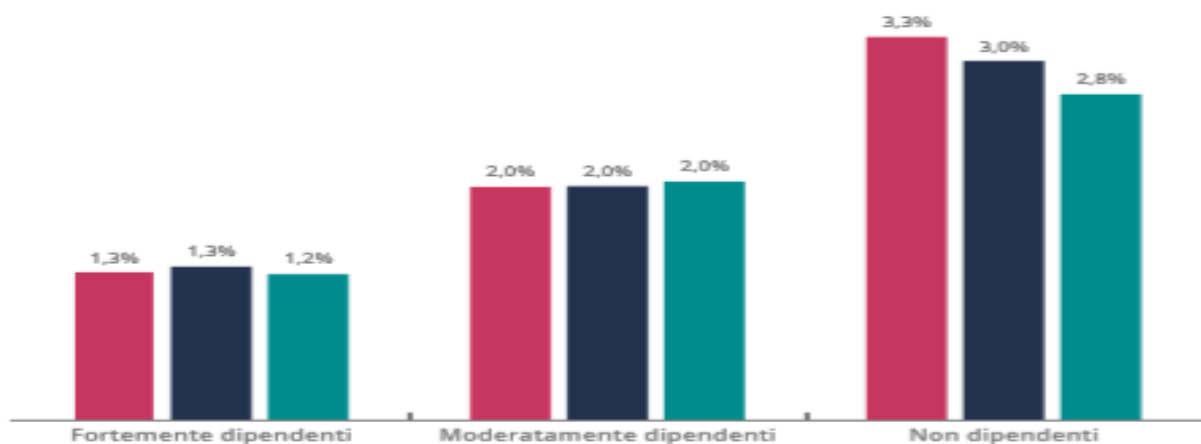


Figure 2.15: SMEs' turnover by dependence on banking system, in 2016, 2017 and 2018
Source: Cerved (2019)

It is noteworthy that SMEs continued to benefit from the European Central Bank’s expansive monetary policy, which has led to a diminished cost of debt. The ratio between financial charges and debt has been indeed reduced, although less than it has been in the past, dropping from 3,7% to 3,5% in 2018. In particular, small companies have been able to exploit a stronger reduction in their cost of debt (from 4,3% to 4%) rather than medium-sized companies. Accordingly, the gap between the two categories has been further reduced. Nevertheless, the profitability of SMEs in Italy appears to be reduced for the first time after four years of growth, returning to the level of 2016.

The graph displaying the ROE results (figure 2.16) shows that SMEs have experienced a reduction from 11,7% in 2017 to 11,0% in 2018: this has led to a negative gap of three percentage points with respect to 2007. For the first time, small companies show the best performance in ROE, with a value of 11,3% in 2018, while medium-size companies displayed a value of 11% (whereas the values of 2017 were respectively 11,7% and 11,8%). Large companies show instead a recovery trend as far as the ROE is concerned, moving from a value of 7.9% in 2017 to a value of 8,8% in 2018. Their ROE values remain lower if compared to those of SMEs, nevertheless.

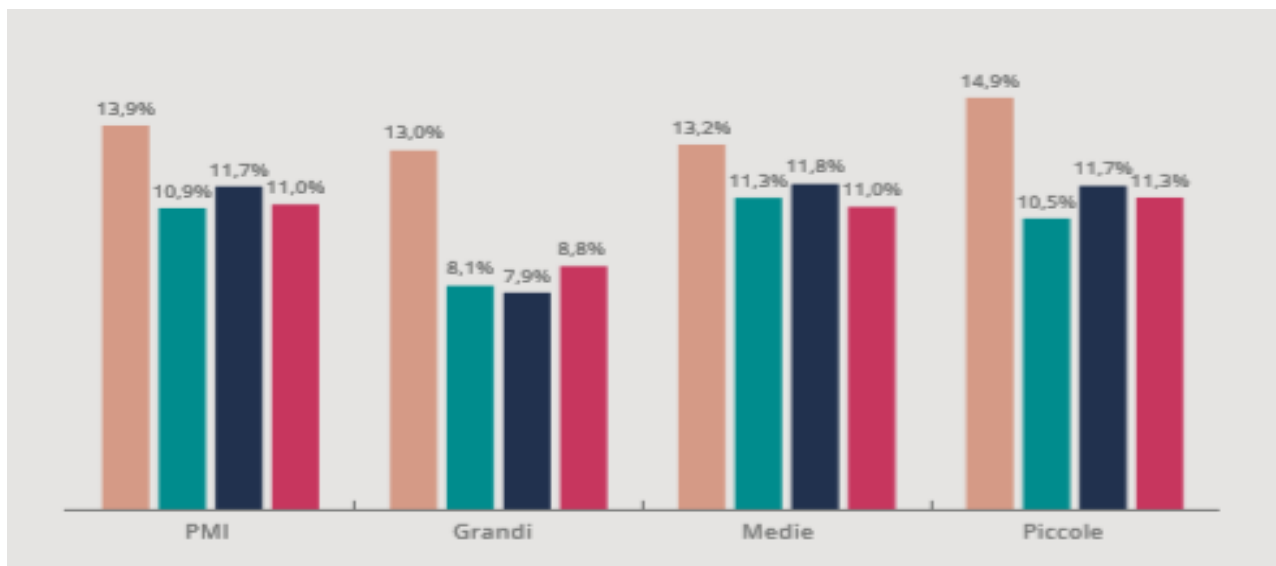


Figure 2.16: ROE by company dimension, in 2016, 2017 and 2018
Source: Cerved (2019)

2.5 Individual saving plans - PIR

The Piani Individuali di Risparmio (PIR) have been a measure undertaken by the Italian Government in order to facilitate the access for SMEs to financing sources different than bank debt. The Law no. 232/2016 has introduced a new class of retail investment arrangement in Italy, which can provide to the holder a more favorable tax condition. The aim of the PIR introduction has been on the one hand to foster the financial resources' flows from small, private savers to the real economy and on the other hand to increase the number of SMEs willing to access the capital markets.

The requirements for benefitting from the tax exemption on capital gain and inheritance tax are the following:

- The portfolio must be held for at least five years;
- The portfolio must be composed by at least 70% of securities of Italian enterprises or with prevalent business activity in Italy;
- At least the 30% of the previous 70% should consist of securities not listed in the FTSE MIB index.

It is possible to invest into PIR a maximum amount of 30000 € per year, with a limit of 150,000 €. According to Assogestioni (2020), specialized funds have been able to collect more than 18.5 € billion to 2019 through more than 72 PIR-compliant products.

Overall, the impact of the PIRs on the less capitalized stock market segments has been quite positive. At the end of June 2019, the equity investments held by the PIR constituted the 10% of the free float in the AIM segment and 8% in the Small Cap segment. In absolute terms, these resources account for approximately 760 million €.

In 2019 it is remarkable that the new Budget Law (Law 145/2018) has intervened in order to modify the legislation regarding PIRs by introducing new minimum requirements on investments in financial instruments issued by small and medium-sized enterprises and listed on multilateral trading systems (such as AIM Italia and ExtraMOT PRO) and in shares of venture capital funds, in order to enjoy tax exemption on proceeds for savers.

The effect obtained from the implementation of these measures has been opposite with respect to the desired outcome, nevertheless, as the collection of financial flows stopped.

The fund managers reported indeed the difficulty of combining the structure of an open fund with the investment in illiquid assets and of difficult daily enhancement.

Therefore, in order to eliminate the problems created with the Budget Law 2019, the Tax Decree 2020 (Law 157/2019) have been introduced.

Accordingly, the new measures imply that it is mandatory to invest at least 3.5% of the total NAV of the PIR funds in shares and bonds of companies excluded from the FTSE MIB and FTSE Mid Cap indices.

According to Intermonte SIM (2019) the net inflows on PIR funds forecasted for 2020 account for € 3,52 billion, € 3.2 billion of which will be provided by new collection. The expectations for 2021 are of € 4.07 billion in inflows, whereas the expectations for 2022 are of € 4.54 billion.

As observed in the previous years, it is likely that a significant part of these inflows will be directed towards the equity market, however it will be interesting to assess if the higher attention given to SMEs by the new measures introduced will be positively affect the Mini-bond market too. The latter instrument type will be discussed more in details in Chapter 3.

3. MINI-BONDS

The financing possibilities for SMEs have strongly been impacted by the Great Financial Crisis, the European Sovereign Debt crisis and the consequent credit crunch. Accordingly, given the lower availability of bank credit for SMEs in such a context, a new financing channel for SMEs' growth was needed.

The Mini-bond industry was born in Italy between 2012 and 2013 thanks to regulatory innovations, which allowed to “liberalize” the possibility of raising capital on the market for SMEs through these instruments (Osservatorio Minibond, 2015).

This chapter provides a complete overview about the Mini-bond industry in Italy: the evolution of the regulatory framework, the issuers and issuances' characteristics, the advantages and disadvantages of these instruments, the players involved, the ExtraMOT PRO exchange and bond markets for SMEs in Europe.

Considering that Mini-bonds are a relatively new financing channel, the relevant related literature is still limited. Therefore this chapter will consider as main source the research work provided by the Osservatorio Mini-bond of Politecnico di Milano, extending it whenever possible.

3.1 Definition

The Osservatorio Mini-bond of Politecnico di Milano considers in its annual research debt securities (of any maturity) and commercial papers issued by Italian companies, especially SMEs.

In 2020 the research group has decided to revise the Mini-bond definition criteria as follows:

1. The issuer is an Italian company (or with operations carried out mainly in Italy), not interested by bankruptcy events or arrangements with creditors;
2. The issuer is not a banking or insurance company, a SIM or a SGR, a financial intermediary or a financial company (code K in the ATECO classification), or in any case is not part of a bank group under the supervision of Banca d' Italia;
3. The issuer is not a special purpose vehicle, constituted for financing an acquisition, a securitization or another financial operation;

4. The issue amount is not higher than € 50 million, considering the cumulated value for different issues in the same period, and is not offered in option providing a priority to the company's shareholders;
5. The financial instrument does not imply complex mechanisms for conversion in shares, and is not listed on a regulated stock exchange, open to retail investors.

It is noteworthy that with respect to the previous Reports of the Osservatorio, some changes in the methodological criteria for the Mini-bond definition have been introduced. While the previous Reports monitored the issues' flow under € 500 million, yet providing a focus on issues under € 50 million, since the 2020 Report only the latter have been considered. In a first moment, after the novelties introduced by the "Development Decree" in 2012, all the companies excluded from the securities market have been monitored – for obvious policy objectives too. However, today the Mini-bond financing channel has assumed a quite precise identity, confirmed by the continuous growth of the issues of lower amount, coherent with the concept of Mini-bond as alternative financing instrument. Moreover, all the companies belonging to the ATECO K sector have been excluded, in order to provide a stronger focus on the Mini-bond impact on the real economy.

Furthermore, it is interesting to notice that all the requirements do not refer to dimensional characteristics of the issuing firms, such as total assets or revenues. Mini-bonds have been introduced by the Italian legislator after the financial crisis of 2008 and the consequent credit crunch, with the aim of enlarging the range of possible debt instruments issuers to SMEs. Mini-bonds issues are defined in the Italian Civil Code for Joint Stock Companies (S.p.A.) and Limited Liability Companies (S.r.l.) respectively by the articles 2410-2420 and article 2483. These instruments can be subscribed by professional investors only and offer a contractually defined remuneration through the payment of coupons; although such instruments are perfectly comparable with a traditional fixed-income security, until 2013 Mini-bonds were uncommonly used by unlisted companies, coherently with the traditional tendency of Italian companies to resort to bank debt. Nevertheless, the Mini-bond market has continued to grow in the recent years, creating not only a valid way for differentiating sources of funds, but a very promising asset class too.

3.2 Regulatory Framework

Regulatory changes have been necessary in order to stimulate the access to credit capital markets for SMEs after the Global Financial Crisis of 2007- 2008 and the consequent credit crunch. The following paragraphs will illustrate the main changes in the regulatory framework concerning Mini-bonds introduced by the Italian legislator.

3.2.1. Development Decree and Development Decree bis

The Development Decree of June 26th 2012 - subsequently modified by the Development Decree bis - represents the first important step in Mini-bond legislation. The main changes introduced regarded the removal of the limit related to the maximum bond issue allowed, the deductibility of interests and issuing costs extended to unlisted companies and the exemption from taxation on coupons, if the bond is listed on an exchange.

Firstly, the Development Decree removed the limit previously set by art. 2412 c.c. for unlisted companies for issuing instruments whose outstanding value was exceeding twice the share capital, the legal reserve and the available reserves resulting from the last approved balance sheet. Such constraint, which did not already exist for listed companies, represented a practical barrier for SMEs in using the placement of bonds as leverage for development and investment plans. Nevertheless, this first benefit regarded only instruments listed on regulated markets or on MTFs (Multilateral Trading Facilities).

Secondly, the Development Decree introduced a more favorable fiscal regime for bonds of unlisted companies, as in the past one of the obstacles for the issue of debt securities by unlisted companies was a particularly disincentivizing tax regime not only compared to the one reserved for listed companies but to bank debt too. Accordingly, in order to provide a real alternative to bank financing, the legislator focused on the one hand at making the issue more efficient from the point of view of the tax burden of the issuer and on the other hand at increasing the level of interest in these financial instruments by potential investors.

Therefore, the fiscal regime for bonds of unlisted companies was equalized to the more favorable one applicable to listed companies and banks (Mariani, 2014). Specifically, unlisted firms are allowed to deduct interest expenses up to 30% of gross profit for IRES purposes, whereas before

the introduction of the Development Decree interest expenses were deductible only for a quota lower or equal to:

1. Twice the *official reference rate* set by the Italian Government for debt securities traded on regulated market in the EU countries belonging to the so called White List;
2. The above mentioned *official reference rate*, multiplied by 5/3 for securities not included in the White List.

For Mini-bonds that instead are not traded on regulated markets or are traded in MTF, the interest expense is deductible up to the above mentioned limit only in the following cases.

1. The securities are subscribed by professional and qualified investors – such as banks, insurances, investment funds – which do not own more than the 2% of issuer's stock;
2. The income beneficiary is resident in Italy or in another country of the White List.

Further tax advantages introduced by the Development Decree are the following.

1. The fiscal regime applicable to investors - as regulated by Decree Law 239/1996 - has been extended also to joint stock companies traded on MTFs and to unlisted companies. The novelty is therefore the introduction of the withholding exemption regime for Italian institutional investors, as well as the exemption from the 26% withholding tax on interest and income paid to foreign investors residing in countries that exchange information with the Italian tax authorities and that are included in the White List according to Ministerial Decree 09/04/1996.
2. All the fees linked to issuing – e.g. advisory fees, rating fees, placement fees, etc. – have become deductible in the year they incurred according to a cash-base principle (Osservatorio Mini-bond, 2015; Cortese et al., 2016).

3.2.2. The *Destinazione Italia* Decree

The Law Decree n. 145 of December 23rd 2013- the *Destinazione Italia* Decree – has released further restrictions on corporate bonds issues, specifically focusing on security and regulatory laws, and brought further tax and other incentives, in order to improve the Italian corporate bonds system (Vestini and Marino, 2014).

Being introduced in a market urgently needing new liquidity sources, the *Destinazione Italia* Decree firstly proposed a simplification of securitization procedures, guaranteeing investors'

interests and allowing to offer collaterals. More specifically, the *Destinazione Italia Decree* has extended the Italian Securitization Law (Law 130/99) to Mini-bonds, stimulating funds to invest in such instruments and allowing banks to issue bonds secured by debt instruments that can include corporate bonds issued by Italian firms not listed on the stock market.

Secondly, the *Destinazione Italia Decree* encouraged also insurance companies and pension funds to invest in Mini-bonds, as insurance companies can use them as technical reserves and the instruments respect the investment limits outstanding for pension funds, even if they are unlisted on regulated markets or MTFs and are not rated by an independent agency.

Thirdly, additional tax incentives regarding Mini-bonds were introduced: in particular, the optional application of the Substitute Tax (0.25%) on guarantees directs investors towards safer forms of investment and allows the issuing companies to finance themselves at lower rates. Moreover, no withholding tax (which instead was formerly 20%) should apply to interest expenses and incomes made by issuers of Mini-bonds to the benefit of professional investors (Italian tax residents or residents White List countries).

Another incentive for investing in Mini-bonds directed to institutional investors is the so called *Privilegio Speciale*, which allows to secure Mini-bonds with maturity higher than 18 months through floating charges. The *Privilegio Speciale* will be particularly beneficial to issuers who cannot afford to pledge their assets for securing the issued debt instruments as they can obtain financing without any prevention to use them, thus providing a lower cost of capital to companies and greater protection to investors.

Finally, the *Destinazione Italia Decree* extended the activity of the Central Guarantee Fund also to funds for investments in individual issues and portfolios containing Mini-bonds, devoting its 40% to the former and its 60% to the latter, given that the following requirements are satisfied.

1. The capital raised with the emission of the instrument must be used to finance the business, not for renegotiating or reimbursing the existing credit lines;
2. The securities must be subscribed after the Board has decided for the approval of the guarantee;
3. The maturity must be comprised between 36 to 120 months;
4. The Central Guarantee Fund must be the only guarantor for the outstanding value of the issue.

The maximum amounts that can be covered by the guarantee for single issues are respectively the 50% (for amortized bonds) and the 30% (for bullet bonds) of the bond's face value, with a

cap of 1,5 € million, whereas for portfolios the guarantee coverage can be comprised between 50 and 300 € million made up of single subscription of up to 3% of the whole portfolio (Osservatorio Mini-bond, 2015; Cortese et al., 2016).

3.2.3 Competitiveness Decree

The Law Decree n. 91/2014 – the Competitiveness Decree - brought further innovations for Mini-bonds, with the overall aim of providing a package of measures for improving the competitiveness of Italian companies. This Decree allowed to integrate the regulatory framework related to Mini-bonds, trying to make it more sustainable for listed and unlisted SMEs that intend to exploit these alternative financing channels for achieving growth and development.

Firstly, it established that not only insurance companies and securitization companies but also investment funds can grant direct credit to companies.

Secondly, the Competitiveness Decree eliminated the withholding tax on medium-long term loans granted by foreign funds and insurance companies in order to stimulate also foreign investors to provide capital for growth. Moreover, it eliminated the 26% withholding tax on interest and on bond proceeds, including those not listed in multilateral systems such as ExtraMOT PRO, at the condition that they are placed to professional investors, and extended the substitute tax to guaranteed receivables too (Osservatorio Mini-bond, 2015; Cortese et al., 2016).

3.2.4. Budget Law 2019

The law n. 145 of December 30th 2018 – the Budget Law 2019 – introduced further changes to the regulatory framework governing Mini-bonds.

Firstly, as discussed more in details in Chapter 2, it modified the *Piani Individual di Risparmio* (PIR), introducing the requirement of investing in Italian venture capital funds and shares of SMEs listed in the AIM Italia and ExtraMOT PRO segments of Borsa Italiana at least 3,5% of their assets.

Secondly, the change on law n. 130/1999 can support operations of Mini-bond securitization, as it allowed securitization companies to directly provide funding both to S.p.A. and S.r.l.

Thirdly, it provides the possibility for the equity crowdfunding portals to place Mini-bonds with professional investors and other investors eventually authorized by CONSOB in a dedicated

section. In particular, three categories of non professional investors are foreseen, besides incubators and banking foundations:

1. Investors having a portfolio of financial instruments higher than € 250.000;
2. Individuals investing at least € 100.000, declaring to be conscious of the investment's risk;
3. Retail investors, under the perspective of portfolio management services or financial consultancy.

The offer must be presented in a separate section of the portal with respect to equity offers; in the portal all typologies of debt instruments under the TUF definition can be displayed, including commercial papers issued by S.p.A.

The first authorized platform of equity crowdfunding implementing this novelty has been Fundera, of the Frigiolini & Partners Merchant group; in February 2020 the portal was presenting 4 issues of Mini-bond for issues comprised by € 500.000 and € 1 million, and 14 further issues were foreseen.

Furthermore, the Opstart platform has announced that it will place Mini-bonds through the Frigiolini & Partners Merchant group platform.

In addition, the Osservatorio has foreseen that other platforms will join this novelty too, having presented the related instance to CONSOB, such as leading platforms like Backtowork24, Crowdfundme and Walliance (specialized in real estate operations), but also other operators like 200Crowd, Starsup and Wearestarting (Osservatorio Mini-bond, 2020).

This intervention might even create a new market form, able to develop in parallel to the already existing ones – Mini-bonds included - although this will have to be confirmed in the new developments that will revolve around crowdfunding platforms (Cellino, 2019).

3.3 Italian Mini-bond Market

In this section the Italian Mini-bond market will be analyzed, considering in particular the firms which issued such instruments during 2019, in order to identify their characteristics and analyze any significative trend with respect to the past.

3.3.1 Issuers' characteristics

Following the methodological definition introduced in paragraph 3.1, in 2019 183 companies issued Mini-bonds on the Italian market. The individual issues are instead 207. The difference

between these two numbers is related to the fact that some companies in the sample placed more than only one Mini-bond. These are 19 companies, which either placed securities with different characteristics at the same time or turned to the market at different times during 2019. In 2018, on the other hand, the issuing companies surveyed using the same criteria were 145 in total; consequently, there has been a moderate increase. The 2019 sample, as shown in Figure 3.1, consists of:

- 127 joint-stock companies (S.p.A., corresponding to 69.4% of the total, percentage almost equal to 2018);
- 52 limited liability companies (S.r.l., corresponding to 28.4% of the total);
- 4 cooperative companies (equal to 2.2%).

The companies who placed Mini-bonds in 2019 for the first time were 129 (in 2018 they were 101), while the other companies had conducted placements in previous years too. 2019, in line with 2018, has been a year of market growth from the offer point of view, implying the adoption of Mini-bonds also in new businesses. The issuers of 2019 are mostly SMEs, compliant with the definition provided by the European Commission (2003). In particular, 105 companies comply with the dimensional requirements; the percentage has been 57.4%, while in the last year it was 60.0% and in 2017 62.2% was recorded. The issuing companies analyzed by the Osservatorio Mini-bond of Politecnico di Milano which placed Mini-bonds under € 50 million from 2012 to 2019, form a sample of 536 companies. Of these, 74.8% are joint stock companies, 23.1% are limited liability companies, 1.9% are cooperative companies, while 0.2% are foreign vehicles of permanent organizations in Italy. There are 314 SMEs in total, representing the 58.6% of the total sample.

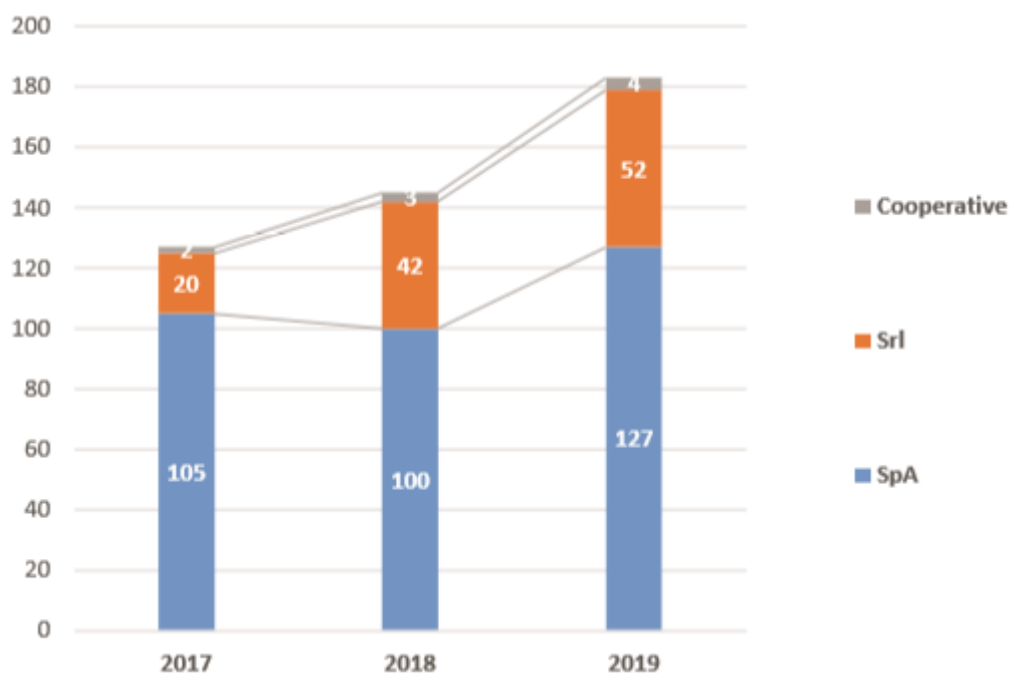


Figure 3.1: Segmentation of minibond issuers under € 50 million by type of business: evolution from 2017 to 2019

Source: Osservatorio Mini-bond (2020)

Figure 3.2 segments the total sample according to the consolidated revenues in the last balance sheet available before the issue. It is noteworthy that the largest class is between € 100 and € 500 million (97 observations, equal to 18% of the total) followed by the group between € 10 and € 25 million (91 cases, equal to 17%) which, as shown by figure 3.3, in 2019 saw a significant increase in the number of issuers. On the other hand, the number of companies having annual revenues between € 25 million and € 50 million has consistently decreased in 2019. Moreover, for a total of 31 companies between 2017 and 2019, no balance sheet had been provided at the time of issue, in the vast majority of the cases because the issuers were formally new companies but resulting from existing business divisions or restructuring.

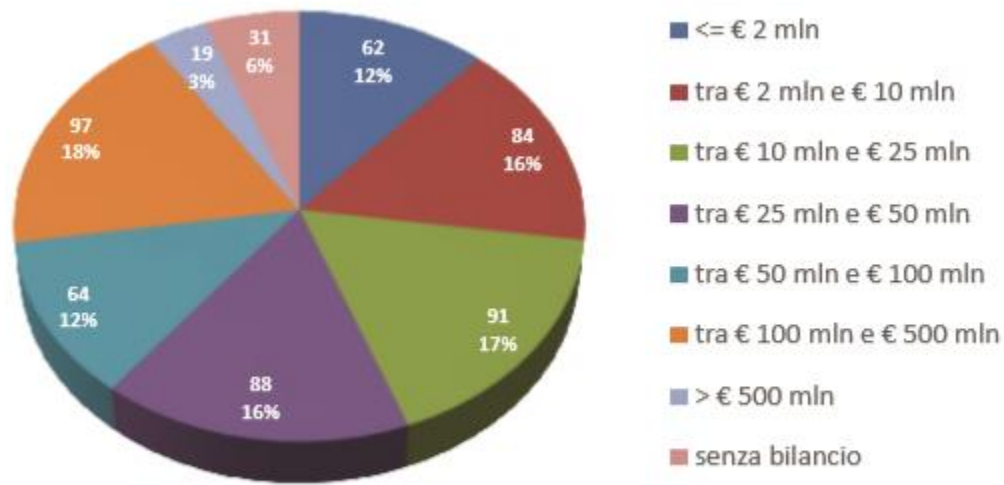


Figure 3.2: Segmentation of issuing companies from 2012 to 2019 by consolidated revenues class. Sample: 536 companies

Source: Osservatorio Mini-bond (2020)

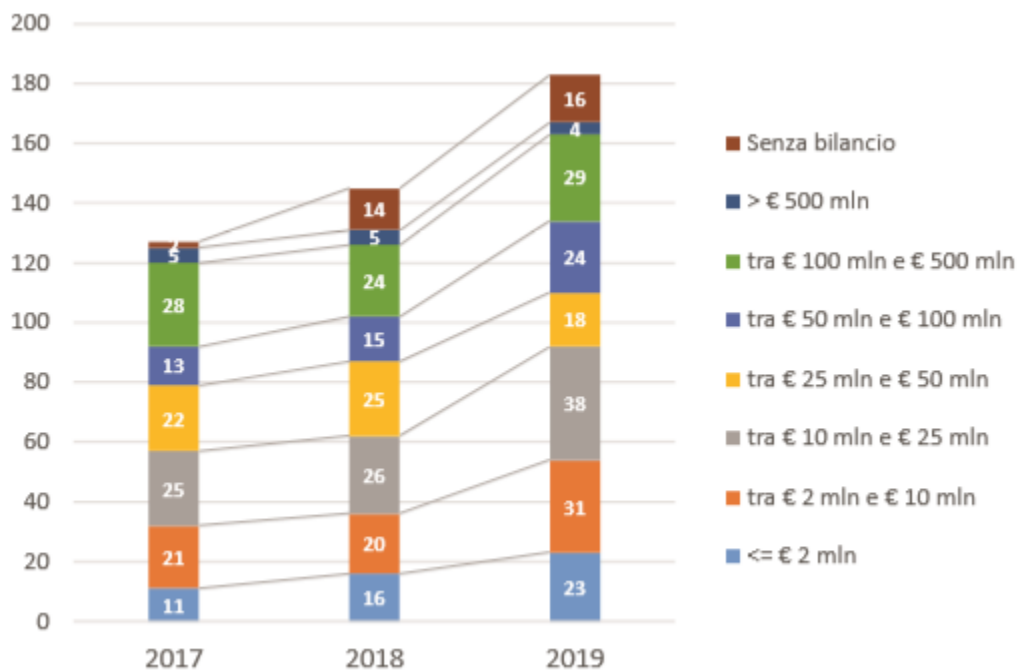


Figure 3.3: Mini-bond issuers in Italy, by annual revenues. Comparison between 2017 and 2019

Source: Osservatorio Mini-bond (2020)

Figure 3.4 highlights the changes that occurred from 2017 to 2019 as far as the business sector is concerned. An increase in the heterogeneity of operating activities of the issuing companies is observed; trade and especially accommodation and restaurant services are increasing, also thanks to the Pluri Bond Turismo Veneto Spiagge operation. Nevertheless, between 2017 and 2019 the vast majority of the sample is constituted by manufacturing companies, which represent the 44,26% of the 2019 sample.

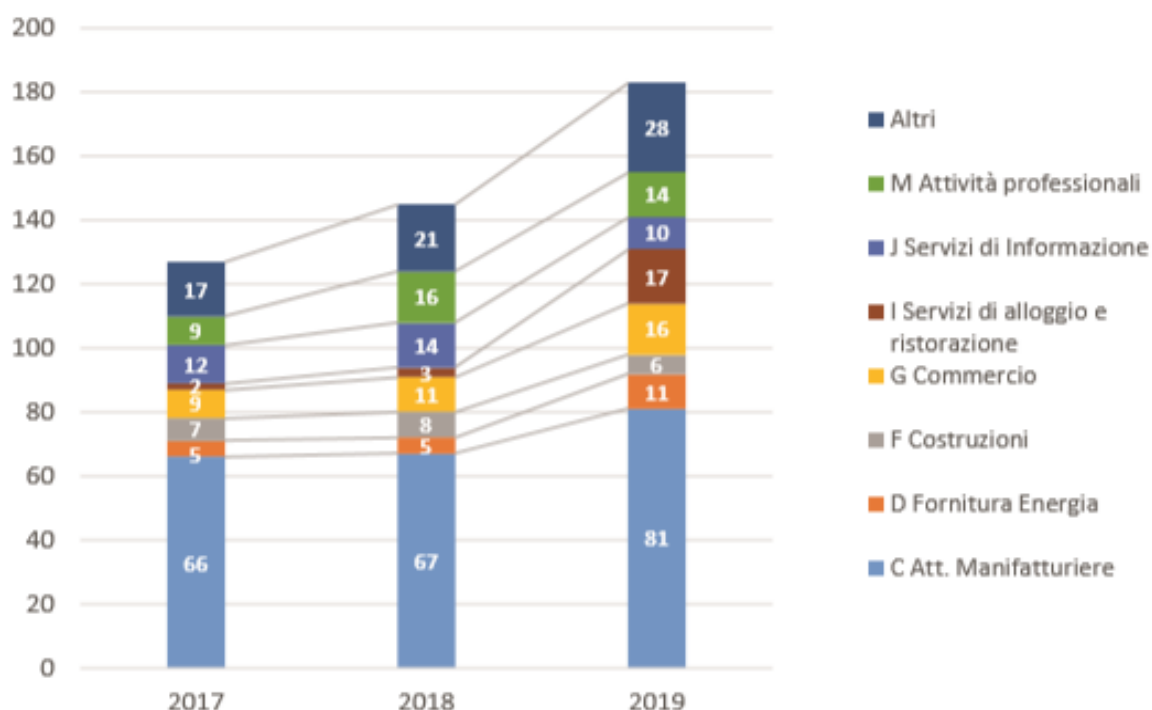


Figure 3.4: Mini-bond issuers in Italy, by business activity (Italian ATECO code). Comparison between 2017 and 2019

Source: Osservatorio Mini-bond (2020)

As far as the geographical location of the issuing companies is concerned, the absolute predominance of the Northern regions is confirmed (see figure 3.5).

From the graph it is immediately evident that the majority of the issuers are located in Lombardy (25.2% of the entire sample).

Veneto occupies the second place (with 89 companies, equal to 16.6%), while Trentino-Alto Adige is in the third place (59 cases, equal to 11.0%).

The strong presence of the Northern regions is due to players in the industry who are very rooted

at the local level, to the activism of the regional financial services and to some operations systems of territorial character, such as Trentino Bonds.

The 72.6% of the companies that issued Mini-bonds until December 31st 2019 resided therefore in the North with respect to the Apennines.

In the central regions, Lazio is the most present region, with 30 companies (5.6% of the total sample). In the South instead the companies who placed Mini-bonds still represent a minority (however, Campania emerges with 33 issuers, which represent the 6.2% of the total sample).

It is noteworthy that there is also an issuer which was formally a foreign vehicle, although the center of business interests was in Italy (TE Wind SA, now incorporated into Agatos SpA).

Still referring to the regional distribution, the issuers classified as large enterprises are almost all in the North or in the Center (only 22 large companies are in the South). By limiting the statistics to SMEs only, Lombardy is always at the top of the ranking with 77 companies, followed by Veneto (56) and Trentino-Alto Adige (41) (Osservatorio Mini-bond, 2020).

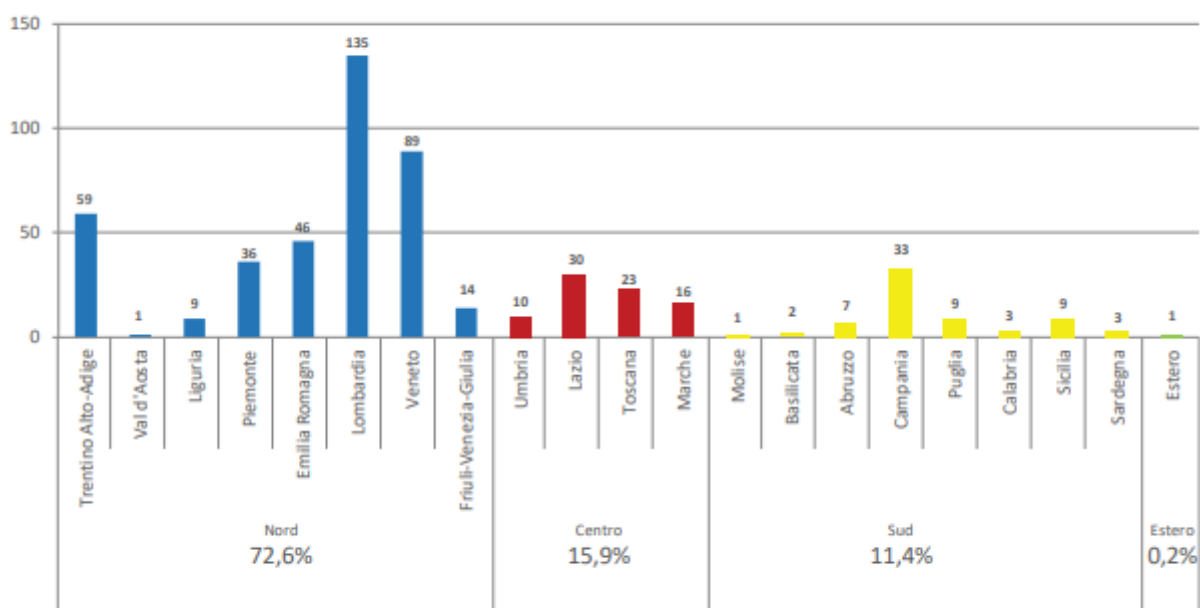


Figure 3.5: Italian Mini-bond issuers, by regional location. Sample: 536 companies

Source: Osservatorio Mini-bond (2020)

3.3.2 Mini-bond issues' characteristics

The Mini-bond issues collected by the Osservatorio during the year 2019 for an amount of less than € 50 million, in line with the definition adopted in paragraph 3.1, are 207.

In 2018, only 166 issues have been recorded instead; the increase in flow is equal to + 24.7%.

Starting from 2012, the total sample is constituted by 801 Mini-bond placements.

Figure 3.6 updates the cumulative time trend of Mini-bond issues at the end of 2019, starting from the introduction of the reforms initiated by the Development Decree of 2012. A progressive and constant increase in the number of new issues can be immediately noted.

As far as the type of financial instruments is concerned, most of these are bonds. However, also 24 financial bills under € 50 million have been registered, corresponding to the 3.0% of the sample. Nevertheless, the latter instrument type has become more and more rare on the market, and in 2019 no issues have been recorded.

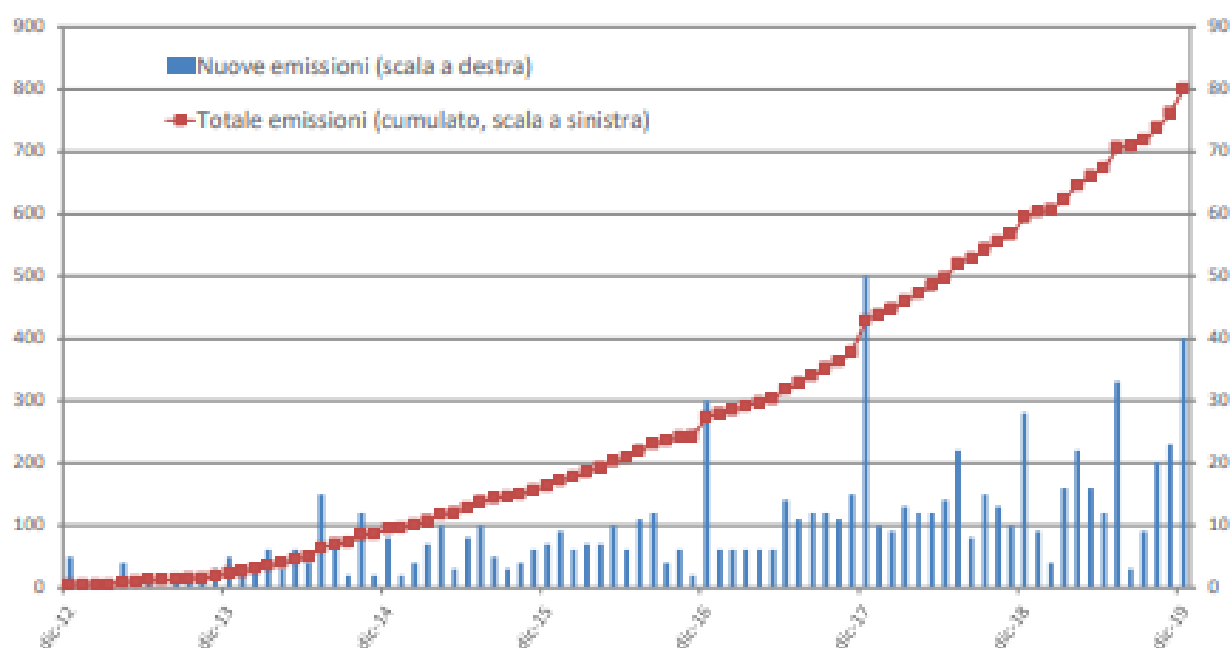


Figure 3.6: Time flow of Mini-bond issues from 2012 to 2019 (issues under € 50 million)

Source: Osservatorio Mini-bond (2020)

Figure 3.7 describes the yearly time trend with respect to the equivalent value of issues. The total nominal value reached at the end of 2019 is € 5.5 billion; the flow contribution relating to 2019 alone was € 1.183 billion, which slightly exceeds

the previous record of 2017 (€ 1.175 billion) and provides an increase of 21% compared at the 2018 volume (€ 977 million). Overall, it can be observed that the Italian Mini-bond industry has mobilized resources for circa one billion euros yearly.

If only the issues made by SMEs are considered, the total drops to € 1.965 million, with a contribution in 2019 of € 344 million, a lower value compared to both 2017 and compared to 2018.

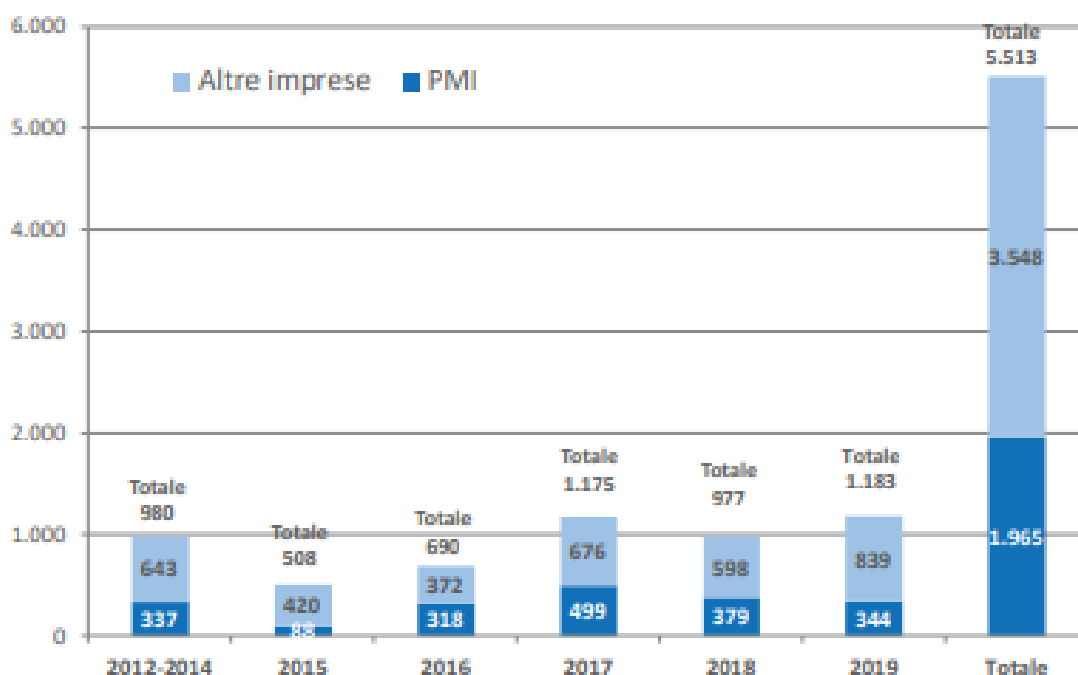


Figure 3.7: Time flow of the Mini-bond issues until 31 December 2019. Data in € million.

Sample: 801 emissions under € 50 million

Source: Osservatorio Mini-bond (2020)

Figure 3.8 updates the data regarding the average value of the issues per semester. It is noteworthy that the average value has reached the historical minimum in the last 6 months (€ 4.66 million). The trend of placing smaller and smaller amounts is therefore confirmed; the size of the issuers of 2019 tends to be larger instead, with a lower presence of SMEs. It can be imagined that in many cases the placement of the Mini-bond is considered by companies as an 'experimentation'. An alternative explanation could be that with the maturity of the sector the fixed costs of the placements have fallen, making smaller placements more accessible, which before were scarcely justifiable instead (Osservatorio Mini-bond, 2020).

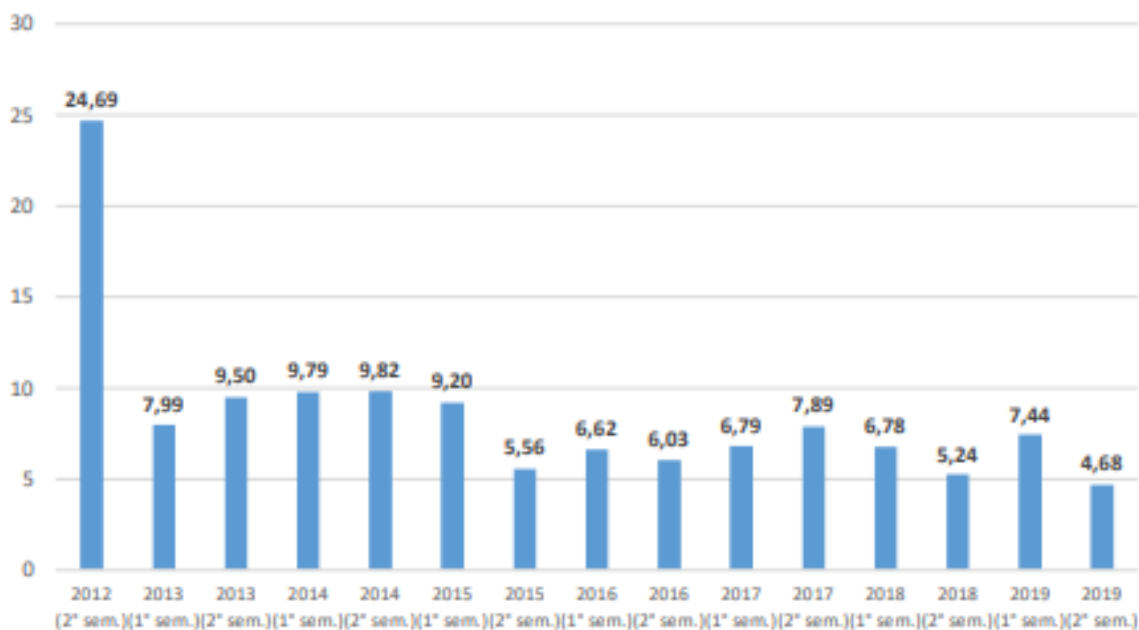


Figure 3.8: Average nominal value of Mini-bond issues in each semester. Data in € million.

Sample: 801 emissions under € 50 million

Source: Osservatorio Mini-bond (2020)

3.3.2.1 Reasons for issuing Mini-bonds

The reasons why companies decided to issue a Mini-bond have been analyzed through publicly available documents (in particular the loan regulations and the specialized press articles) as there are no prospectuses registered and approved by Consob.

Accordingly, four main reasons have been identified as follows.

1. “Internal” growth financing, i.e. raising capital for investments in research and development, new products, or opening to new markets;
2. “External” growth financing, i.e. raising capital for eventual acquisitions of other companies or divisions;
3. Restructuring of the company’s liabilities, i.e. the modification of the mix of financing from third parties, for example by reimbursing previous debt;
4. Working capital cycle financing: in this case the Mini-bond ensures the short term need of equilibrium between receivables and debt payments.

Figure 3.9 divides the sample of companies analyzed according to the main reason for issuing a Mini-bond. It is evident that the main reason is internal growth financing both for SMEs and

large companies (the 62,1% of the sample). This is followed by the financial restructuring of liabilities (12,7%) and the will to conserve working capital (6,9%). The 6,7% of the sample has instead used Mini-bonds to finance external growth (6,7%).

If the total sample is divided in SMEs and large companies, it can be observed that the reasons linked to internal growth are common to both large and small-medium enterprises. However, the latter use Mini-bonds more frequently to finance short-term needs, suggesting that they have more difficulty in obtaining credit from commercial banks, while large companies show a greater propensity towards external acquisition (Osservatorio Mini-bond, 2020).

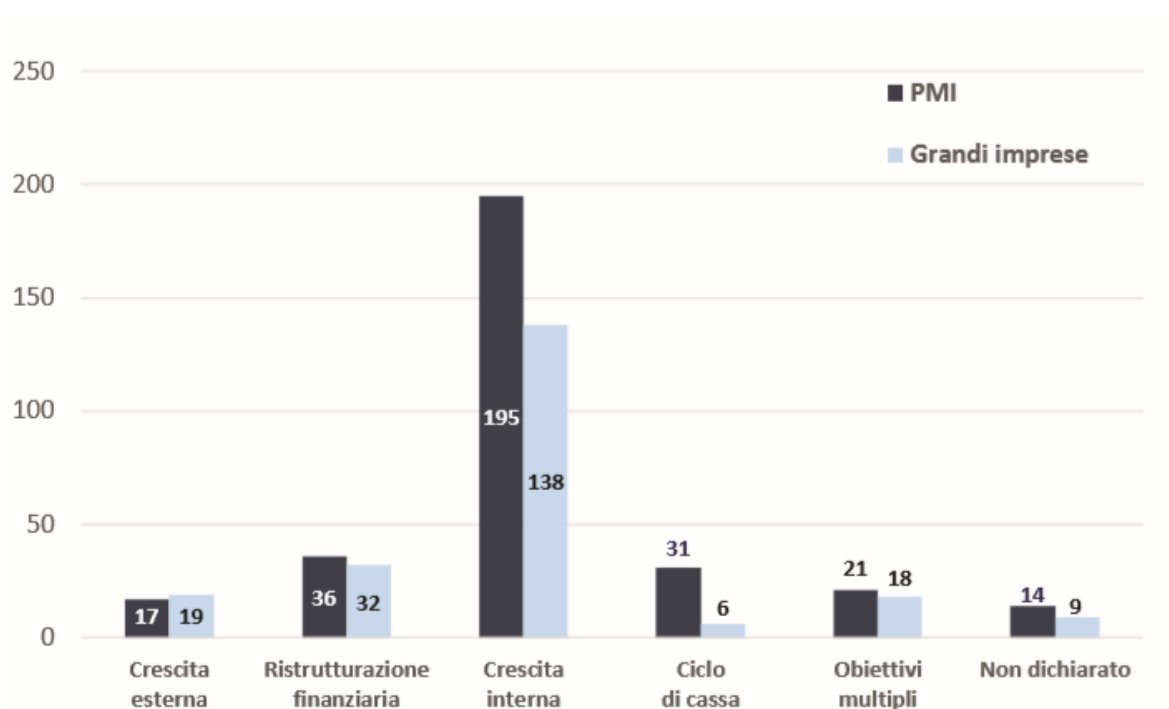


Figure 3.9: Reasons for issuing Mini-bonds. Sample: 536 companies

Source: Osservatorio Mini-bond (2020)

3.3.2.2 Maturity, reimbursement scheme and coupon

As far as the maturity is concerned, figure 3.10 divides the sample in different categories. It is noteworthy that the relative majority of the Mini-bonds provides a maturity comprised between 5 and 6 years (199, or 25% of the sample) but a certain dispersion is observed.

117 debt instruments have a very short maturity indeed, up to a year; on the other hand; 185 securities with a maturity exceeding 7 years are present too. Maturities included between 1 and 4 years are the least frequent instead, while the overall average value is 5.2 years.

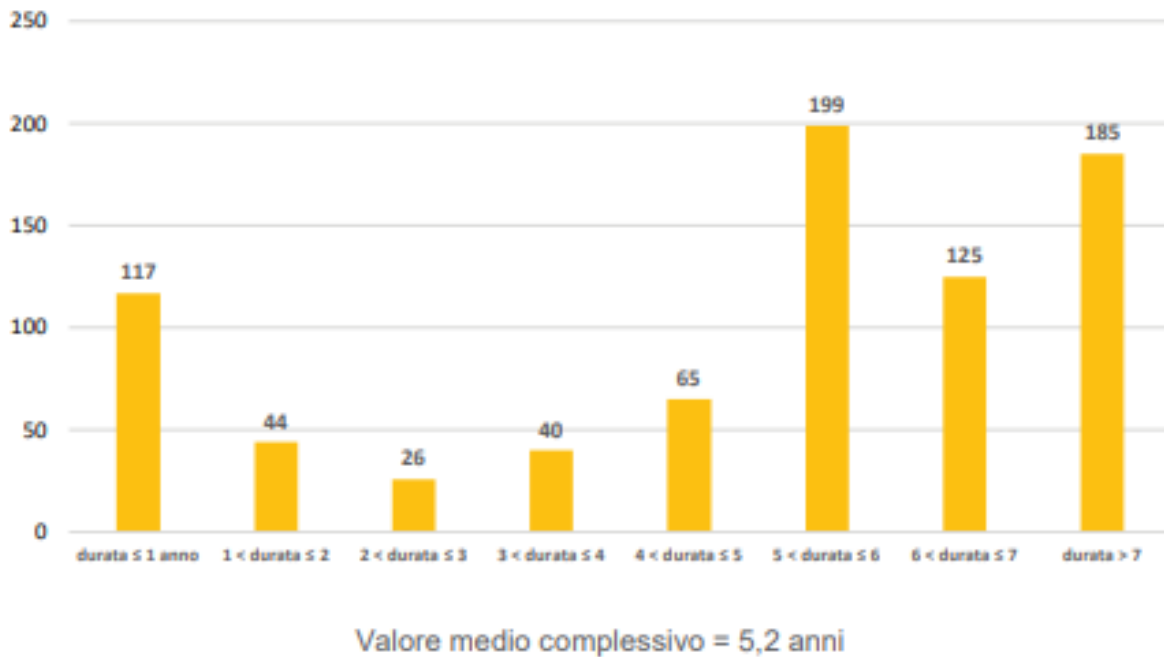


Figure 3.10: Mini-bond maturity. Sample: 801 issues under € 50 million

Source: Osservatorio Mini-bond (2020)

Considering the reimbursement schemes, table 3.11 highlights that the amortizing method is the most preferred (adopted by 57.7% against 41.6% of the sample). The most important determinant for this choice is certainly the maturity: 78.1% of the issues under 5 years are bullet while 78.8% of the long-term ones (where the presence of large companies is more frequent) is amortizing. Publicly traded companies appear relatively more inclined to place bullet issues.

Modalità di rimborso:	<i>Bullet</i>	<i>Amortizing</i>	n.d.
Tutto il campione	41,6%	57,7%	0,7%
PMI	44,3%	55,2%	0,5%
Grandi imprese	38,0%	60,9%	1,1%
Società quotate in Borsa	48,7%	51,3%	-
Società non quotate in Borsa	40,9%	58,3%	0,8%
Minibond con scadenza inferiore a 5 anni	78,1%	20,9%	1,0%
Minibond con scadenza uguale o > 5 anni	20,6%	78,8%	0,6%

Table 3.11: Reimbursement scheme. Sample: 801 issues of Mini-bonds under € 50 million

Source: Osservatorio Mini-bond (2020)

Figure 3.12 projects over time the capital repayment flows related to the Mini-bonds of the sample. The total financial flows for the redemption of the capital quota have been calculated according to the issues' regulations and considering the different maturity schemes (bullet or amortizing). This analysis offers a hint for future securities refinancing opportunities, and is therefore quite interesting for the Italian Mini-bond industry.

The data of 2019 have been reported too, in order to highlight the ability of the capital markets of 'refinance' the maturing flows (€ 748 million). It can be observed also that in the short term minibonds for € 805 million are expiring (in 2020) and for € 766 million (in 2021).

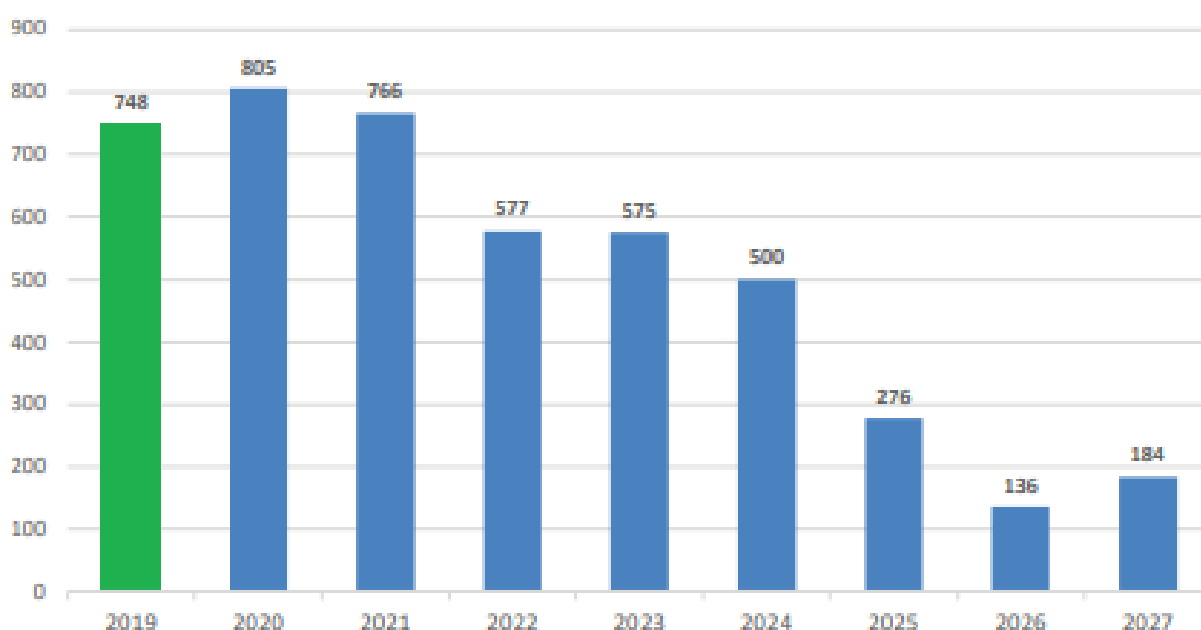


Figure 3.12: Projection of the total flow of Mini-bond capital redemption in the next years in Italy. Values in € million.

Source: Osservatorio Mini-bond (2020)

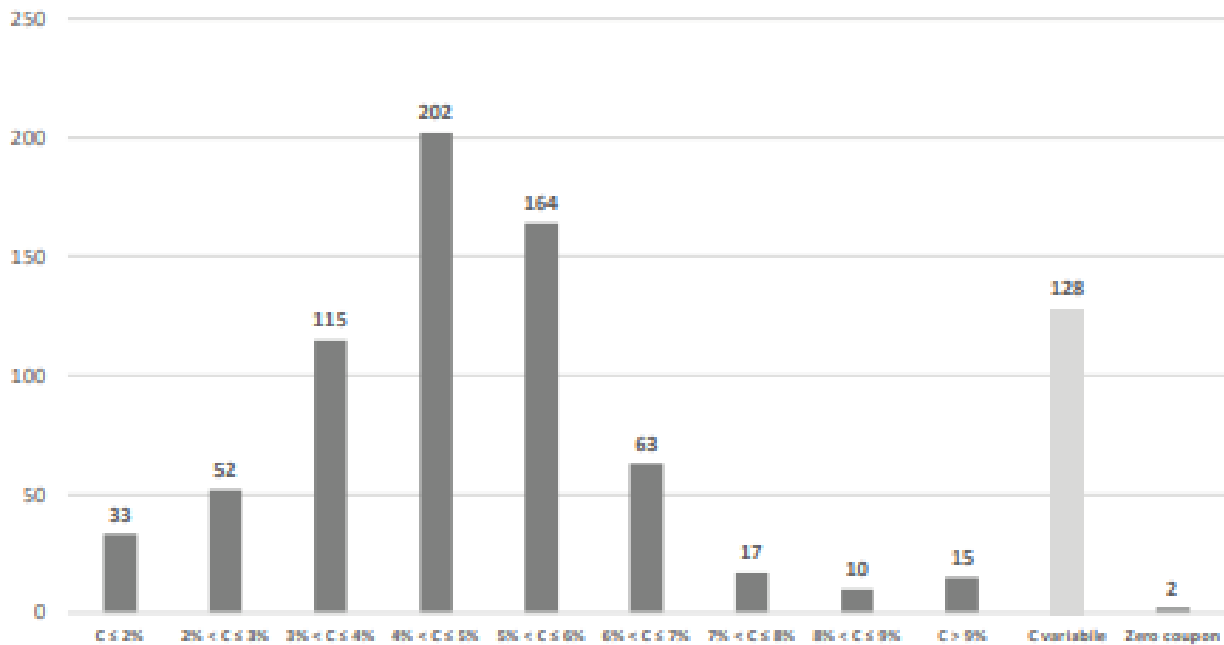
As far as the Mini-bond remuneration is concerned, it occurs through the payment of a periodic coupon, defined in the regulation as a percentage of the par value. The coupon can be fixed and constant for the entire duration of the loan or variable and indexed to some observable market parameter (generally an interbank rate representative of the current equilibrium on the money market such as the Euribor). In addition, the annual coupon can be liquidated on different dates (every year, every half year, every quarter, ...): all else being equal, the advanced payment of the

interest represents an advantage for the investor, compared to the opportunity cost of capital, and helps to increase yield-to-maturity too.

Figure 3.13 shows that the majority of the Mini-bonds comprised in the sample pay a fixed coupon, while only 128 issues (16.0% of cases) provide a variable coupon, even if the percentage is continuously increasing compared to the past. In the sample also two zero-coupon securities are comprised, for which the remuneration is only based on the 'discount' between placement price and reimbursement.

The average value for the entire sample of fixed coupon securities is 4.89%, while the median value is very close (5.0%). The fixed coupon is distributed around these values.

Clearly the coupon amount depends on a plurality of variables: other things being equal, the greater the maturity of the security, the greater the coupon amount (which reflects the yield premium that the market generally asks for the long term on the term structure). In addition, the coupon will be proportional to the possible risk of insolvency of the issuer: the higher the perceived risk, the higher the premium of return required by investors. Accordingly, the intervention of third parties such as the Consorzi Fidi and the Central State Fund will be able to provide a first-loss guarantee and help to contain the cost of capital. This helps to explain the reason for the presence of 33 Mini-bonds with a coupon of less than or equal to 2%. Finally, given the low liquidity of the Mini-bonds on the market, the coupon will also include an illiquidity premium, which is expected to be larger if the value of the issue is smaller and if it is not listed.



Valore medio complessivo (titoli con cedola fissa) = 4,89%

Figure 3.13: Distribution of the coupon C for Mini-bonds under € 50 million. Sample: 801 issues
Source: Osservatorio Mini-bond (2020)

Figure 3.14 displays the comparison between the annual coupon between 2018 and 2019. In 2019 there has been a clear reduction in the average coupon, whose value has returned below the 5% threshold. Moreover, a major propensity towards the issue of variable-coupon securities has to be observed.

It is noteworthy also that there has been a significant increase in placements with a coupon lower than 3%, largely thanks to credit enhancement guarantees.

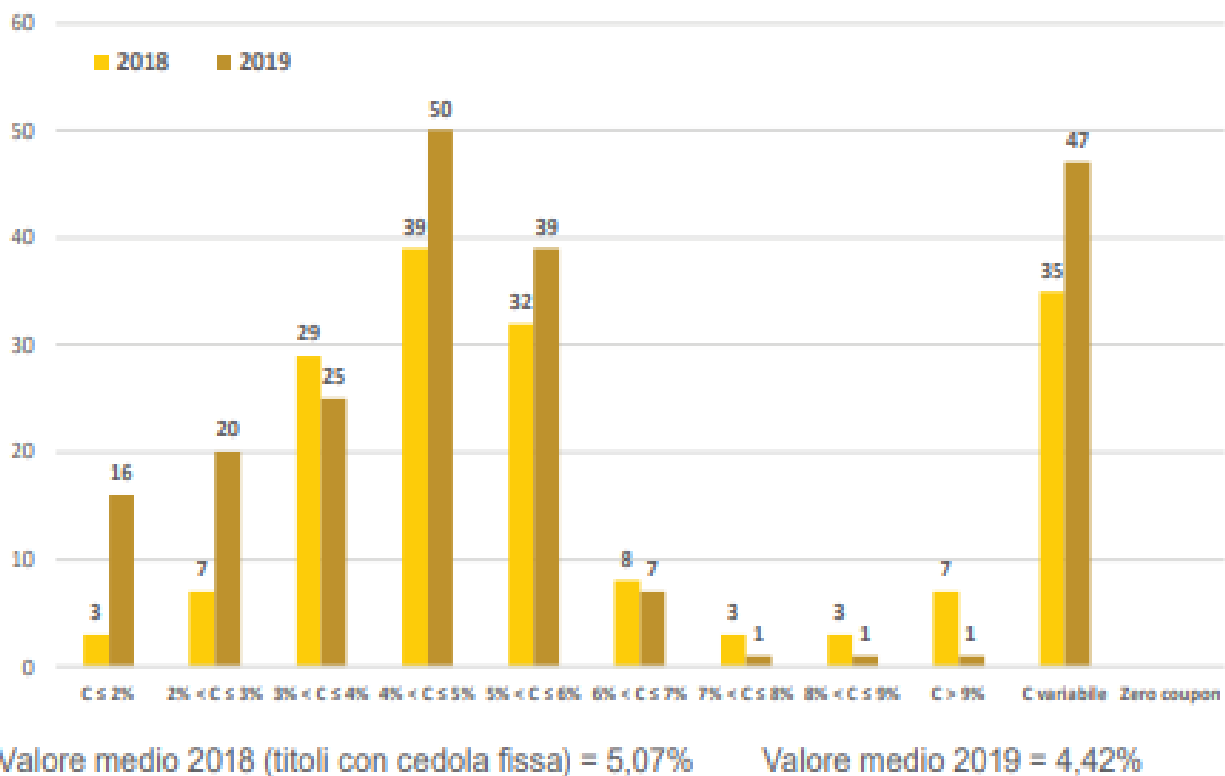
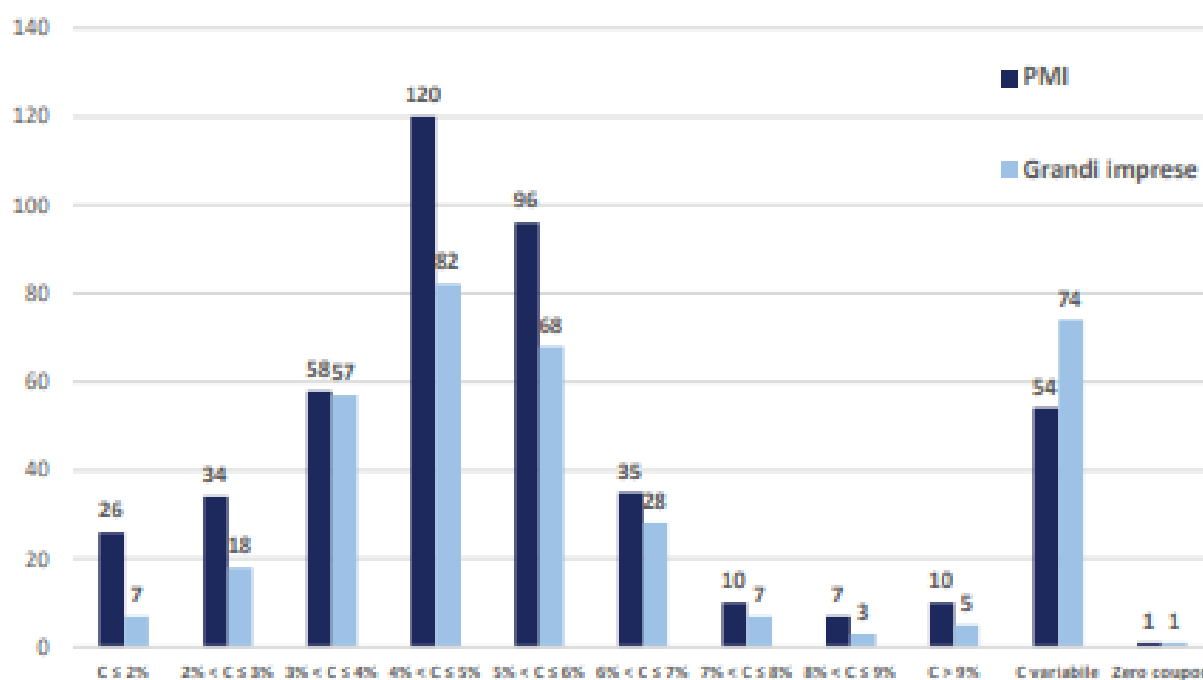


Figure 3.14: Annual coupon: comparison between 2018 and 2019

Source: Osservatorio Mini-bond (2020)

Figure 3.15 shows the distribution of the coupon value distinguished in SMEs and large companies. The average value for fixed coupon issues is however almost the same as the distributions are very similar, however it is remarkable that the variable coupon is preferred by large companies.

Finally it must be emphasized that the remuneration for the investor is also determined from the issue price. In almost all cases, Mini-bonds are placed at nominal value (100), but exceptions are present in the sample. In 2019, for example, the Mini-bonds of Ricci SpA (price 98.5) and First Capital SpA (price 98) were placed below par (Osservatorio Mini-bond, 2020).



Valore medio PMI (cedola fissa) = 4,90% Valore medio grandi imprese (cedola fissa) = 4,88%

Figure 3.15: Distribution of the Mini-bond coupon: distinction between SMEs and large companies. Sample: 801 emissions

Source: Osservatorio Mini-bond (2020)

3.3.2.3 Rating, options, guarantees and covenants

The rating is an assessment about the risk of default of an issuer provided by an independent rating agency. It can be disclosed or undisclosed; the latter case occurs when the rating is requested by an investor.

Figure 3.16 shows a comparison between the total sample of 801 issues and the 2019 sample (207 issues) as far as the rating presence is concerned.

It is noteworthy that the 74% of the total issues are not accompanied by a rating (597 cases).

On the other hand, 70 issues (the 9% of the total sample) have an 'investment grade' rating (i.e. with a rating of at least BBB- in the scale used by Standard & Poor's, or equivalent) and 'only' 29 (the 4%) have a rating lower than the indicated threshold ('speculative grade').

Finally, 105 issues (the 13%) are associated with an undisclosed or unsolicited rating – i.e. a rating which is not 'public' and generally required by the investor.

The graph related to year 2019 confirms that, in line with the most recent trend identified, the

request for the rating has been less frequent (only the 14% of the sample has requested it). For the cases in which a rating is present instead the proportion between investment grade and speculative grade is fairly stable, slightly less in favor of the investment grade rating with respect to the total sample. The Mini-bonds with an undisclosed rating are instead 10 (representing the 5% of the sample).

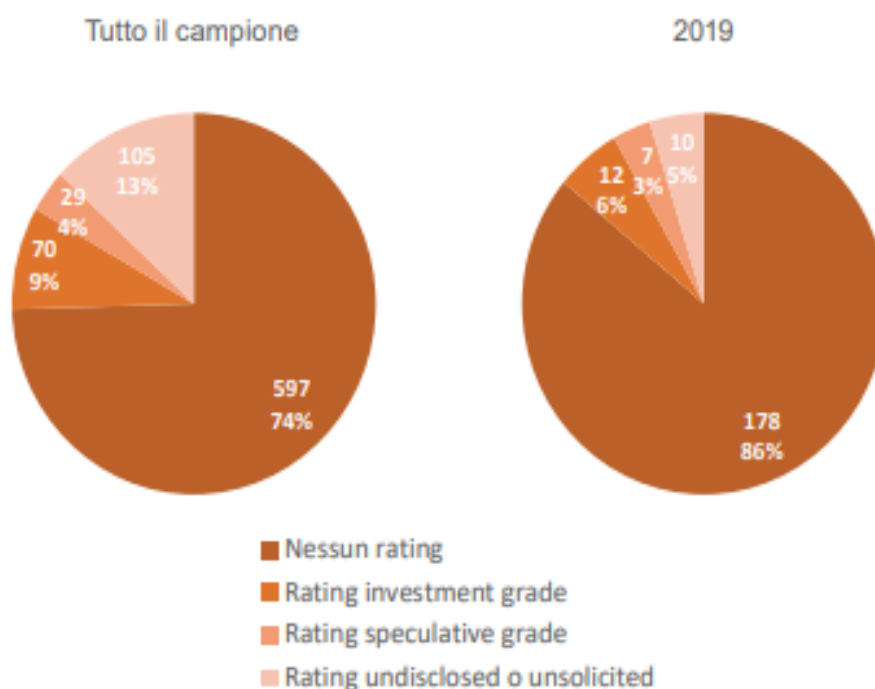


Figure 3.16: Rating presence for Mini-bonds under € 50 million. Comparison between the total sample of 801 issues and the 2019 sample (207 issues)

Source: Osservatorio Mini-bond (2020)

Italian Mini-bonds commonly present a call or a put option. Investors can use callable bonds to have a reimbursement in advance, whereas issuers can use puttable securities to pay back before maturity. Moreover, call options are usually more used for short-term securities, while put options are more frequent for long term bonds.

Figure 3.17 displays a comparison between the usage of options among the issues belonging to the entire sample and the 2019 sample.

Almost half of the total sample has both options (360 issues, corresponding to the 44.9%).

However, there are also 78 securities which do not have any option (corresponding to the 9.7% of the sample).

The only puttable securities are 152 (the 19.0%) while the only callable securities are 188 (23.5%).

Considering the year 2019 only, it is noteworthy that a good increase in Mini-bonds employing both options has been registered: the securities employing both put and call options have been 125, representing the 60% of the sample.

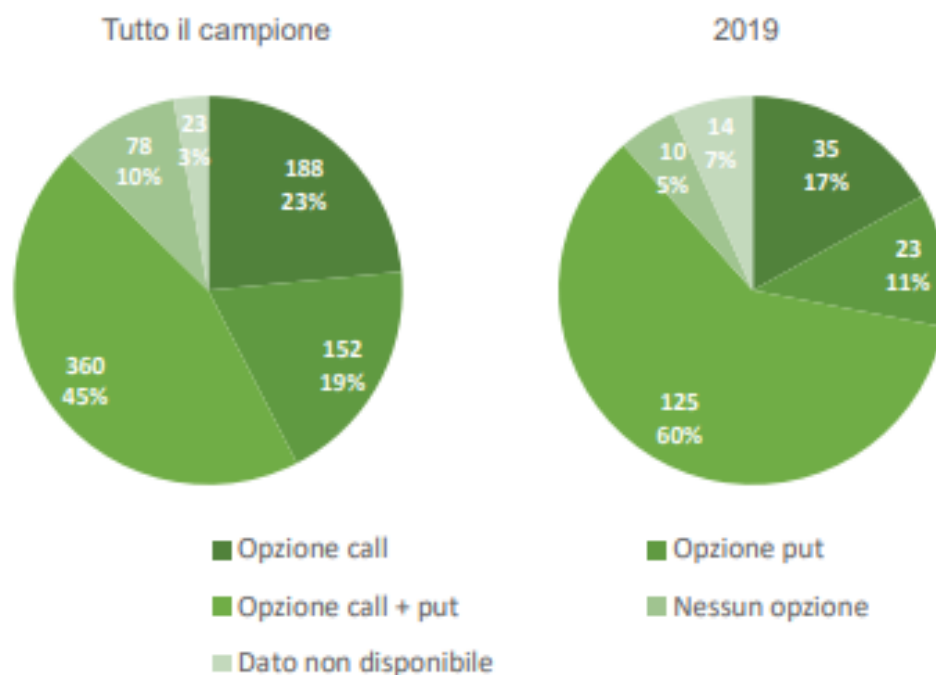


Figure 3.17: Call and/or put options in Italian Mini-bonds. Comparison between the total sample of 801 issues and the 2019 sample (207 issues)

Source: Osservatorio Mini-bond (2020)

Mini-bonds can be combined with collaterals so to provide a guarantee to investors and a reduction in the cost of capital: in case of default, the investor can seize the pledge and recoup the losses. Therefore, offering such guarantees to investors can improve the access to capital markets for SMEs. The pledge can be offered on assets, inventories or working capital.

As displayed by figure 3.18, a collateral has been used in 267 cases, corresponding to the 33% of the total sample. Typically the collateral employed are mortgages on goods, pledges on the issuer's shares, sureties provided by third parties, privileges on the warehouse or on stocks (including also bottles of wine and cheese).

Considering 2019 only, there has been a significant increase in collateral adoption: it has been

used by 87 issues (the 42% of the sample).

A possible reason for this increase is the growing involvement of national and European public entities in structuring Mini-bonds.

The collateral is employed more frequently for issues of large companies and for long term horizons; this result is consistent with the hypotheses proposed by the Osservatorio Mini-bond of Politecnico di Milano in the previous Reports.

SMEs are indeed likely to find it excessively burdensome to offer collaterals to their investors, and may not even have appropriate skills for exploiting this solution.

Large and listed companies are instead more likely to use collaterals as they tend to make medium-long term placements, and are likely to be more interested in this solution also to further reduce the cost of capital.

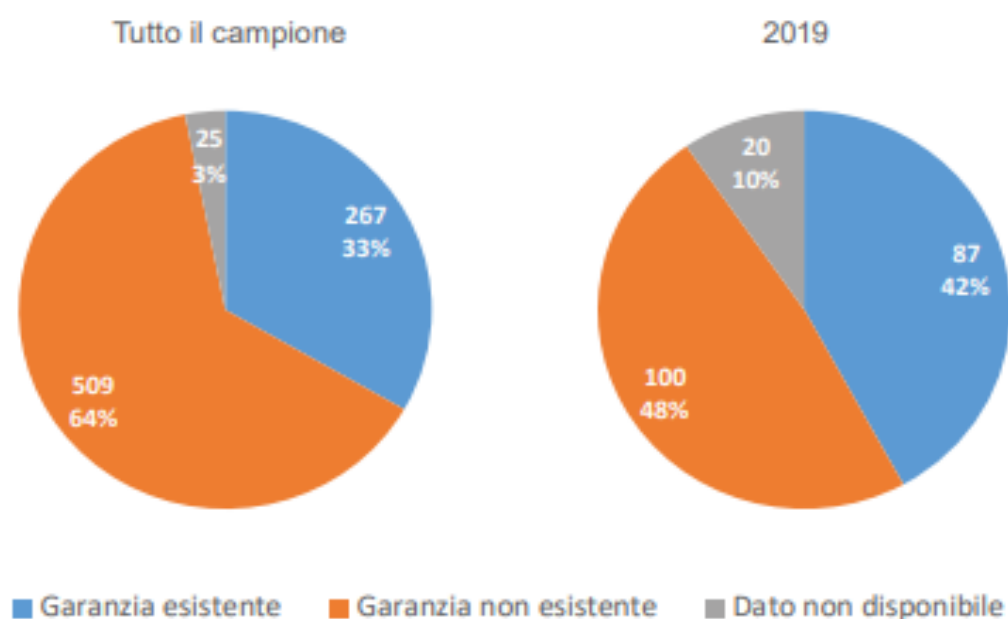


Figure 3.18: Collaterals in Italian Mini-bonds. Comparison between the total sample of 801 issues and the sample of 2019 (207 issues)

Source: Osservatorio Mini-bond (2020)

Finally, Mini-bonds can provide a list of covenants, i.e. binding commitments to fulfill certain conditions or which forbid the borrower from undertaking certain actions, or which possibly restrict certain activities to circumstances when other conditions are met. Violating a covenant

can imply the declaration of default, the application of penalties, or the automatic reimbursement of the Mini-bond. Covenants are used especially with small issues and longer maturities. Usually they concern accounting ratios: they can impose for instance a minimum interest coverage ratio or a maximum leverage ratio.

Figure 3.19 shows that the usage of financial covenants in Italian Mini-bonds is quite frequent: it is indeed present in 406 cases (corresponding to the 51% of the sample). The presence of covenants is quite stable in 2019 if compared to the past, as displayed by the second graph. Consistently with the assumptions made in the previous Reports of the Osservatorio Mini-bond of Politecnico di Milano, smaller placements are likely to use of financial covenants rather than collaterals, for the lower cost of incidence, as well as a stronger for creditors' protection. (Osservatorio Mini-bond, 2020).

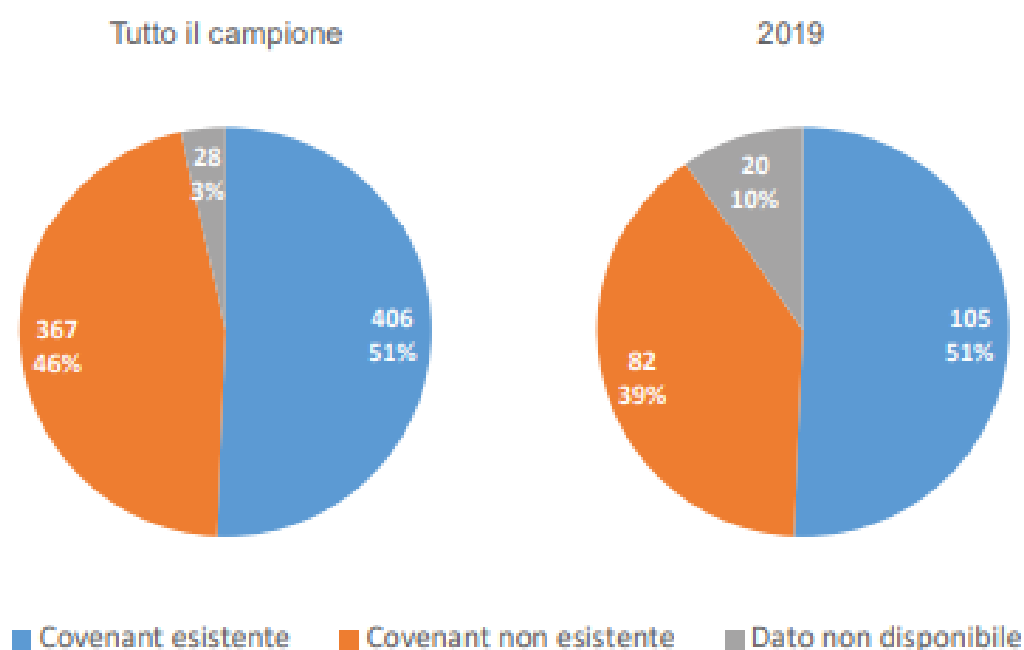


Figure 3.19: Covenants in Italian Mini-bonds. Comparison between the total sample of 801 issues under € 50 million and the sample of the 2019 (207 issues)

Source: Osservatorio Mini-bond (2020)

3.4 Mini-bond advantages and disadvantages

The advantages offered by Mini-bonds are the following.

1. Companies can access higher debt capital diversification and mitigate the risks connected to a strong dependence on the banking channel, therefore improving the financial management.
2. While bank debt usually does not imply a bullet repayment scheme but rather imply periodical payments comprising both interests and capital, Mini-bonds allow to avoid conspicuous interests on the loan in the period in which the latter has not yet generated enough liquidity.
3. Mini-bonds guarantee credit stability for the company in the medium-long period, as Mini-bonds can be issued with medium-long term maturities and so allow to extend the average duration of the funding sources, providing greater consistency between assets' and liabilities' average maturity and offsetting the risk of early repayment requests from creditors.
4. Through Mini-bonds usage firms can present themselves in a more reliable way to potential investors and upgrade their rating too thanks to the improvement of the financial ratios – in particular those related to liquidity and financial structure.
5. It is important to remember that sometimes banks cannot grant a loan to firms and therefore Mini-bonds can become an alternative way for obtaining the required finances, even in a higher amount than the banking channel could provide and benefiting from tax advantages.

Critical issues related to Mini-bonds are instead the following.

1. The higher illiquidity associated to Mini-bonds implies a deeper due diligence on the SMEs to be financed so that investors can perform a comprehensive evaluation considering the company's sector, the competitive positioning, the corporate governance, the strategy, the capital structure, and the historical and prospective financial statements.
2. Even though ExtraMOT PRO provides quite low fees for SMEs, there are still other costs to be taken into account. It is necessary to carefully evaluate the costs of the analysis of the operation feasibility and of the overall issue management, as well as the

charges for the different subjects involved – i.e. internal consultants, advisors, auditing companies and arrangers.

3. The interest rate applied on a Mini-bond is usually higher than on bank loans; accordingly, assessment models for financial management must be adopted in order to adequately compare the costs of the different financing options, net of relative taxation.
4. A problem related to the size of Mini-bonds is that in order to attract professional investors, the issued amount should be higher than the usual financial needs of a SME. However, an effective solution can be providing securitization on multiple Mini-bonds issued by different firms in a large pool.
5. Companies interested in issuing a Mini-bond must also consider that the necessary timing for obtaining funds from the capital markets is usually between three and four months higher than the time required for accessing a bank loan (Gandini, 2018).

3.5 The players in the industry

It is not necessary to rely on a bank for issuing a Mini-bond. Several actors are involved in the Mini-bond issuing process, supporting the companies and the institutional investors: financial advisors, legal consultants, arrangers, rating agencies, registrar agents and depository banks, as well as informational web portals. The various categories of actors involved will be presented more in details in the following paragraphs.

3.5.1. Financial Advisors

Very often small and medium enterprises do not possess the specific competencies needed to build a Mini-bond, and therefore appointing a financial advisor is necessary. It is a figure able to guide the firm in choosing the most appropriate strategy related to the timing, the issue, the value, the maturity and the interest rate of the Mini-bond and which supports the relations between the firm and other entities, in particular when observing the regulatory compliance and listing on the stock exchange. The advisor's role is important also in developing an adequate internal control system and managing the information requested by investors.

The initial analysis can be performed directly by the investor or by the arranger; in such analysis, the cost-benefits evaluation of the operation has to be performed, followed by the creation of a business plan clarifying the future investment objectives and the financial sustainability

assessment. The issue process takes usually between two and six months and can be started by either the firm or the financial advisor.

According to Osservatorio Mini-bond of Politecnico di Milano the most active financial advisors are: ADB Corporate Advisory (with 6 companies assisted in 2019, also in collaboration with other subjects, and 3 operations followed in the role of fund advisor), Agenda Corporate Italia, Barabino and Partners, CDS Associati, Consilia, Deloitte Private, Eidos Partners, Envent Capital Markets, Ethica Debt Advisory, Eukleia Group, Falco & Associati, Financial Innovation Team, KON, SBA Business Advisor, Studio Mazzei Commercialisti e Revisori, Studio Rinaldi, Vitale & Co (Osservatorio Mini-bond, 2020).

3.5.2 Legal Consultants

The role of legal consultants is crucial and extremely delicate, as they need to prevent the firm to be object of controversy and to effectively offer guarantee and protection to investors. The legal consultants have to verify the compliance with the outstanding regulatory framework, the correctness of the procedures, the implementation of contracts among parties and of the loan regulation. These actors can be appointed by the investors too for performing a legal diligence in order to assess the situation of the issuing company. The Osservatorio Mini-bond of Politecnico di Milano has identified as the most active players: Orrick (with 25 operations followed during the year), Chiomenti, Gattai, Minoli, Agostinelli & Partners, Gianni Origoni Grippo Cappelli & Partners, GIM Legal STA, LCA, Legance, NCTM, Pedersoli, R&P Legal, Simmons & Simmons. (Osservatorio Mini-bond, 2020).

3.5.3. Arrangers

The arranger is a key figure even though it can handle quite different tasks (and sometimes the distinction between arranger and advisor is questionable).

The arranger is responsible for the actual structuring of the Mini-bond placement and for dealing with potential investors on behalf of the issuing company, presenting them the investment opportunity documented in an information memorandum and understanding whether they could be interested. The arranger and the company will then be able to exploit the information gathered in this way when defining precisely the Mini-bond characteristics, in particular with respect to the coupon and the other conditions impacting on the expected remuneration.

Figure 3.20 describes the market shares in 2019 of the various players, both by number of issues and by overall value. The contribution deriving from 'captive' minibonds is highlighted in red; as defined by the Osservatorio Mini-bond of Politecnico di Milano these securities are originated and fully subscribed by a single financial group. It is interesting to observe that the market has been enriched with new players with respect to the previous years (such as CFO SIM which has launched a new division dedicated to the debt capital market, to witness the growing attention of businesses and investors). According to the number of issues, on the first place we find equally with 33 issues each Frigiolini & Partners Merchant and Banca Finint. In the third place there is Unicredit with 27 issues. Among these issues, Banca Finint includes 13 of them as 'captive' while Unicredit 21. In the ranking by total value, in the first place there is Unicredit with € 227.88 million, of which € 128.88 are from 'captive' issues, followed by Banca Finint with € 190.44 million. If the 'captive' transactions are not considered, Banca Finint rises to first place with € 149.8 million. In third place there is Pirola Corporate Finance (€ 40 million). If the cumulative of the transactions under € 50 million recorded since 2012 is considered, Banca Finint is first in terms of value (€ 861 million) while Frigiolini & Partners Merchant is first with 99 issues (Osservatorio Mini-bond, 2020).

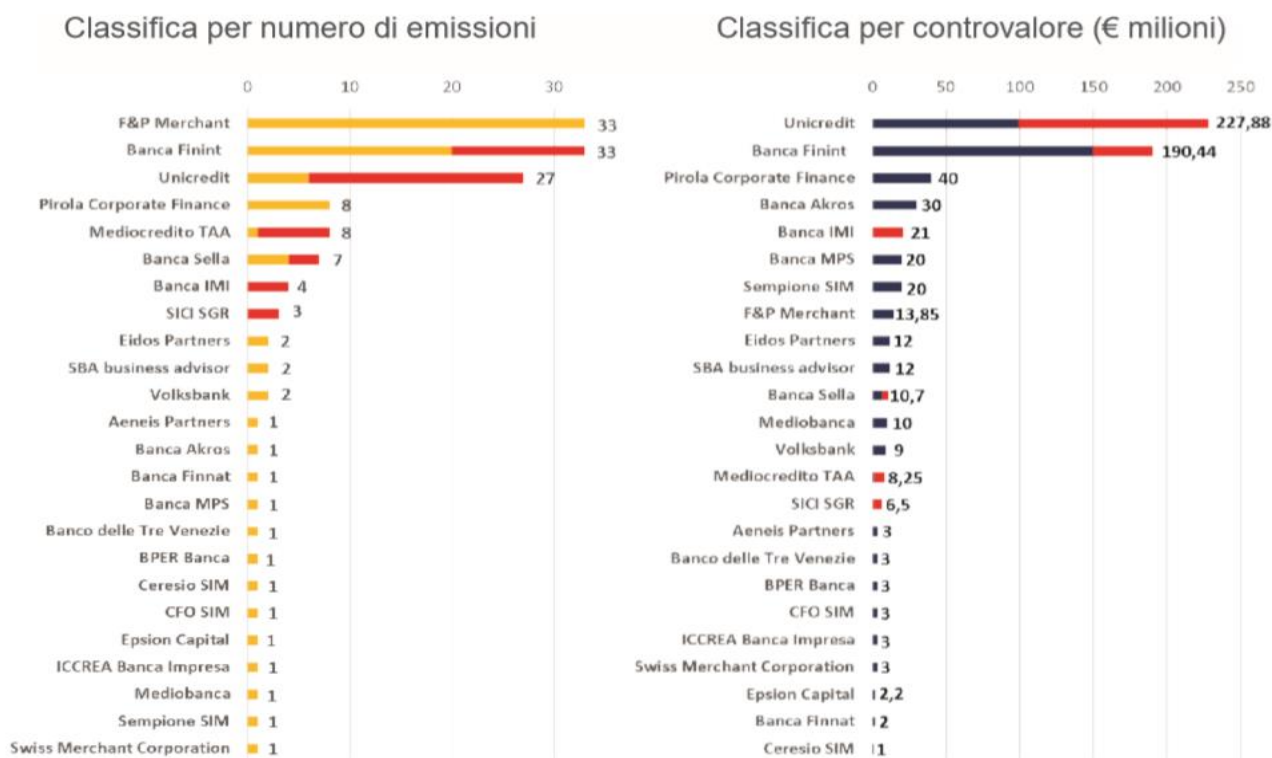


Figure 3.20: Arranger ranking according to total number of emissions(left) and total value(right)
Source: Osservatorio Mini-bond (2020)

3.5.4 Rating Agencies

Many companies decide to be assigned a rating in order to provide further information to the market, although it is not mandatory for the placement of a Mini-bond. In particular, private debt fund usually request an independent rating or perform internal rating procedures in order to better assess investment opportunities. The rating can be requested either by the investor (unsolicited rating) or by the firm to be evaluated (solicited rating); it can be communicated to the public (disclosed) or not (undisclosed).

The regulatory framework regarding rating agencies has been defined by the European regulation EC n. 1060/2009, which has the aim of eliminating conflicts of interest, guaranteeing transparency and ensuring a high quality service.

In the European Union, only agencies recognized and registered at ESMA (European Securities and Markets Authority) can issue credit ratings.

In Italy in 2019 4 active agencies have been dealing with Mini-bonds:

- Cerved Rating Agency, which issued 10 new ratings (of which 8 long term and 2 short term) plus 41 updates on previous ratings; of the 51 covered Mini-bond considered, 13 have a private rating and 38 a public rating;
- CRIF Ratings, with 2 new 'public' ratings and 4 new 'private' ratings (undisclosed), as well as 22 updates on previous issues, 14 of which unsolicited;
- Modefinance, with 6 'public' and 66 'private' ratings, many of which are associated with the Campania Bond Guarantee project;
- TRIBRating (Euler Hermes Rating) with 1 undisclosed rating (Osservatorio Mini-bond, 2020).

3.5.4.1 Rating Process

Although it is not mandatory, having a credit rating is useful in the process of issuing a Mini-bond as it allows to better assess the initial situation when defining a business plan and a sustainable financing strategy and to ensure investors about the validity of the investment opportunity during the securities' placement (Modefinance, 2019).

According to Cerved Rating Agency (2019), the rating assignment process requires between five and eight weeks, and is composed of the following steps.

1. A request for the process is made either by the entity to be rated or a third party.
2. The available information regarding the issuer is verified by the analyst in charge of the rating in terms of completeness and timeliness. He also verifies the value of the automatic score and the individual grading.
3. Further data are collected by the analyst if the available information is incomplete and/or obsolete.
4. The evaluation of the rated entity is expressed by the analyst, considering the income profile and financial structure, the economic/financial trends and the regularity of payments. Moreover, the company to be rated is compared with sectorial benchmarks. The robustness of the process and the comparison with the sectorial peers aim at ensuring maximum judgement objectivity.
5. The appraisal expressed by the analyst is combined with the integrated score through a matrix compatibility system so to generate a preliminary rating. If needed, the analyst can provide further corrections on the final rating (notch).
6. A supervisor or Rating Committee has to do the screening of the final rating judgement for the approval. They can either confirm the final judgement proposed by the analyst, modify it or require a deeper analysis.
7. The approved rating and the main elements on which it is based are communicated to the rated firm at least 24 working hours in advance with respect to the rating publication so to draw the attention of the rating agency on possible typos.
8. All the public credit ratings issued are subjected to continuous monitoring and review at least annually.

3.5.5 Investors

An investment in Mini-bonds can be done by professional investors only, as they possess the knowledge and competencies for adequately understand and evaluate the risks they are taking. Even after the approval of the Budget Law 2019, allowing also the authorized equity crowdfunding portals to place Mini-bonds, the only typology of investors targeted are the professional ones.

The regulatory framework in Italy makes a distinction between joint stock companies (S.p.A.) and limited liability company (S.r.l.): investors must be monitored if investing in debt securities

of the latter company typology, whereas it is not required for the former typology.

The typical subscriber of Mini-bond issues are therefore the Collective Investment Schemes (i.e. open and closed funds, alternative funds, pension funds), banks, insurance companies, securities brokerage companies, social security funds, regional financial institutions and foundations.

Figure 3.21 displays the data collected in 2019 from publicly available sources and from those kindly provided by the market players, with an overall coverage of the placed value equal to 80%. This year Italian private debt funds are at the top of the ranking, with a share of 32%, which is growing well compared to last year. Banks also increased their market share, reaching 26%. On the other hand, there was a sharp drop for foreign investors (down to 11%), which can be linked both to the increase in the supply of capital from national entities, and to the climate of uncertainty linked to the recent political events and the economic stagnation. The share of the asset & wealth management industry (open funds, private banking, SIM) drops slightly to 9% while Cassa Depositi e Prestiti enters the ranking, with 10% thanks in particular to the transaction Export Basket Bond. Insurance investments (2%) and pension funds (1%) are still below potential (Osservatorio Mini-bond, 2020).

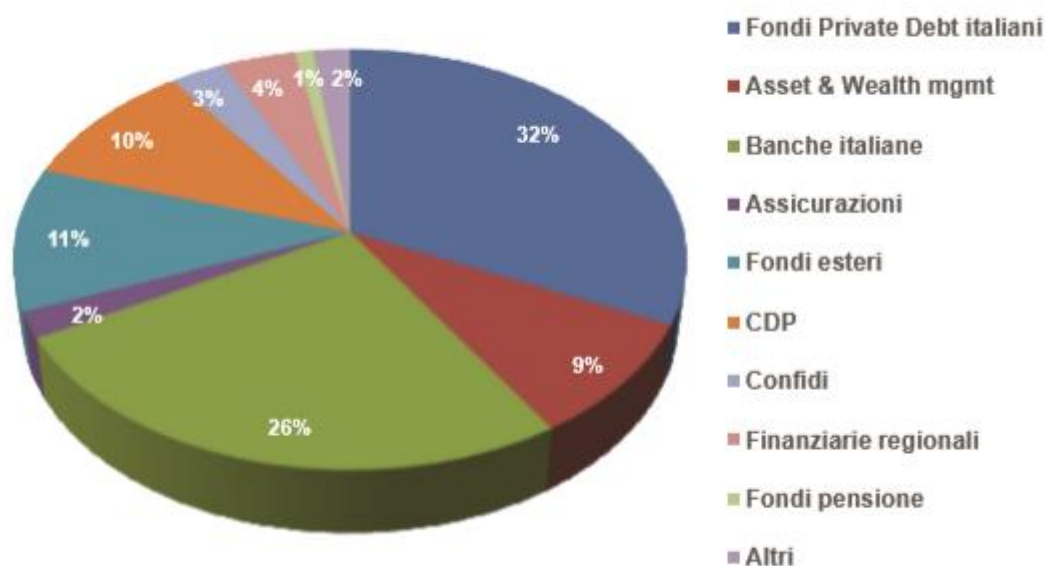


Figure 3.21: The ‘map’ of Mini-bond investors in 2019

Source: Osservatorio Mini-bond (2020)

3.5.5.1 Private Debt Funds

Although figure 3.21 showed how the ecosystem of Mini-bond investors is quite varied, a particular remark regarding private debt funds has to be done. They are the specialized investors for this asset class, however they can provide direct lending too, therefore directly competing with banks.

Private debt funds usually adopt a buy-and-hold investment logic similarly to private equity funds, and both are closed-end funds, aiming at employing the capital over a long term horizon. However, private debt funds are more concerned about minimizing the insolvency risk rather than about the upside potential of the returns. The private debt funds specialized in Mini-bonds firstly collect commitments expressed by possible investors – usually banks, insurance companies, foundations, funds of funds – and then invest the capital gathered according to pre-determined rules, especially concerning the risk-return combination of the instruments. In order to ensure investment transparency and reliability, the fund can ask for guarantees to the issuing companies, impose guidelines on its governance, and even resort to the national Fondo di Garanzia for a public guarantee.

According to the Italian Association of Private Equity, Venture Capital and Private Debt (AIFI, 2019), in the private debt segment in 2018 € 297 million were raised, more than € 1.018 million were invested and € 213 million were repaid to investors. The main providers of funds have been banks (39,1%) and pension funds (26,6%), while the investments have been mainly bonds (49%) and direct lending (46%), while the remaining minority was constituted by hybrid deals (5%).

As far as the main players investing in private debt funds, in the Italian context the cornerstone is Fondo Italiano di Investimento SGR which operates a specific fund of credit funds with resources provided by Cassa Depositi e Prestiti and other private investors, while in the European context the European Investment Fund (EIF) managed to help a number of firms who issued Mini-bonds with the “InnovFin SME Guarantee Facility”, pursuing the overall aim of increasing the credit directed towards SMEs.

According to Osservatorio Mini-bond, in 2020 new private debt initiatives are expected. Equita Capital SGR has announced the funding start for a new private debt fund (Equita Private Debt II), with a funding target of € 200 million. Azimut Libera Impresa SGR continues with the ambitious plan to launch a series of new funds dedicated to the 'real' economy, some of which are focused on debt capital. The goal of the operation is to facilitate access to investments by reducing the minimum investment cut to € 5,000. The new Eurizon Capital Real Asset SGR is

also focusing on the 'real' economy and has recently announced the launch of new alternative investment funds, which could invest in Mini-bonds. In Veneto, FVS SGR, controlled by Veneto Sviluppo, is going to acquire new resources for a second series of investments, managed on a 'rotary' basis over deferred durations, in order to efficiently reinvest the repayment flows.

3.5.6 Registrar Agents and Depositary Banks

Registrar agents and depositary banks play an assistance role in the fulfillment of technical and regulatory requirements both before and after the Mini-bond issue, and they deal with both firms and investors.

In the former case, the dematerialization of the issued securities (having Monte Titoli as counterpart) and the ISIN code assignment (having Banca d' Italia as counterpart) are realized. These are quite standardized processes, however they are often entrusted to banks as firms pursue both costs and time to market minimization.

The players with greater relevance for Mini-bonds according to Osservatorio Mini-bond are BNP Paribas Securities Services, Deutsche Bank, Bank of New York Mellon, Securitisation Services (Banca Finint Group) and, for the lowest issues, Banca di Credito Cooperativo di Cherasco. Another important role in this context is played by the "paying banks" which deal with Monte Titoli, accrediting coupons to investors.

In the latter case instead depositary banks supervise the securities in the moment of their dematerialization; this is mandatory in case of stock exchange listing.

According to Osservatorio Mini-bond, even in 2019 the most important players in this sense have been BNP Paribas Securities Services, SGSS and State Street (Osservatorio Mini-bond, 2020).

2.5.7. Web Portals

Web portals dedicated to Mini-bonds play a crucial role in the growth of the related market, as they promptly spread information regarding the new issues and the main players in the Italian scenario.

According to Osservatorio Mini-bond of Politecnico di Milano, the most relevant portals focusing on Mini-bonds are BeBeez.it and Mini-bondItaly.it (Osservatorio Mini-bond, 2020).

3.6 The ExtraMOT PRO exchange

The ExtraMOT PRO market of Borsa Italiana was established in February 2013 as the professional segment of the ExtraMOT market in which project bonds, bonds and commercial papers can be listed.

From a technical viewpoint, ExtraMOT PRO is not a market regulated according to MIFID rules, but a Multilateral Trading Facility with an electronic trading platform and automatic settlement procedures, eligible for all banking and financial transactions with the European Central Bank. ExtraMOT PRO is accessible to professional investors only, and it is possible to appoint specialists to support the liquidity of the traded instruments.

ExtraMOT PRO offers the following advantages to the firms who list securities on it. Firstly, it is economically convenient as SMEs can benefit from the tax advantages introduced by the regulator; secondly, it is flexible as Borsa Italiana provides a simplified regulatory approach for SMEs entering in such segment, and thirdly it offers visibility on the international arena, which is crucial for attracting potential investors.

ExtraMOT PRO was created with the aim of offering to SMEs a simple and efficient access to capital markets, exploiting the opportunities and fiscal benefits deriving from the new regulatory framework introduced by the Development Decree. Accordingly, it is the ideal segment for Mini-bonds.

Borsa Italiana introduced also ExtraMOT PROLink, a web platform collecting in a standardized and organic way all the information on firms and securities listed on ExtraMOT PRO, with the aim of promoting a virtuous circle between the funding needs for SMEs growth and the needs of a fair yield for professional investors.

It is noteworthy that, considering the increasing interest towards ESG (Environmental, Social, Governance) themes, from 2017 Borsa Italiana decided to offer also “Green Bonds” and “Social Bonds”, which aim at financing projects which will bring respectively environmental and social benefits.

Borsa Italiana has become also aware of the relevance of the “Climate-aligned” bonds, which are issued by firms operating in sectors committed to reduce their environmental impact. Such bonds are not listed as “Green Bonds and/or Social Bonds”; nevertheless, the sector designation can be

identified through the ExtraMOT PRO search engine (Osservatorio Mini-bond, 2020; Borsa Italiana, 2019).

3.6.1 Listing requirements, fees and process

The listing requirements for firms listing securities on ExtraMOT PRO are the following.

1. The company must submit an admission document or a Prospectus compliant with the Commission regulation n. 809/2004; the former must follow the guidelines provided by ExtraMOT PRO, while the latter is generally preferred by the largest companies issuing bonds with value greater than € 200 million.
These documents must contain information regarding the people involved in their redaction, the risk factors of the firm and the debt instrument, the issuer, the organizational structure, financial information or the last balance sheet, financial instrument features and negotiation rules. It is also necessary to disclose the intended usage of the raised funds;
2. The financial statements of the last two years, including the consolidated ones if available, and the last of which audited;
3. The dematerialization of the securities must be obtained through an authorized entity such as Monte Titoli and the ISIN code must be provided by the Bank of Italy. These requirements are usually needed also for Mini-bonds not listed on the stock exchange.
4. The admission request has to be fulfilled following the guidelines given by *Borsa Italiana* and signed by the legal representative. It is possible to appoint also a market maker in order to guarantee the liquidity of the securities. The instruments must be liquidable on *Monte Titoli*, Euroclear or Clearstream. The negotiations will begin after having provided an admission notice.

The documents companies must publish after the listing are instead:

1. The audited annual financial statements (within six months from the end of the corresponding financial year);
2. The rating disclosure, if a public rating is assigned;

3. The information about any change in the rights of the bondholders;
4. Changes in relation to the nature of the issuance or in the methods in which subscribers' rights are exercised;
5. Any technical information related to the characteristics of the instruments - e.g. payment dates of interest and coupons.

As far as the listing fees are concerned, admission costs are particularly low: for a traditional instrument placement of any maturity, € 2,500 are required, whereas for an instrument already listed on another exchange only € 500 are required.

The listing process is divided in four phases:

1. The operation has to be planned by defining the characteristics and timing for the listing and by fulfilling the admission document.
2. The listing demand and the admission document have to be sent by the issuer; *Borsa Italiana* will in turn analyze the completeness of the documentation.
3. If the documents are approved, the admission will occur and the relative notice will be published.
4. Negotiations can start, although “on going” information requirements can still be needed (Osservatorio Mini-bond, 2019, Borsa Italiana, 2019).

3.6.2 ExtraMOT PRO³

ExtraMOT PRO³ has been launched in September 2019 as the new segment on ExtraMOT PRO for supporting SMEs with high growth potential and bringing them in the international spotlight. ExtraMOT PRO³ is dedicated to bonds and debt securities issued by firms which are not listed on regulated stock exchanges, SMEs or with an issue value lower than € 50 million. It is a new service well suited for firms with ambitious growth plans, and is open to professional investors only.

The advantages offered by ExtraMOT PRO³ are the flexible, rapid and digitalized listing process due to the integration of ExtraMOT with the Italian and international settlement systems (Monte

Titoli/Euroclear & Clearstream); the acceleration of the diversification of funding sources with one or more arrangers; the access to a wide network of brokers connected and interconnected to the market and the compliance with the admission requirements from the offer moment, guaranteeing continuity between the primary and secondary market. It is important to remember that such advantages have to be added to the benefits brought by those initiatives introduced for facilitating access to capital markets and reducing funding costs.

In the case of Mini-bond placement through the ExtraMOT PRO³ platform, the fee is equal to a digressive percentage of the value of the placement, between 0.0025% and 0.01% with a minimum of € 4,500. There are no mandatory intermediaries in other segments such as the listing partner or the liquidity provider.

Accordingly, ExtraMOT PRO³ constitutes the natural evolution of ExtraMOT PRO and Borsa Italiana believes that ExtraMOT PRO³ will positively impact on the visibility of the listed companies, which would benefit from initiatives aimed at improving capital access and reducing the costs of financing for SMEs.

As of December 31, 2019, according to Borsa Italiana, 161 securities issued by 114 companies (most of which from the industrial sector) were listed on ExtraMOT PRO³, for a total nominal value of € 4.45 billion. It is not possible to make a comparison with respect to the previous year because the segment was not yet distinguished from ExtraMOT PRO; in September 2019, the start date of the new segment, the securities already listed and registered on ExtraMOT PRO³ were 155. During the next four months, 20 new securities were listed (14 were delisted for repayments) and 111 transactions were recorded, for a total value of approximately € 8.8 million; the average value is instead € 79,000. It should be remembered that this is a market open only to institutional investors, who usually operate with a 'buy-and-hold' logic, as is clear in the case of closed-end private debt funds. In particular, the most traded securities in the first four months of the ExtraMOT PRO³ activity were issued by Rekeep, ex Manutencoop (25 contracts, € 2.55 million equivalent), Ricci (31 contracts, € 1.34 million equivalent) and Davis Morgan (13 contracts, € 1.25 million equivalent) (Borsa Italiana, 2019; Osservatorio Mini-bond, 2020).

3.7 Mini-bonds in the European context

As the Global Financial Crisis of 2008 had a global impact on the economic and financial systems, also legislators and governments of countries other than Italy introduced regulatory changes so to stimulate economic recovery and access to credit markets for SMEs.

Accordingly, it is interesting to observe the development of specialized markets and platforms for Mini-bonds also in other European countries.

3.7.1 United Kingdom

In the United Kingdom the London Stock Exchange manages a platform for bond negotiation addressed to a retail public: the Order book for Retail Bonds (ORB). It is regulated by the MiFID Directive and is open to small investors too, differently than the ExtraMOT PRO segment in Italy. The listing requirements are the same as the main bond market; the minimum investment size is £ 100 while the maximum investment size is £ 10.000: therefore it is also considered as benchmark for Mini-bonds. Moreover, the presence of a market maker is mandatory in order to ensure the securities' liquidity, According to ORB experts, the market can be efficient for those issuers who need to raise up to £ 20 million (London Stock Exchange Group, 2014).

Excluding the government bonds (Gilts) listed in that market, at the end of 2019 the ORB market included 66 issues, 8 of which occurred during the year (London Stock Exchange Group, 2019). It has to be remarked that in the UK private Mini-bond placements are allowed not only to institutional and professional investors, but also to small savers, even through Internet platforms. It is noteworthy, however, that in November 2019 the Financial Conduct Authority (FCA) announced a moratorium, effective from January 2020, on the advertising of the so-called 'speculative' Mini-bonds towards retail savers, referring to securities issued to raise funds to be invested in other credits or in securities of other companies or real estate. The provision has been implemented after a series of controls and investigations which involved 80 placements and 200 investment offers promoted without the necessary authorizations. The most striking episode has been the default of the securities of London Capital & Finance, an investment company, which has caused losses of 230 million pounds for 11,400 small savers (Osservatorio Mini-bond, 2020).

3.7.2 Germany

In Germany there are several markets dedicated to debt securities issued by SMEs (Mittelstand) in different financial marketplaces: Entry Standard in Frankfurt, Primärmarkt in Düsseldorf (divided in three segments according to the reference spread), Mittelstandsbörse Deutschland in Hamburg-Hannover and M:access bond in Munich. In Stuttgart there is a non official, non

regulated market composed by several segments, one of which is dedicated to Mini-bonds: Bondm. This market has been open in 2010 to allow negotiations of debt securities issued by SMEs, and is accessible by both professional and retail investors. For the direct subscription on the primary market the intervention of an institutional underwriter is not mandatory; it can be done also through an electronic channel ('Bondm subscription box') which has to necessarily cover not less than 50% of the issue so to allow to retail investors to have the same subscription opportunity as institutional investors. Listed bonds on Bondm have minimum note size of € 1.000 and can be subordinated with respect to other financial liabilities of the issuer if the issue has a public rating. Bondm listing implies the following requirements: the publication of a prospectus approved by the market authority; the supervision of the firm by a coach – i.e. an intermediary following the company during the issuing procedure, ensuring its compliance with the informational requirements; the certified financial statements, presented in their extended form. Moreover, Bondm has a market-making system to ensure Mini-bonds' liquidity (Osservatorio Mini-bond, 2020).

In 2019 35 companies issued a total of 40 new Mini-bonds, which accounted for a total of € 1.35 billion, more than the € 1.14 billion of 2018 (Börsen-Zeitung, 2020).

Nevertheless, in Germany the *Schuldscheindarlehen* market is much more developed: it is an alternative financing form which can be classified between bonds and bank loans. These securities are based on a bilateral agreement between the issuer and the creditor, which can receive the amount he initially lent in two or three tranches with either fixed or flexible maturities. Usually the firms which benefit from the usage of the *Schuldscheindarlehen* are of medium size, however they have been used by large companies too. Recently, the *Schuldscheindarlehen* has grown significantly, expanding beyond its traditional German base and becoming a pan-European financing channel, with € 30 billion of issuance in 2019. The increase in issuance volume and deals per years has been also enhanced by the increased SME experience with digital platforms; these companies are reported to be issuing *Schuldschein* even more than once per year, which represents a novelty.

Moreover, the *Schuldschein* market has become oriented towards the benefits of sustainable finance too, as it is a quite flexible instrument that can be adapted both for green and ESG issuances. An interesting case has been the Spanish bank BBVA which has negotiated a € 220 million sustainable *Schuldschein* for the Madrid government, using the blockchain and the ICMA's green bond principles for the debt structuring (International Financial Law Review,

2020).

3.7.3 France

In France there are three financial markets for SMEs' bond emissions: segments B and C of the regulated market Euronext and Euronext Growth. These markets are open for both professional and retail investors, and imply an issuance modality for minibonds called "Initial Bond Offering", launched for the first time in 2012. The minimum note size for Mini-bonds is € 100 and the maturity must be between 5 and 10 years. The value must be equal to at least € 5 million on Euronext Growth and € 10 million on Euronext. In order to issue securities on such markets, the issuer must publish a prospectus certified by an authorized Regulator and the financial statements of the last three years. Moreover, it has to provide a public rating if it is not listed already or has a market capitalization lower than € 100 million. For listing on Euronext Growth the support of a sponsor is necessary during the pre-listing phase, in order to ensure that the company complies with the informational requirements after the placement. Furthermore, two other actors are required: the advisor and the advocat. The former plays a support role in preparing the documents and structuring the operation, while the latter is specialized in the legal aspects. The retail investors can subscribe the securities through banks and brokers during a subscription window of three/five weeks. Once the subscription period has finished, the securities are listed.

At the end of 2019, 234 bonds similar to minibonds were listed on the dedicated Euronext price lists. Furthermore, it is worth mentioning that France has started an experiment for the placement of minibonds of up to € 2.5 million through blockchain technology, which can also be implemented through the authorized crowdfunding portals. (Osservatorio Mini-bond, 2020; NYSE Euronext, 2020)

3.7.4 Spain

In Spain a non regulated market for debt securities dedicated to SMEs has been opened in 2013: the Mercado Alternativo de Renta Fija (Marf), managed by Bolsa y Mercados Españoles. On Marf both bonds and promissory notes can be listed. The former are addressed to institutional investors only, must have a minimum note size of € 100.000 and can be issued by both Joint Stock Companies and Limited Liability Companies. In order to list securities on Marf, the

companies must provide their article of incorporation, the issue approval, the last two certified financial statements and informative documents on risks or on solvency certified by an authorized agency. After the listing, the issuer must commit to provide to the market any price sensitive information. A public rating and the intervention of a liquidity provider are not required by the authorities on the secondary market (Bolsas y Mercados Españoles, 2013).

At 31/12/2019, 40 bonds, 5 securitized securities and 185 financial bills were listed on the Marf. For the first time also a green bond was listed, intended to finance projects in renewable energy (Osservatorio Mini-bond, 2020; Bolsas y Mercados Españoles, 2020)

3.7.5 Norway

Nordic ABM, a non regulated market dedicated to the listing and exchange of bonds and commercial papers up to 12 months of maturity, has been opened in 2005 in Norway. According to Oslo Børs (2011), the market is divided in two segments, one dedicated to institutional investors only, while the other is accessible for retail investors too. The two segments are defined according to the nominal value of the single security – respectively higher or lower than 500.000 Norwegian crowns (corresponding to € 55.000). The minimum note size is 2 million of Norwegian crowns (corresponding to € 220.000).

This market implies a listing process quite similar to ExtraMOT PRO; at the end of 2019 1.383 Mini-bonds were listed on Nordic ABM, for a nominal value of approximately € 31.6 billion (Oslo Børs, 2020; Osservatorio Mini-bond, 2020).

3.7.6 Poland

The bond market Catalyst has been opened in 2009 in Poland. It operates on four transaction platforms provided by the Warsaw Stock Exchange (WSE) and BondSpot (formerly MTS CeTO). Both WSE and BondSpot offer a regulated market and an alternative trading system, however the former is addressed to retail investors, while the latter is addressed to institutional investors. Accordingly, the Catalyst architecture guarantees that issues with different sizes and parameters can be placed on the market, satisfying the needs of different investor groups. The segment of Catalyst which is more suitable for Mini-bonds is the alternative trading system provided by the Warsaw Stock Exchange (as the other Catalyst segments require a higher minimum issue amount). In order to be listed in such market, debt securities must have an

aggregate nominal value of at least PLN 1 million (corresponding to € 234.000). Moreover, the issuers have to regularly provide current and periodic reports so to comply with reporting requirements, notwithstanding transactions on all Catalyst markets are guaranteed by the National Depository of Securities (Warsaw Stock Exchange, 2019).

By the end of 2018 the alternative trading system provided by the Warsaw Stock Exchange allowed industrial and commercial firms to raise debt capital for a total issue value of PLN 41.034 million (corresponding to € 9.614 million).

At the end of 2019, 209 securities were listed in this market, with an issue value of less than € 50 million issued by 68 private companies (Warsaw Stock Exchange, 2019; Osservatorio Mini-bond, 2020).

3.7.7 Other countries

Other Eastern countries have introduced specific segments for SME bonds, recently qualified as SME Growth Market. Such markets are opening are Bulgaria (with the BEAM market), Croatia and Slovenia, which jointly ideated the Progress list.

Moreover, in Malta since 2016 there is a specific non-regulated list for the listing of SME shares and bonds, called Prospects, where 23 Mini-bonds were listed at the end of 2019 (Borza Malta, 2020; Osservatorio Mini-bond, 2020).

4. HYPOTHESES, DATA DESCRIPTION AND METHODOLOGY

This chapter introduces the research performed in this dissertation, aiming at analyzing the behavior in terms of governance choices of companies which listed a Mini-bond on ExtraMOT PRO, addressing a literature gap as no previous studies on this specific subject have been provided in the literature so far.

The analysis' final objective is to determine the impact of the listing of a Mini-bond on the ExtraMOT PRO market on the implementation of determined organizational and human resources choices, i.e. the introduction of risk management procedures, the employment of a performance-based remuneration system for top managers, the appointment of a Chief Financial Officer and the appointment of an investor relations manager. All these themes have been verified not to be expressly requested for listing a Mini-bond on ExtraMOT PRO and to provide a positive impact on the firm's performance.

Listing securities on the Stock Exchange represents indeed an important discontinuity moment for the company, since by opening towards the institutional investors' market it adopts profoundly different governance and organizational systems. This occurs not only with share capital, but also when bonds are listed (Osservatorio Mini-bond of Politecnico di Milano, 2020). In particular, listing a Mini-bond on ExtraMOT PRO represents an opportunity for gradually approaching the institutional investors' market, for acquiring new, more sophisticated financial competencies, for improving the market exposure and eventually raise capital more easily (Borsa Italiana, 2019).

For performing such analysis, the treatment effect of the Mini-bond listing on ExtraMOT PRO has been assessed with respect to a control sample of companies which have issued a Mini-bond, but without listing it on ExtraMOT PRO. Each hypothesis is assessed both under a long-term perspective, i.e. considering a step effect, for several years after the instrument's issue, and under a short-term perspective, i.e. considering an impulse effect, for only the year of the issue or immediately after it. The aim of this approach is to evaluate whether companies have implemented determined organizational or human resources choices also some years after the listing on ExtraMOT PRO, or if these choices have been implemented already with the instrument listing on such market. The econometric analysis introduced in this chapter and

whose results will be presented in the following chapters will be firstly performed on the entire sample of treated companies (i.e. those companies who listed a Mini-bond on ExtraMOT PRO) and the respective control sample. Secondly, a separate analysis will be performed on the treated sample and control sample considering SMEs only. The decision to provide a separate analysis considering SMEs only has been driven not only by the fact that such companies have a crucial role in the European and Italian economies, but also by the consideration that such companies suffer from higher funding gap and greater information asymmetry. It is therefore interesting to analyze whether they present a peculiar behaviour with respect to the total sample, considering that especially for these companies the listing can be the first occasion for gradually approaching the institutional investors' market and implementing more sophisticated governance practices.

Chapter 4 is structured as follows. Firstly, relevant related literature will be analyzed for defining the research hypotheses. Secondly, the treated sample and the control sample employed in this research will be presented. Thirdly, the methodology used in the empirical analysis will be defined.

4.1 Literature review

The following paragraphs will present the literature review and the consequent hypotheses formulation. In particular, they will deal with studies regarding the implementation of determined organizational and human resources choices, i.e. the introduction of risk management procedures, the employment of a performance-based remuneration system for top managers, the appointment of a Chief Financial Officer and the appointment of an investor relations manager, stressing the positive impact they can provide on the company's performance, especially under the perspective of listing securities on a Stock Exchange.

4.1.1 Implementation of risk management procedures

Firms face a wide range of risks which can impact on their operations' outcome. The desired overall result is usually defined as the organization's mission or by a set of goals. Nevertheless, a company can be impacted by events inhibiting its capability to achieve its desired objectives (hazard risks), enhancing that aim (opportunity risks) or generating uncertainty regarding the final results (control risks). Besides, a further category of risk is related to compliance, as the firm must respect the mandatory obligations placed on it (Hopkin, 2020).

Risk management allows companies to avoid losses, financial distress and reputational costs, as well as improve decision-making and the process of capital allocation (see among others Gordon et al., 2009; Pagach & Warr, 2011; Hoyt & Liebenberg, 2011; Grace et al., 2015).

Initially, risk management involved a silo-based approach by focusing especially on financial risks; however, this approach implies the limitation of dealing with only one risk at time, whereas in nowadays' global and increasingly complex context risks are quite interrelated (Grace et al., 2015; Power, 2009; Bertinetti, Cavezzali, & Gardenal, 2013). Consequently, nowadays organizations tend to prefer to adopt an Enterprise Risk Management (ERM) system in order to provide a more integrated approach for assessing, quantifying and managing risks across all the organization's levels and functions (Gordon, Loeb, & Tseng, 2009). According to Standard and Poor's (2007), "ERM provides management with information to optimize earnings – and ultimately the firm's value – while staying in a well-defined risk tolerance. [...] ERM also provides a new and clearer language for transferring information about management's intentions and capabilities, which are critical to credit evaluation".

Introducing risk management procedures within the company can ineluctably reduce direct and indirect costs of financial distress and variability in earnings, as well as the impact of negative shocks occurring in financial markets. Furthermore, it can be beneficial for decision making by providing valuable criteria for selecting the best investment opportunities.

It is therefore evident how the firm's performance and value can be significantly increased by adopting risk management procedures or an ERM system (see among others Beasley, Clune, and Hermanson, 2005; Nocco and Stulz, 2006; Beasley, Pagach, & Warr, 2008; Ellul & Yerramilli, 2013).

The study conducted by Florio and Leoni (2016) has empirically confirmed the positive relationship between ERM systems' implementation and firm performance. In particular, the companies using more advanced levels of ERM implementation were found to be those with higher financial performance and market evaluation, consistently with the expectation that effective ERM systems allow to achieve a greater performance by reducing the risk exposure.

Implementing an enterprise risk management system or, more generally, some risk management procedures is not expressly requested for firms who intend to list a Mini-bond on ExtraMOT PRO market segment. However, the implementation of these measures is of great relevance for such companies as it represents a valuable opportunity for correctly controlling the risks which

may interfere with the business and definitely have a positive impact on the firm's overall performance. The relevance of the implementation of these measures is evident especially if considering companies willing to gradually approach the institutional investors' market and improve their market perception, which could even deal with more sophisticated operations in a near future.

Accordingly, considering the special case of companies willing to list a Mini-bond on the ExtraMOT PRO market the following hypothesis is stated:

H1: Listing a Mini-bond on ExtraMOT PRO is positively associated with the implementation of risk management procedures.

4.1.2 Implementation of a performance-based system for the compensation of the company's executives

There are two main theories for explaining why companies may introduce a performance-based system for the compensation of its executives: the agency theory (Jensen and Meckling, 1976) and the tournament theory (Lazear and Rosen, 1981).

The agency theory (Jensen and Meckling, 1976) originates from the separation between ownership and control. This typically occurs between the principal (the shareholders of the company) and the agent (the firm's managers): the former are interested in maximizing their returns from ownership, whereas the latter are concerned about achieving high rewards by minimizing their effort.

Accordingly, the agency theory suggests that in order to align the interests of managers and shareholders the compensation policy for the company's executives should depend on the provided changes in the firm's performance.

This financial alignment can be achieved for instance by introducing outcome-based contracts, stock options, stock ownership or bonus plans. These measures motivate the agents to direct their attention, preferences and actions towards decisions which are beneficial under the shareholders' viewpoint, as they cause the agent's own future financial outcomes to be strongly dependent on the outcome provided to the stockholders.

Lazear and Rosen (1981) provide instead the theoretical model of a tournament, in which the increase in rewards between winners and losers will increase the performance of the tournament participants. Under a company perspective, the tournament theory predicts that there will be a rising ratio of pay as individuals increase their responsibilities within the organization, as well as the chance for competing for a larger “prize”, i.e. a higher promotion Rosen (1988).

Accordingly, higher incentives for the company’s employees to work harder are likely to be consistent with the argument that a greater compensation for the company CEO will imply a better firm performance.

Moreover, considering more specifically the need to influence the executives’ behaviour, Demsetz (2003) proposes that they could be even further motivated to increase shareholders value if they could be offered CEO positions in other, larger firms.

Fixed compensation structures for the top managers have been instead traditionally discouraged by literature, as these leadership positions typically require efforts and competencies which are much greater than those needed for lower-level positions within the organization (see among others Milkovich and Newman, 1996).

The financial alignment between the interests of the top executives and the shareholders has been instead confirmed to have a positive impact on the economic performance of the company by several empirical studies (such as Hall and Liebman 1998; Sapp, 2008; Nyberg et al., 2017; Elsayed and Elbardan, 2018).

Consequently, the importance of implementing a performance-based system for the compensation of the company’s executives is of primary importance, in particular when considering the case of a firm willing to list its securities on the Stock Exchange.

Although implementing a performance-based system for the compensation of the firm’s executives is not mandatory for listing a Mini-bond on ExtraMOT PRO, it is evident how introducing these measures for aligning the incentives of managers and shareholders can be quite beneficial for enhancing the overall company’s performance, by maintaining the top executives adequately motivated to deliver high results. This is crucial especially for firms willing to gradually approach the market of institutional investors and improve their overall market perception, which could even deal with more sophisticated operations in a near future.

Accordingly, considering the special case of companies willing to list a Mini-bond on the ExtraMOT PRO market the following hypothesis is stated:

H2: Listing a Mini-bond on ExtraMOT PRO is positively associated with the implementation of a performance-based system for the compensation of top executives.

4.1.3 Appointment of a CFO

The importance of the Chief Financial Officer figure has been underlined by a growing stream of literature. The CFO's role is becoming more and more crucial in the organization, as this figure needs to ensure congruence between the strategy developed for the firm and the financial constraints imposed by the business, in order to realize the expected values by providing strategic and operational alignment (McKinsey, 2019). The "strategic CFO" must accurately understand and separate the projects and practices which clearly provide market positioning value from those which instead merely require resources, but without enhancing the strategic agenda of the company. In particular, the capital allocation process implies the screening of the investments, the evaluation of the potential benefits, the definition of expenditure priorities, the commitment management, the verification of the obtained results and eventually the return realization. The correct management of these processes is critical for improving the total value contribution and the optimization of the current and future portfolio of investments.

Nevertheless, the main focus must always be the direct execution against the strategy previously set rather than against the financial constraints which limit the ability to provide further investments if needed. Moreover, the process must always be focused on the achievement of the overall enterprise's desired strategic results rather than just within a particular business unit.

Accordingly, the historically recognized CFO's capabilities in rigorous planning, budgeting and financial performance management will therefore need to evolve in a figure that emphasizes value realization as the overarching outcome that drives strategic decision-making within the company (PwC, 2015).

The figure of the CFO becomes even more important when considered in a strategic partnership with the CEO (Han et al., 2015). The CFO can indeed provide the CEO with a framework for progress measurement and accordingly change the company's direction, on the basis on results or projections compared to the initial plan (Favaro, 2001). Moreover, the direct involvement of

the CFO in strategic management can improve the corporate strategy formulation and implementation, and consequently improve the firm's financial performance too (Heidrick & Struggles, 1998).

A research conducted by Accenture has confirmed that the capabilities of the organization in the fields of finance and performance management have been one of the decisive elements in the identification of the companies which outperformed with respect to their peers over multiple economic cycles. In such firms, the Chief Financial Officers were indeed operating closely to their senior executive teams, helping to identify value-creating opportunities and supporting the business in leveraging them (Sutcliff and Donellan, 2006).

Moreover, shared leadership among top executives has been recognized by several publications as more effective and beneficial for the company's financial performance (see among others Beal et al., 2003; Alvarez & Svejnova, 2005; Denis et al., 2012). The direct involvement of more top executives in the strategic decision making process can be beneficial for companies needing to face complex problems by generating creative ideas and multiple alternatives (Edmondson, Roberto, & Watkins, 2003). Besides, when sharing the leadership with the CFO, the CEO can also provide greater focus on the aspects traditionally implied by his role, such as analyzing the competitive environment, learning from outside parties and satisfying the providers of external resources (Hambrick & Cannella, 2004).

Consequently, the importance of appointing a CFO in the company cannot be underestimated, especially if considering firms who want to list their securities in a Stock Exchange. Although it is not mandatory to appoint a CFO for listing a Mini-bond on the ExtraMOT PRO market, it is clear how it can offer the opportunity to provide the company with a figure characterized by stronger financial expertise and a growing strategic relevance, which is likely to have a positive effect on the company's overall performance too. It is therefore evident how for companies willing to list a Mini-bond on ExtraMOT PRO appointing a CFO is of primary importance, especially if considering the perspective of companies gradually approaching the institutional investors' market and with the intention of dealing with more complex and demanding operations in a near future.

Accordingly, considering the special case of companies willing to list a Mini-bond on the ExtraMOT PRO market the following hypothesis is stated:

H3: Listing a Mini-bond on ExtraMOT PRO is positively associated with the appointment of a Chief Financial Officer.

4.1.4 Appointment of an investor relations manager

Information asymmetry exists when groups of investors possess different information, i.e. informed investors have private information, whereas the uninformed investors are able to gather publicly available information only.

The demand for more financial disclosure originates from the information asymmetry between the company and its investors and between the informed and uninformed investors.

According to economic theory, greater disclosure lowers information asymmetry and therefore reduces the cost of capital too, as it provides higher liquidity and lower transaction costs (Amihud and Mendelson 1986; Diamond and Verrecchia 1991).

The negative relation between disclosure quality and information asymmetry has been empirically confirmed by several studies (such as Healy, Hutton and Palepu, 1999; Heflin, Shaw and Wild, 2005; Brown and Hillegeist, 2007).

Better disclosure quality can be obtained by setting an effective investor relations program; Martson (1996) provides the definition of investor relation as ‘the link between a company and the financial community providing information to help the financial community and the investing public to evaluate a company’, therefore emphasizing the role of investor relations in improving the information flow between the firm and the investors.

The US National Investor Relations Institute (NIRI) defines the practice of investor relation instead as a “[...] strategic management responsibility that integrates finance, communication, marketing and securities law compliance to enable the most effective two-way communication between a company, the financial community, and other constituencies, which ultimately contributes to a company’s securities achieving fair valuation” (definition adopted by the NIRI Board of Directors, 2003).

Accordingly, as the central link between the firm and the financial community, the investor relations’ role is concerned with a whole range of strategic objectives, such as creating value for the shareholders, lowering the cost of capital and ensuring access to financing channels (Hoffman and Fieseler, 2012).

A company implementing effective investor relations provides continuous voluntary disclosure of company information, enhances the visibility of the company and is directly involved in an image-building process. Capital markets participants are indeed strongly interested in the company's overall reputation and public perception as it helps the firm become an "investment of choice", enhancing its ability to attract capital at lower costs.

Company reputation is indeed multi-dimensional, reflecting the perception of a firm's stakeholders on financial and non-financial aspects, and as a potentially significant source of competitive advantage (Gatzert, 2015).

A higher level of reputation has been empirically proven in several publications (such as De la Fuente Sabate and de Quevedo Puente, 2003; Walter, 2013; Gatzert, 2015) to have a positive effect on the firm's performance (assessed using various measures, including labor efficiency), especially when employing a long term perspective.

Although appointing an investor relations manager is not mandatory for listing a Mini-bond on ExtraMOT PRO, it is evident how implementing effective investor relations allows to improve the company's exposure and public perception in the market, to enhance analyst coverage, attract more institutional investors and eventually raise capital more easily (Chang et al., 2008), as well as to enhance the company's overall performance too. It is therefore evident how for companies willing to list a Mini-bond on ExtraMOT PRO appointing an investor relations manager is of primary importance, especially if considering the perspective of companies gradually approaching the institutional investors' market and with the intention of dealing with more complex and demanding operations in a near future.

Accordingly, considering the special case of companies willing to list a Mini-bond on the ExtraMOT PRO market the following hypothesis is stated:

H4: Listing a Mini-bond on ExtraMOT PRO is positively associated with the appointment of an investor relations manager.

4.2 Dataset creation

In order to develop the analysis, it has been necessary to create a panel dataset to ensure a longitudinal structure of the data, employing both cross sectional and time series dimensions.

The data regarding the organizational and human resources choices object of the ExtraMOT PRO survey have been integrated with the extensive information on Mini-bond issuers' gathered by the Osservatorio Mini-bond of Politecnico di Milano; however, in order to build a panel data set, it has been necessary to collect information for all the control variables considered for all the years ranging from 2009 to 2019. Accordingly, the data for the control variables within this timeframe have been inserted manually in the dataset from the publicly available information and the companies' financial statements, employing the Italian company register Telemaco for the cases in which such documents were not publicly available. The Italian company register Telemaco has also played an important role also in the matching the ExtraMOT PRO survey data – which have been collected anonymously- with the extensive information available on the database of the Osservatorio Mini-bond of Politecnico di Milano.

The sample of companies which have undergone the treatment “Mini-bond listing on ExtraMOT PRO” has been compared with the control sample formed by the firms which issued a Mini-bond, but without listing it on ExtraMOT PRO, obtained from the database of the Osservatorio Mini-bond of Politecnico di Milano. Analogously to the procedure performed for the treated firms' control variables, the data regarding all the variables of the control sample for the considered timeframe have been collected from the publicly available information and the firms' financial statements, using Telemaco for the cases in which such documents and information were not accessible for the public.

It has to be remarked that even if the Mini-bond market was born in 2012, the data have been collected starting from year 2009, in order to ensure a wider timeframe for the observations and take into consideration also possible trends prior to the Mini-bonds' introduction.

The next paragraphs will deal more in details with the ExtraMOT PRO survey, the consequent building of the final sample of treated companies and the construction of the control sample employed in the econometric analysis whose results are discussed in chapters 5 and 6.

4.2.1 The ExtraMOT PRO survey

A research has been conducted by Borsa Italiana and the School of Management of Politecnico di Milano gathering information on governance changes of ExtraMOT PRO Mini-bond issuers (Borsa Italiana, 2019).

Accordingly, a survey to which 90 issuing companies replied has been realized. The areas

interested by the survey have been:

1. Ownership structure and board composition;
2. Organizational practices;
3. Human resources.

The most interesting observations deduced from the statistics of the sample are the following.. The change between the issuers' ownership structure before and after the Mini-bond issue (Figure 4.1) has been minimal; after accessing the ExtraMOT PRO market the majority of the firms (the 59%) is still under the direct or indirect control of a family or a physical person. Therefore issuing a Mini-bond confirms as a modality of raising capital which allows to maintain stability in the ownership structure.

A generational change has been experienced by the 16% of the issuers before the Mini-bond listing. This suggests that there may be a correlation between the change in the company's management and the choice to raise capital through securities market instruments, instead of turning to the "traditional" banking channel.

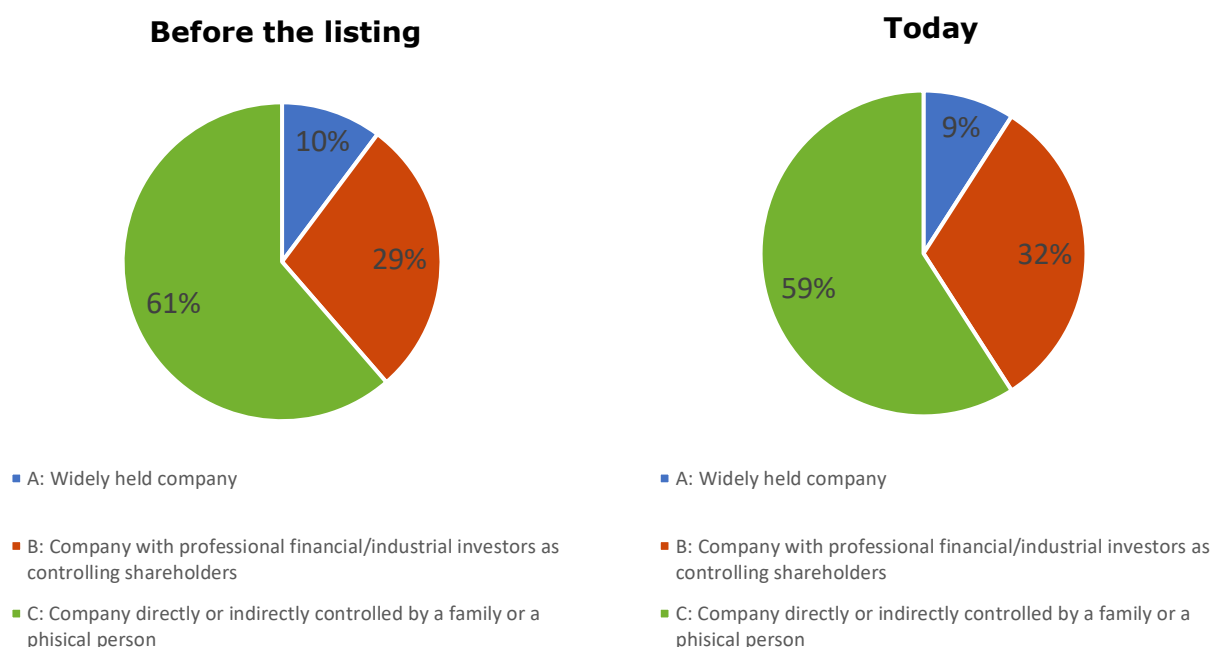


Figure 4.1: Ownership structure comparison before and after the issue on ExtraMOT PRO

Source: Borsa Italiana (2019)

Another evidence observed is that listing a Mini-bond on ExtraMOT PRO has allowed companies to move towards governance practices characteristic of firms opening their risk capital to institutional investors. This is highlighted by figure 4.2, which shows how after the listing of the debt instrument there has been a higher managerialization of the top management, especially if compared to the situation before the listing. As a matter of fact, after the Mini-bond issue the chairman of the board of directors is for the 19% (against the 17% before the listing) a manager external to the company and for the 10% (against the 9% before the listing) a selected manager inside the company. Other aspects involved in this field are the board enlargement, the adoption of corporate procedures for managing financial and operational risks and for monitoring transactions in conflict of interests or with related parties (among which the 231/2001 model), an auditing plan approved by the board including a control on the accounting systems and on the application of company procedures and the implementation of a procedure for internal management and external communication of sensitive or privileged information and documents. Often these elements were already present before the listing, however in some cases they have been implemented after the listing or are currently being adopted. Another interesting insight is the increase in the skills of the board of directors: after the issue of the Mini-bond the presence of experts not only in finance but also in internationalization and technology is more probable – which are all strategic competitive factors.

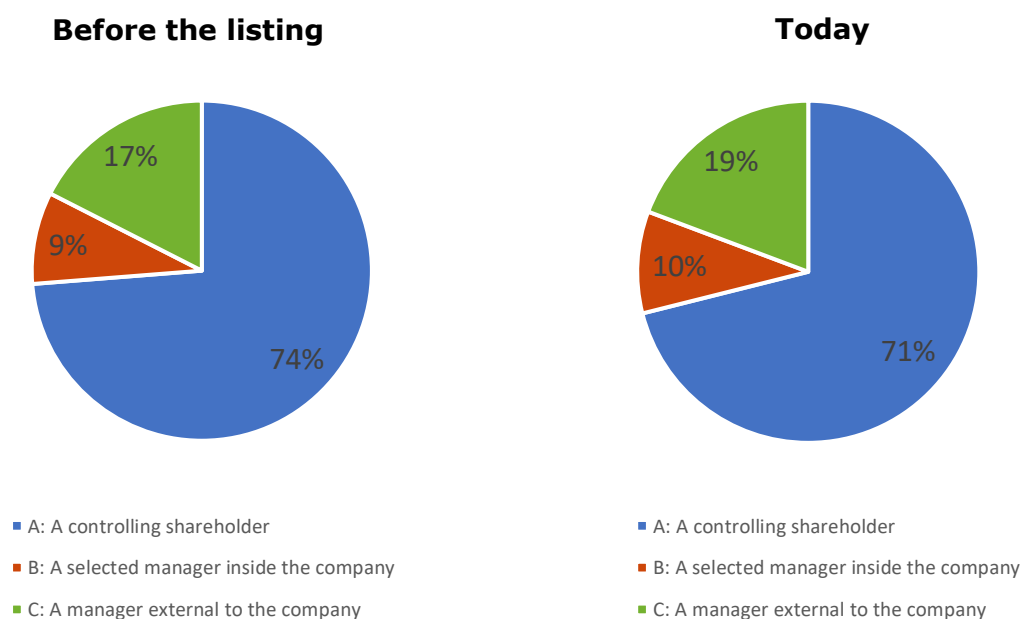


Figure 4.2: Chairman of the board of directors, before and after the listing
 Source: Borsa Italiana (2019)

Considering the functional areas where new personnel has been hired after the listing of the debt instrument on ExtraMOT PRO, it is evident that many companies have enriched their internal competencies transversely. Figure 4.3 shows indeed how companies have increased not just their competencies on finance, administration and control (55 cases) and managerial competencies (47 cases), but also their ICT competencies (44 cases) and competencies in foreign languages and internationalization (36 cases). Furthermore, it is interesting to observe that the 11% of the issuers has affirmed that hiring new personnel has become easier after the listing of the instrument.

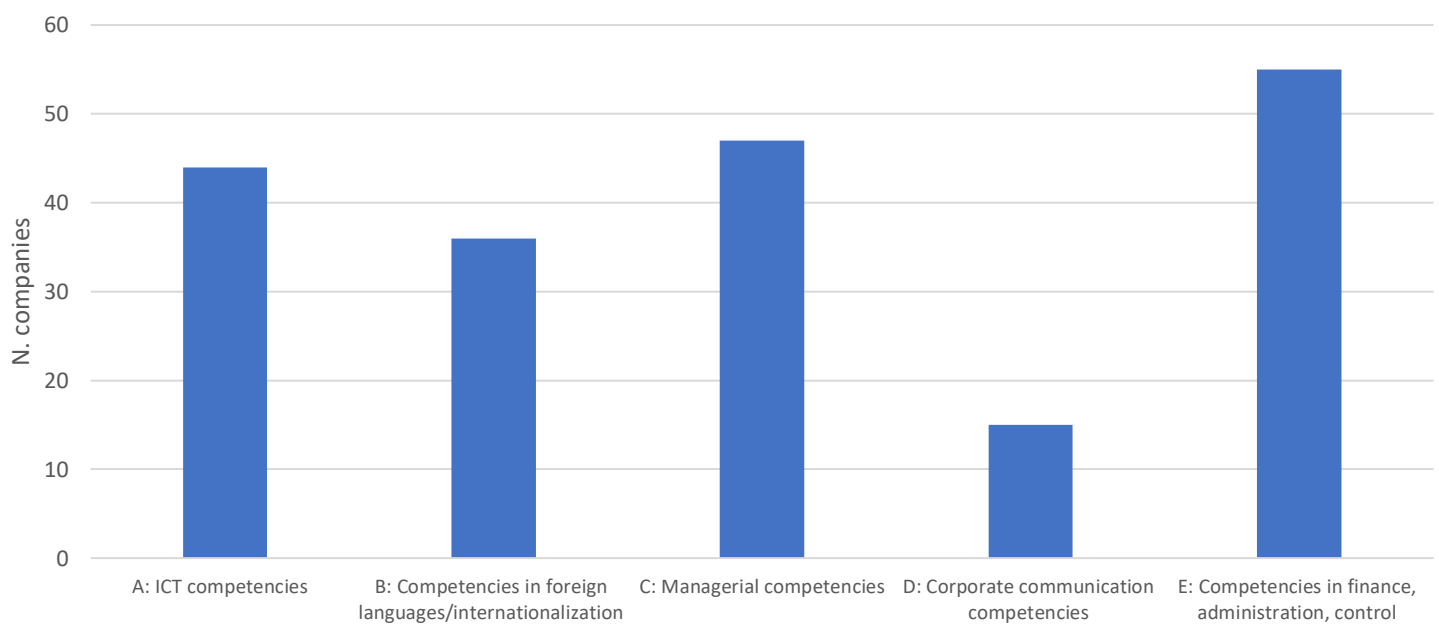


Figure 4.3: Areas of new hires for/after the instrument listing

Source: Borsa Italiana (2019)

4.2.2 The final sample of treated companies

The final sample of companies which have been subjected to the treatment “Mini-bond on ExtraMOT PRO” employed in this study has been constructed as follows.

Following the common practice adopted in literature, the initial sample of 90 firms obtained from the ExtraMOT PRO survey has been filtered by eliminating the issuers belonging to the ATECO sectors K and L (financial and real estate sector). The 5 companies belonging to the first category have been eliminated as they present different financial statements with respect to those of industrial and commercial companies; moreover, financial companies could show differences

with respect to the other firms in terms of financial competencies and ability to access the markets (Osservatorio Mini-bond, 2015). The 2 companies belonging to the latter category have instead been removed as they imply a series of peculiarities in the estimate of their value which differentiate them from the other firms.

It is noteworthy that some of the companies within the treated sample issued more than one Mini-bond on ExtraMOT PRO. Consequently, only the least recent issue has been taken into account, in order to observe the companies' behaviour on a more extended timeframe.

The 2 companies which issued the first Mini-bond in 2019 have been eliminated instead, as it would have been impossible to observe the treatment effect on them even under a short term perspective. Accordingly, the sample has been reduced from 90 to 81 companies.

The final sample of treated companies' descriptive statistics are described more in details in paragraph 4.2.4.

4.2.3 The control sample

For developing the analysis, it has been necessary to compare the sample of companies which have undergone the treatment "Mini-bond on ExtraMOT PRO" with an appropriate control sample. Considering that the survey presented in paragraph 4.2.1 has been conducted expressly on firms which have listed a Mini-bond on the ExtraMOT PRO market, it has been chosen to take as control sample for the analysis the companies which have issued a Mini-bond, but without listing it on ExtraMOT PRO. This approach aims therefore to verify which has been the impact of the listing of a Mini-bond on ExtraMOT PRO in the implementation of the organizational and human resources choices object of the research hypotheses.

Accordingly, the control sample has been constructed by employing the data gathered by the Osservatorio Mini-bond of Politecnico di Milano. The initial database comprised a total of 1039 Mini-bond issues up to 2019 (coherently with the 2019 definition, which has been adopted also throughout all the research conducted with Borsa Italiana presented in paragraph 4.2.1). The Mini-bonds out of the initial total sample which have not been listed on ExtraMOT PRO were 673; then, in order to guarantee coherence with the filtering operations performed for the sample of treated companies, the Mini-bonds issued by companies belonging to the ATECO sectors K and L have been eliminated. After this procedure, the total sample has been reduced to 601 Mini-bonds and 460 issuers, considering that several companies issued more than one instrument.

Eliminating also the 12 cases of companies which have undergone a default process or a merger/acquisition up to 2019, the 11 firms founded after 2018 and the 22 companies for which it has been impossible to find the information needed for the econometric models' variables and/or the complete balance sheets even on Telemaco, the final control sample obtained accounts for 415 firms, 220 of which are SMEs.

The final control sample' s descriptive statistics are described more in details in paragraph 4.2.4.

4.2.4 Descriptive statistics

Table 4.4, 4.5, 4.6, 4.7 and 4.8 display the descriptive statistics for both the final sample of treated companies and the control sample, subdivided by geographical location, industry, company size, foundation year and institutional investors' presence in the ownership structure. In particular, for the first three variables the overall observed situation is coherent with the observations for the overall Mini-bond market discussed in chapter 3.

As far as the regional distribution is concerned, it can be observed that companies from Northern Italy have a predominant presence for both the final sample of treated companies and the control sample, especially if considering the regions of Lombardia and Veneto (even if with different percentages, respectively 23% and 27% for the former sample and 29,39% and 12,29% for the latter sample), followed by Emilia Romagna (respectively 10% for the former sample and 11,08% for the latter sample).

Regarding the distribution by industry, the final sample consists primarily of manufacturing companies (representing the 44% of the treated companies and the 45,54% of the control sample), followed by constructions (10%) and water supply and waste management (10%) for the treated sample and by wholesale and retail trade (6,99%) and activities of accommodation and catering services (6,02%) for the control sample instead.

As far as the company's foundation year is concerned, it can be noticed that for both the treated and the control sample the firms founded before 1988 represent the majority (54,52% for the treated sample and 55,18% for the control sample), followed by the 1999-2008 range (20,98% for the treated sample and 15,66% for the control sample).

Regarding the size of the companies of both samples, the issuers which comply with the EU standards for SME definition are 42 for the treated sample (the 52%), whereas for the control sample they are 220 (the 53,01%).

Finally, the companies which have registered the institutional investors' presence (which is a binary variable in the models, coded as "1" if institutional investors are present and "0" otherwise) in their ownership structure up to year 2019 have been 25,93% for the treated firms' sample and 27,95% for the control sample, therefore suggesting a slightly higher presence of institutional investors within the latter sample.

By region				
	Treated sample		Control sample	
	#	%	#	%
Veneto	22	27%	51	12,29%
Lombardia	19	23%	122	29,39%
Piemonte	7	9%	21	5,06%
Emilia Romagna	8	10%	46	11,08%
Other North	3	4%	70	16,87%
Centre	10	12%	67	16,14%
South	12	15%	38	9,16%
Total	81	100%	415	100%

Table 4.4: Final sample' s descriptive statistics by region, distinguishing the treated sample from the control sample

By ATECO code				
	Treated sample		Control sample	
	#	%	#	%
C	36	44%	189	45,54%
D	4	5%	21	5,06%
E	8	10%	11	2,65%
F	8	10%	24	5,78%
G	6	7%	29	6,99%
J	3	4%	25	6,02%
Other	16	20%	116	27,95%
Total	81	100%	415	100%

Table 4.5: Final sample' s descriptive statistics by ATECO CODE, distinguishing the treated sample from the control sample

By foundation year				
	Treated sample		Control sample	
	#	%	#	%
Before 1988	44	54,52%	229	55,18%
1989-1998	9	11,11%	62	14,94%
1999-2008	17	20,98%	65	15,66%
2009-2018	11	13,58%	59	14,21%
Total	81	100%	415	100%

Table 4.6: Final sample' s descriptive statistics by foundation year, distinguishing the treated sample from the control sample

By company size				
	Treated sample		Control sample	
	#	%	#	%
SMEs	42	52%	220	53,01%
Large companies	39	48%	195	46,99%
Total	81	100%	415	100%

Table 4.7: Final sample' s descriptive statistics by company size, distinguishing the treated sample from the control sample

By institutional investors' presence				
	Treated sample		Control sample	
	#	%	#	%
Institutional investors present	21	25,93%	116	27,95%
Institutional investors not present	60	74,07%	299	72,05%
Total	81	100%	415	100%

Table 4.8 Final sample' s descriptive statistics by institutional investors' presence, distinguishing the treated sample from the control sample

4.2.4.1 Descriptive statistics – SMEs' focus

Tables 4.9, 4.10, 4.11, and 4.12 display the descriptive statistics for both the final SMEs sample of treated companies and the control sample, subdivided by geographical location, industry, foundation year and institutional investors' presence in the ownership structure.

In particular, for the first two variables the overall observed situation is coherent with the observations for the overall Mini-bond market discussed in chapter 3.

As far as the regional distribution is concerned, it can be observed that companies from Northern Italy have a predominant presence for both the final SMEs' sample of treated companies and the control sample, especially if considering the regions of Lombardia and Veneto (even if with different percentages, respectively 23,80% and 30,95%% for the former sample and 14,09% and 27,73% for the latter sample), followed by Emilia Romagna (respectively 11,90% for the

former sample and 8,18% for the latter sample). A higher presence of companies from other Northern regions (20%) in the control sample rather than in the treated sample has to be remarked, however.

Regarding the distribution by industry, the final sample consists primarily of manufacturing companies (35,41% for the treated companies and 45,90% for the control sample), followed by water supply and waste management (16,67%) wholesale and retail trade (14,29%) for the treated sample and by constructions (8,18%) and electricity, gas, steam and air conditioning supply (5,45%) for the control sample instead.

As far as the company's foundation year is concerned, it can be noticed that for both the treated and the control sample the majority of the firms have been founded before 1988 (45,24% for the treated sample and 48,64% for the control sample), followed by the 1999-2008 range for the treated sample (26,19%) and by the 1989-1998 range for the control sample (19,09%).

Finally, the companies which have registered the institutional investors' presence in their ownership structure up to year 2019 have been 30,95% for the treated firms' sample and 21,36% for the control sample, therefore suggesting a higher presence of institutional investors within the former sample.

By region				
	Treated sample		Control sample	
	#	%	#	%
Veneto	13	30,95%	61	27,73%
Lombardia	10	23,80%	31	14,09%
Piemonte	3	7,14%	5	2,27%
Emilia Romagna	5	11,90%	18	8,18%
Other North	1	2,38%	44	20%
Centre	4	9,52%	35	15,91%
South	6	14,29%	26	11,81%
Total	42	100%	220	100%

Table 4.9: Final SMEs sample' s descriptive statistics by region, distinguishing the treated sample from the control sample

By ATECO code				
	Treated sample		Control sample	
	#	%	#	%
C	15	35,71%	101	45,90%
D	2	4,76%	12	5,45%
E	7	16,67%	3	1,36%
F	4	9,52%	18	8,18%
G	6	14,29%	11	5%
J	1	2,38%	10	4,55%
Other	7	16,67%	65	29,55%
Total	42	100%	220	100%

Table 4.10: Final SMEs sample' s descriptive statistics by ATECO CODE, distinguishing the treated sample from the control sample

By foundation year				
	Treated sample		Control sample	
	#	%	#	%
Before 1988	19	45,24%	107	48,64%
1989-1998	2	4,76%	42	19,09%
1999-2008	11	26,19%	35	15,91%
2009-2018	10	23,81%	36	16,36%
Total	42	100%	220	100%

Table 4.11: Final SME sample' s descriptive statistics by foundation year, distinguishing the treated sample from the control sample

By institutional investors' presence				
	Treated sample		Control sample	
	#	%	#	%
Institutional investors present	13	30,95%	47	21,36%
Institutional investors not present	29	69,05%	173	78,63%
Total	42	100%	220	100%

Table 4.12: Final SMEs sample' s descriptive statistics by institutional investors' presence, distinguishing the treated sample from the control sample

4.3 Methodology

Panel data are generally obtained through a longitudinal study, in which each entity (for the specific case of this dissertation, each firm) is observed over a determined time frame, registering for each time point the corresponding value of the variables of interest.

Since panel data combine the values of using both cross-sectional data and time series data, panel datasets require less assumptions and are often less problematic than the other data typologies. Other advantages of using panel data include studying dynamic relationships, having more efficient estimates, reducing the omitted-variable bias and employing individual-specific components in the models.

For the specific case of this dissertation a panel logistic regression analysis has been performed, in which the dependent variable is a binary-choice, coded as “1” if the event (i.e. the implementation of the organizational or human resources choices defined by the research hypotheses) has occurred and “0” otherwise for the company i at time t .

The general logit panel model is defined by the following formula:

$$p_{it} = Pr (y_{it} = 1|x_{it}, \beta_i \alpha_i) = \Lambda(\alpha_i + \beta_i x'_{it})$$

where $\Lambda(z) = \frac{e^z}{(1+e^z)}$, β_i is the parameter vector for the regressors x_{it} and the parameter α_i is the individual specific component. Including this parameter in the model can explain correlations among observations over time, which is not caused by dynamic tendencies. Furthermore, a

model of this typology allows managing the heterogeneity across individuals. The individual specific component can be fixed for each entity or can be random (and consequently treated as a random variable). The selection between these two alternatives defines the corresponding fixed effects model and random effect model.

The choice of the panel data model has to be taken on the basis of the individual specific components and the exogeneity of the independent variables. Accordingly, the Hausman test is one of the most common statistical tests performed in literature in order to decide which model is the most appropriate between the random effects model and the fixed effects model when treating a panel dataset. The Hausman test is employed to identify the presence of endogeneity in the explanatory variables, i.e. a situation in which the error term and an explanatory variable are correlated.

The Hausman test is structured as follows:

1. The null hypothesis H_0 states that the most appropriate model is the random effects model, as there is no correlation between the error term and the explanatory variables within the panel data model: $(\alpha_i, x_{it}) = 0$. The alternative hypothesis H_1 states instead that the most appropriate model is the fixed effects model, as the correlation between the error term and the explanatory variables is statistically significant: $(\alpha_i, x_{it}) \neq 0$.
2. The probability of first error type is selected.
3. The Hausman statistics is computed with the formula:

$$H = (\beta_{fe} - \beta_{re})' \left(\text{Var}(\beta_{fe}) - \text{Var}(\beta_{re}) \right)^{-1} (\beta_{fe} - \beta_{re})$$

In which β_{fe} and β_{re} are the vectors containing respectively the coefficients estimated from the fixed effects model and the random effects model. Under the null hypothesis, this statistics follows a $\chi^2(k)$ distribution, where k is the number of degrees of freedom.

4. The Hausman statistics is compared with the Chi-squared distribution's critical value for the k degrees of freedom. If the p-value is lower than the significance level chosen, the null hypothesis has to be rejected and therefore the fixed effect model will be the most appropriate.

Consistently with the approach commonly used in literature, a confidence interval of 95% and the corresponding significance level of 5% have been chosen.

For all the research hypotheses, both the Fixed Effects and the Random Effects models have been estimated and compared through the Hausman test, employing both the complete sample of companies and the sample constituted by SMEs only.

Table 4.13 displays an example of Hausman test result obtained, similarly obtained for the other regressions too. However, it has to be remarked that the Hausman test result is based on the difference among *within* and *between* effects (Mundlak, 1978); the specific case object of this dissertation needs to consider further reasons emerged during the Hausman test implementation in order to decide for the most appropriate model, as explained as follows.

Chi-squared	118,31
P-value	0,0000

Table 4.13: Hausman test result example, applied to the first variant of the first regression

When implementing non linear panel models, it is useful to quantify the relative importance of within and between variation.

In the implementation of the fixed effects logistic regressions, it has been observed that too many observations (up to the 90% of the cases) were dropped and the FE estimates differed considerably and were much less precise than those obtained with other panel logit estimator models.

The fixed effect model is indeed not suitable for analyzing between effects, but only within effects, and accordingly removes the unobserved heterogeneity by differencing or by taking a first difference which will eliminate any time invariant component of the model.

Therefore, for specific cases such as the object of this thesis, based on a trade-off between precision, complete dataset information exploitation and possible bias, and considering that most of the variation has been observed to be between rather than within, the FE models are not the most appropriate, whereas RE models represent a much more valid alternative (Cameron and Trivedi, 2009).

Consequently, the random effects model has been selected for assessing the impact of the Mini-bond listing on ExtraMOT PRO on the implementation of the organizational and human resources choices object of analysis.

4.3.1 Random effects logit panel model

According to the methodology presented in paragraph 4.3, the random effects logit panel model has been employed for implementing the regressions object of analysis.

While a more general logit individual-effects model specifies that

$$p_{it} = \Pr(y_{it} = 1 | x_{it}, \beta_i \alpha_i) = \Lambda(\alpha_i + \beta_i x'_{it})$$

where $\Lambda(z) = \frac{e^z}{(1+e^z)}$, the logit RE model specifies that α_i is RE and $\alpha_i \sim N(0, \sigma_\alpha^2)$. Then the joint density for the i-th observation, after integrating α_i is

$$f(y_{it}, \dots, y_{iT}) = \int [\prod_{t=1}^T (\alpha_i + \beta_i x'_{it} \beta_i)^{y_{it}} \{1 - \Lambda(\alpha_i + \beta_i x'_{it})\}^{1-y_{it}}] g(\alpha_i | \sigma^2) d\alpha_i$$

where $g(\alpha_i | \sigma^2)$ is the $N(0, \sigma_\alpha^2)$ density (Cameron and Trivedi, 2009).

As anticipated when explaining the model's choice in paragraph 4.3, the dependent variable y_{it} is defined by a binary choice coded as "1" if the implementation of the organizational or human resources choices defined by the research hypotheses has occurred and "0" otherwise for the company i at time t.

As far as the regressors x_{it} are concerned, they have to be distinguished in treatment variable and control variables.

The treatment variables' series is *Mini-bond on ExtraMOT PRO*, and aims to identify the companies which have undergone this specific treatment with respect to those who did not.

In particular, three different treatment variables have been implemented, consequently leading to three different regressions for every hypothesis tested:

1. The first treatment measure is a binary variable coded as "1" for all the years subsequent to the listing of the Mini-bond on ExtraMOT PRO and "0" otherwise, therefore employing a step effect

and long term perspective. The aim of this measure is to include in the model the fact that a firm which has listed a Mini-bond on ExtraMOT PRO can decide to implement the organizational and human resources' choices object of the research hypotheses also some years after the listing of the debt instrument.

2. The second treatment measure is another binary variable, which is equal to "1" only the year after the issue of the debt instrument on ExtraMOT PRO, therefore providing an impulse effect, and "0" in the other years. The aim of introducing this second treatment measure has been to consider in the models the fact that a firm can have decided to implement the organizational and human resources' choices the year immediately after the listing, providing further evidence that such decisions could have been adopted expressly with the listing.

3. The third treatment measure is the logarithm of the issued amount, included in the models in the year in which the listing of the Mini-bond on ExtraMOT PRO has occurred, and "0" in the other years. This third treatment measure provides a second impulse effect, and has been introduced in order to verify whether a greater issued amount of the debt instrument has had a stronger impact on the adoption of the organizational and human resources choices for the listing.

The implementation of three different models for each hypothesis presents itself not only as a method for taking into account different companies' behaviors according to different timings regarding the implementation of organizational and human resources' choices, but also as a method for confirming the robustness of the model through the different alternatives.

The control variables are instead the same for all the three models' variants; all these variables have been verified in literature to positively impact on the adoption of more sophisticated corporate governance measures.

The control variables are the logarithm of the total assets as proxy of company's size, the logarithm of the firm's age and the presence of institutional investors (InstitInv in the regressions, a binary variable coded as "1" when institutional investors are present and "0" otherwise).

The regressions' results will be presented and discussed more in details in the following two chapters, firstly implementing the models with the entire sample of companies (Chapter 5) and secondly providing a focus for SMEs only (Chapter 6).

5. EMPIRICAL ANALYSIS' RESULTS

In this chapter, for each hypothesis developed in paragraphs 4.1, the results of the three models' variants are analyzed, considering the total sample composed by the companies which have undergone the treatment *Mini-bond on ExtraMOT PRO* and the control sample.

5.1 Implementation of risk management procedures

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect with a p-value $< 1\%$ on the implementation of risk management procedures in all the three regressions presented in table 5.1. The positive impact is especially evident in the step model, in which the coefficient relative to the Mini-bond listing on ExtraMOT PRO treatment is of higher magnitude (7.050606), whereas the logarithm of the issued amount seems to have the lowest impact (with a coefficient of 0.0735293) on the adoption of risk management procedures. These results indicate therefore that risk management procedures are more often implemented also some years after the listing of the Mini-bond on ExtraMOT PRO rather than appositely for the instrument listing. The listing on ExtraMOT PRO confirms to encourage the adoption of such practices both in the long term and in the short term, however.

As far as the control variables are concerned, in all the cases they are also statistically significant with a p-value lower than 1% and indicating a positive impact on the adoption of risk management procedures. The biggest impact is given by the logarithm of the company's age and the presence of institutional investors, confirming that older companies and firms with institutional investors in their ownership structure are more likely to implement risk management procedures. A smaller impact is instead provided by the logarithm of the company's total assets; this could be explained by the fact that within the total sample both SMEs and larger companies are present.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	7.050606 *** (1,410079)	1.72786 *** (0.4944381)	0.0735293 *** (0.0280074)
Inassets	0.7652272 *** (0.1058474)	0.4122589 *** (0.059881)	0.4175591 *** (0.0595655)
Inage	11.75523 *** (0.5378023)	5.715613 *** (0.2808536)	5.77785 *** (0.2780364)
InstitInv	7.374938 *** (0.9463918)	5.642472 *** (0.6383485)	5.656103 *** (0.6342403)
Constant	-65.1344 *** (0.884061)	-33.65977 *** (0.7513342)	-33.93641 *** (0.7470691)
Wald Chi-squared	3720,82***	3453,64***	3458,97***
N. observations	5456	5456	5456
N. companies	496	496	496

Table 5.1: Effects of the Mini-bond listing on ExtraMOT PRO on the implementation of risk management procedures.

Standard errors are reported in brackets; ***: p-value<1%; **p-value<5%; *: p-value<10%

5.2 Implementation of a performance-based compensation system for the top executives

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect on the implementation of performance-based compensation systems for the top executives in all the three regressions presented in table 5.2. However, only the step coefficient is statistically significant with a p-value lower than 1%, whereas both impulse measures are statistically significant with a p-value lower than 5%. The coefficient of higher magnitude relative to the Mini-bond listing on ExtraMOT PRO treatment is given by the issue impulse measure (with a coefficient of 2,941607), followed by the step measure (with a coefficient of 2,777418). The impulse amount treatment measure provides instead the lowest coefficient value also in this case (0,1966858).

These results indicate therefore that a performance-based compensation system for the top executives is likely to be implemented both in the year immediately after the listing of the Mini-bond on ExtraMOT PRO and in the years subsequent to the listing. The amount of the Mini-bond issue implies instead a lower impact on the decision to implement a performance-based compensation system for the top executives with respect to the other two treatment measures. Accordingly, the listing of the debt instrument on ExtraMOT PRO confirms to encourage the adoption of this organizational practice, both in the short term and in the long term.

As far as the control variables are concerned, in all the cases they are statistically significant with a p-value lower than 1% and indicating a positive impact on the adoption of a performance-based compensation system for the top executives. The biggest impact is given by the presence of institutional investors and by the logarithm of the company's age, confirming that firms with institutional investors in their ownership structure and older companies are more likely to implement a performance-based compensation system for top executives. A smaller impact is instead provided by the logarithm of the company's total assets; this could be explained by the fact that within the total sample there are both SMEs and larger companies.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	2.777418 *** (0.8331592)	2.941607 ** (1.219228)	0.1966858 ** (0.083498)
Inassets	0.3383302 *** (0.0773273)	0.3839432 *** (0.078918)	0.3744205 *** (0.0777954)
Inage	3.966873 *** (0.3306664)	4.004508 *** (0.34057)	4.094616 *** (0.3509167)
InstitInv	6.919503 *** (0.7486964)	6.922871 *** (0.7250126)	6.854693 *** (0.7438038)
Constant	-37.17659 *** (0.935354)	-38.00606 *** (0.9535778)	-38.11946 *** (0.9356838)
Wald Chi-squared	607,18***	619,08***	611,84***
N. observations	5456	5456	5456
N. companies	496	496	496

Table 5.2: Effects of the Mini-bond listing on ExtraMOT PRO on the implementation of performance-based compensation systems for the top executives

Standard errors are reported in brackets; ***: p-value<1%; **:p-value<5%;*: p-value<10%

5.3 Appointment of a CFO

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect on the appointment of a Chief Financial Officer in all the three regressions presented in table 5.3. However, the step coefficient and the amount impulse coefficient are statistically significant with a p-value lower than 1%, whereas the issue impulse is significant with a p-value lower than 5%. The coefficient of higher magnitude relative to the Mini-bond listing on ExtraMOT PRO treatment is given by the step measure (with a coefficient of 2,756919), followed by the issue impulse measure (with a coefficient of 1,450955). The impulse amount treatment measure gives instead the lowest coefficient value also in this case (0,111808). These results indicate therefore that the appointment of a Chief Financial Officer is more likely to occur also some years after the listing of the Mini-bond on ExtraMOT PRO rather than to be realized appositely for the listing. The amount of the Mini-bond issue implies instead a lower impact on the decision to appoint a CFO with respect to the other two treatment measures. The listing of a Mini-bond on ExtraMOT PRO confirms to encourage the adoption of this practice both in the short term and in the long term, however.

As far as the control variables are concerned, in all the cases they are statistically significant with a p-value lower than 1% and indicating a positive impact on the appointment of a Chief Financial Officer. The biggest impact is given by the presence of institutional investors and by the logarithm of the company's age, confirming that firms with institutional investors in their ownership structure and older companies are more likely to appoint a Chief Financial Officer. A smaller impact is instead provided by the logarithm of the company's total assets; this could be explained by the fact that within the total sample there are both SMEs and larger companies.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	2.756919 *** (0.8217567)	1.450955 ** (0.9840082)	0.111808 *** (0.0632982)
Inassets	0.3580458 *** (0.0564185)	0.3746711 *** (0.0558339)	0.3737907 *** (0.0564513)
Inage	2.53693 *** (0.2420559)	2.579026 *** (0.2288377)	2.609149 *** (0.2347656)
InstitInv	15.49608 *** (0.7097804)	15.8465 *** (0.6743257)	15.94058 *** (0.6714915)
Constant	-20.79992 *** (0.777548)	-20.94439 *** (0.7783298)	-21.30286 *** (0.7685837)
Wald Chi-squared	1508,36***	1590,90***	1716,21***
N. observations	5456	5456	5456
N. companies	496	496	496

Table 5.3: Effects of the Mini-bond listing on ExtraMOT PRO on the appointment of a Chief Financial Officer

Standard errors are reported in brackets; ***: p-value<1%; **: p-value<5%; *: p-value<10%

5.4 Appointment of an investor relations manager

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect with a p-value lower than 1% on the appointment of an investor relations manager in all the three regressions presented in table 5.4.

The coefficient of higher magnitude relative to the Mini-bond listing on ExtraMOT PRO treatment is given by the step measure (with a coefficient of 5,725694), followed by the issue impulse measure (with a coefficient of 4,220928). The impulse amount treatment measure gives instead the lowest coefficient value also in this case (0,1872627).

These results indicate therefore that the appointment of an investor relations manager is more likely to occur also some years after the listing of the Mini-bond on ExtraMOT PRO rather than to be realized appositely for the listing. The amount of the Mini-bond issue implies instead a lower impact on the decision to appoint an investor relations manager with respect to the other two treatment measures. The listing of a Mini-bond on ExtraMOT PRO confirms to encourage the adoption of this practice both in the short term and in the long term, however.

As far as the control variables are concerned, in all the cases they are statistically significant with a p-value lower than 1% and indicating a positive impact on the appointment of an investor relations manager. The biggest impact is given by the presence of institutional investors and by the logarithm of the company's age, confirming that firms with institutional investors in their ownership structure and older companies are more likely to appoint an investor relations manager. A smaller impact is instead provided by the logarithm of the company's total assets; this could be explained by the fact that within the total sample there are both SMEs and larger companies.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	5.725694 *** (0.8316142)	4.220928 *** (0.9957483)	0.1872627 *** (0.0487034)
lnassets	0.1555769 *** (0.0593133)	0.2297397 *** (0.070063)	0.1649987 *** (0.0534777)
lnage	1.887442 *** (0.2450392)	2.414487 *** (0.259615)	1.8726 *** (0.2351328)
InstitInv	13.03886 *** (0.636844)	13.36065 *** (0.6401291)	12.32213 *** (0.7196328)
Constant	-21.71119 *** (1.069412)	-26.94442 *** (1.467507)	-20.67199 *** (0.9532015)
Wald Chi-squared	793,84***	825,63***	824,18***
N. observations	5456	5456	5456
N. companies	496	496	496

Table 5.4: Effects of the Mini-bond listing on ExtraMOT PRO on the appointment of an investor relations manager

Standard errors are reported in brackets; ***: p-value<1%; ** p-value<5%; *: p-value<10%

6. EMPIRICAL ANALYSIS' RESULTS- SMES' FOCUS

In this chapter, for each hypothesis developed in paragraphs 4.1, the results of the three models' variants are analyzed, considering the total sample of SMEs composed by the companies which have undergone the treatment *Mini-bond on ExtraMOT PRO* and the control sample.

As observed in Chapter 4, listing a Mini-bond on ExtraMOT PRO represents an opportunity for acquiring more sophisticated financial skills, for improving the exposure and public perception on the market and eventually raise capital more easily. All of these considerations could be even more valuable for SMEs, considering that they suffer from higher information asymmetry and higher funding gap, and especially for these companies the listing can be the first occasion for gradually approaching the institutional investors' market and implementing more sophisticated governance practices.

Consequently, it has been decided to develop a separate analysis focusing on SMEs only, in order to evaluate whether the listing of the Mini-bond on ExtraMOT PRO has had a different impact on their decisions to implement the governance choices described by the research hypotheses with respect to the total sample of Chapter 5 which was constituted by both SMEs and large companies.

6.1 Implementation of risk management procedures

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect on the implementation of risk management procedures in all the three variants of the model presented in table 6.1. However, the step coefficient is statistically significant with a p-value lower than 1%, whereas the impulse coefficients are statistically significant with a p-value lower than 5%.

The treatment coefficient of higher magnitude is given by the step effect (5,347342), whereas the logarithm of the issued amount seems to have the lowest impact (0,0824518). These results indicate therefore that risk management procedures are more often implemented also some years after the listing of the Mini-bond on ExtraMOT PRO rather than appositely for the listing. The listing of the Mini-bond on ExtraMOT PRO confirms to encourage the adoption of these practices both in the long term and in the short term, nevertheless.

It is noteworthy that considering the SMEs' sample the step coefficient relative to the Mini-bond on ExtraMOT PRO treatment is lower than the step coefficient obtained implementing the model for the total sample (presented in paragraph 5.1), whereas both impulse coefficients are higher for the model regarding SMEs only rather than for the total sample.

These results suggest that SMEs tend to prefer to adopt risk management procedures in a shorter term horizon if compared to the total sample when listing a Mini-bond on ExtraMOT PRO, further confirming the role of the listing of the debt instrument as a crucial occasion for implementing for the first time more sophisticated organizational practices for these companies.

As far as the control variables are concerned, in all the three model's variants they are statistically significant with a p-value lower than 1% and indicating a positive impact on the implementation of risk management procedures.

The biggest impact is given by the logarithm of the company's age and the presence of institutional investors, confirming that older companies and firms with institutional investors in their ownership structure are more likely to adopt risk management procedures.

A smaller impact is instead provided by the logarithm of the company's total assets, confirming that for the considered sample the company's size has a marginal relevance as far as the adoption of these organizational practices is concerned.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	5.347342 *** (1.69232)	2.305512 ** (1.004582)	0.0824518 ** (0.0526403)
Inassets	0.4751362 *** (0.0991512)	0.4713712 *** (0.0929994)	0.6537171 *** (0.6747826)
Inage	6.523892 *** (0.43323)	6.948518 *** (0.4315064)	10.63614 *** (0.6537171)
InstitInv	4.5296 *** (0.9609338)	4.824857 *** (0.8525627)	4.942096 *** (1.159082)
Constant	-40.48189 *** (1.038557)	-42.11925 *** (0.9003758)	-58.19258 *** (1.554548)
Wald Chi-squared	1027,42***	1373,22***	1882,25***
N. observations	2882	2882	2882
N. companies	262	262	262

Table 6.1: Effects of the Mini-bond listing on ExtraMOT PRO on the implementation of risk management procedures, considering SMEs only

Standard errors are reported in brackets; ***: p-value<1%; **:p-value<5%;*: p-value<10%

6.2 Implementation of a performance-based compensation system

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect on the implementation of a performance-based compensation system for top executives in all the three variants of the model presented in table 6.2. All the three coefficients relative to the treatment Mini-bond on ExtraMOT PRO are statistically significant with a p-value lower than 5%.

The treatment coefficient of higher magnitude is given by the issue impulse effect (3,3186), followed by the step coefficient (2,50594), whereas the logarithm of the issued amount seems to have the lowest impact (0,2090108). These results indicate therefore that SMEs who list a Mini-bond on ExtraMOT PRO tend to implement a performance-based compensation system for their executives especially immediately after the listing of the instrument. Nevertheless, the listing of the Mini-bond on ExtraMOT PRO confirms to encourage the adoption of this practice both in the long term and in the short term.

It is noteworthy that for the SMEs sample the impulse effects are observed to be stronger than for the total sample (see paragraph 5.2), whereas for the SMEs sample the step coefficient relative to the Mini-bond on ExtraMOT PRO treatment is lower than the step coefficient obtained implementing the model for the total sample.

These results suggest that SMEs tend to prefer to adopt a performance-based compensation system for their top executives in a shorter term horizon if compared to the total sample when listing a Mini-bond on ExtraMOT PRO, further confirming the role of the listing as a crucial occasion for implementing for the first time more sophisticated organizational practices for these companies.

As far as the control variables are concerned, in all the three model's variants they are statistically significant with a p-value lower than 1% and indicating a positive impact on the implementation of a performance-based compensation system for top executives.

The biggest impact is given by the presence of institutional investors and the logarithm of the company's age, confirming that firms with institutional investors in their ownership structure and older companies are more likely to adopt a performance-based compensation system for top executives.

A smaller impact is instead provided by the logarithm of the company's total assets, confirming that for the considered sample the company's size has a marginal relevance as far as the adoption

of this organizational practice is concerned.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	2.50594 ** (1.471137)	3.8196 ** (1.816822)	0.2090108 ** (0.1170041)
Inassets	0.3833951 *** (0.1560754)	1.099796 *** (0.1948617)	0.3639254 *** (0.1332843)
Inage	2.11956 *** (0.7386513)	3.880662 *** (0.6579181)	1.756474 *** (0.4823383)
InstitInv	6.126065 *** (1.25417)	6.075036 *** (1.423329)	6.906665 *** (1.275496)
Constant	-29.97384 *** (1.515762)	-56.19843 *** (2.905098)	-30.78892 *** (2.171929)
Wald Chi-squared	427,96***	493,74***	457,91***
N. observations	2882	2882	2882
N. companies	262	262	262

Table 6.2: Effects of the Mini-bond listing on ExtraMOT PRO on the implementation of a performance-based compensation system for top executives, considering SMEs only
Standard errors are reported in brackets; ***: p-value<1%; **:p-value<5%;*: p-value<10%

6.3 Appointment of a CFO

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect on the appointment of a CFO in all the three variants of the model presented in table 6.3. All the three coefficients relative to the treatment Mini-bond on ExtraMOT PRO are statistically significant with a p-value lower than 5%.

The treatment coefficient of higher magnitude is given by the step effect (1,997087), whereas the logarithm of the issued amount seems to have the lowest impact (0,0356855).

These results indicate therefore that SMEs who list a Mini-bond on ExtraMOT PRO tend to appoint a CFO more often also some years after the listing of the instrument rather than appositely for the listing. The listing of the Mini-bond on ExtraMOT PRO confirms to encourage the adoption of this practice both in the long term and in the short term, however.

It is noteworthy that for the SMEs' sample all the coefficients related to the treatment Mini-bond on ExtraMOT PRO are of smaller magnitude if compared to the coefficients obtained for the models related to the total sample (see paragraph 5.3), although in both cases the step treatment effect has been observed to be the strongest.

Accordingly, the results suggest that the listing of the Mini-bond on ExtraMOT PRO provides a smaller impact on the decision to appoint a CFO for the SMEs rather than the total sample, comprising large companies too. However, given the positive effect provided in both the series of models implemented, the listing of a Mini-bond on ExtraMOT PRO is confirmed to be an important occasion for implementing this governance practice.

As far as the control variables are concerned, in all the three model's variants they are statistically significant with a p-value lower than 1% and indicating a positive impact on the appointment of a CFO. The biggest impact is given by the presence of institutional investors and the logarithm of the company's age, confirming that firms with institutional investors in their ownership structure and older companies are more likely to appoint a CFO. A smaller impact is instead provided by the logarithm of the company's total assets, confirming that for the considered sample the company's size has only a marginal relevance as far as the adoption of this governance practice is concerned.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	1.977087 ** (1.094526)	0.8729331 ** (1.364115)	0.0356855 ** (0.0974364)
Inassets	0.5015808 *** (0.0872348)	0.5849254 *** (0.0721956)	0.5702482 *** (0.0729511)
Inage	2.703999 *** (0.3000443)	4.079046 *** (0.3111069)	3.821485 *** (0.2603335)
InstitInv	6.172912 *** (1.268096)	9.103579 *** (1.857652)	12.64795 *** (0.6221825)
Constant	-26.70542 *** (1.344931)	-33.95023 *** (0.832448)	-33.05115 *** (0.8729331)
Wald Chi-squared	698,45***	713,31***	782,39***
N. observations	2882	2882	2882
N. companies	262	262	262

Table 6.3: Effects of the Mini-bond listing on ExtraMOT PRO on the appointment of a Chief Financial Officer, considering SMEs only

Standard errors are reported in brackets; ***: p-value<1%; **:p-value<5%;*: p-value<10%

6.4 Appointment of an investor relations manager

The listing of a Mini-bond on ExtraMOT PRO provides a positive and statistically significant effect on the appointment of an investor relations manager in all the three variants of the model presented in table 6.4. The coefficients relative to the treatment Mini-bond on ExtraMOT PRO are statistically significant with a p-value lower than 1% for the step effect and the amount impulse effect, while statistically significant with a p-value lower than 5% for the issue impulse effect.

The treatment coefficient of higher magnitude is given by the step effect (4,763036), whereas the logarithm of the issued amount seems to have the lowest impact (0,3035223).

These results indicate therefore that SMEs who list a Mini-bond on ExtraMOT PRO tend to appoint an investor relations manager especially also some years after the listing of the instrument rather than appositely for the listing. The listing of the Mini-bond on ExtraMOT PRO confirms to encourage the adoption of this practice both in the long term and in the short term, however.

It is noteworthy that for the SMEs' sample the step effect and the issue impulse effect related to the treatment Mini-bond on ExtraMOT PRO are of smaller magnitude if compared to the coefficients obtained for the models related to the total sample (see paragraph 5.4), although in both cases the step treatment effect has been observed to be the strongest. The logarithm of the issued amount is instead slightly higher for the sample composed by SMEs only (0,3035223).

The main results suggest that the listing of the Mini-bond on ExtraMOT PRO provides a smaller impact on the decision to appoint an investor relation manager for SMEs rather than the total sample, comprising large companies too. However, given the positive effect provided in both the series of models implemented, the listing of a Mini-bond on ExtraMOT PRO is confirmed as an important occasion for implementing this governance practice.

As far as the control variables are concerned, in all the three model's variants they are statistically significant with a p-value lower than 1% and indicating a positive impact on the appointment of an investor relations manager.

The biggest impact is given by the presence of institutional investors and the logarithm of the company's age, confirming that firms with institutional investors in their ownership structure and older companies are more likely to appoint an investor relations manager.

A smaller impact is instead provided by the logarithm of the company's total assets, confirming that for the considered sample the company's size has only a marginal relevance as far as the adoption of this governance practice is concerned.

	Step	Impulse (Issue)	Impulse (Amount)
Mini-bond on ExtraMOT PRO	4.763036 *** (0.9627462)	3.949771 ** (1.188544)	0.3035223 *** (0.0934013)
Inassets	0.2613111 *** (0.1393461)	0.4226924 *** (0.1822337)	0.3981707 *** (0.1299156)
Inage	1.845309 *** (0.4599698)	2.89442 *** (0.5982498)	3.051393 *** (0.4639637)
InstitInv	6.205409 *** (1.265961)	7.390722 *** (1.616774)	8.469489 *** (1.351823)
Constant	-22.16445 *** (2.569783)	-29.43255 *** (3.986709)	-31.98184 *** (2.199329)
Wald Chi-squared	584,58***	603,29***	561,97***
N. observations	2882	2882	2882
N. companies	262	262	262

Table 6.4: Effects of the Mini-bond listing on ExtraMOT PRO on the appointment of an investor relations manager, considering SMEs only

Standard errors are reported in brackets; ***: p-value<1%; **:p-value<5%;*: p-value<10%

7. CONCLUSIONS

The aim of this dissertation is to contribute with novelty to the limited literature regarding Italian Mini-bonds, assessing the impact of the instrument listing on the governance choices of Mini-bond issuers on the ExtraMOT PRO market.

After discussing the main results of the research study on governance changes of ExtraMOT PRO issuers conducted by the School of Management of Politecnico di Milano and Borsa Italiana, the research hypotheses for the econometric analysis are defined concerning determined organizational and human resources choices, i.e. the introduction of risk management procedures, the introduction of a performance-based remuneration system for top managers, the appointment of a Chief Financial Officer and the appointment of an investor relations manager. All these themes have been verified not to be expressly requested for listing a Mini-bond on ExtraMOT PRO and to provide a positive impact on the firm's performance.

In order to perform the econometric analysis, it has been necessary to build a sample of companies including both the companies which have undergone the treatment *Mini-bond on ExtraMOT PRO* and a control sample, constituted by firms which have issued a Mini-bond, but without listing it on ExtraMOT PRO. The sample composed by the treated companies has been obtained from the ExtraMOT PRO survey, conducted by Borsa Italiana with the aim of analyzing the changes in the governance practices of the companies which have listed a Mini-bond on ExtraMOT PRO, whereas the control sample has been obtained from the database of the Osservatorio Mini-bond of Politecnico di Milano.

Two series of random effects logit panel models have been implemented, firstly considering the total sample of companies and secondly considering SMEs only. The SMEs' focus has been provided not only considering the fundamental role played by these firms in the Italian context, but also that they suffer from higher information asymmetry and higher funding gap.

Accordingly, especially for these companies the instrument listing could be the first occasion for gradually approaching the institutional investors' market and implementing more sophisticated governance practices.

All the regressions related to the four hypotheses under analysis have been realized considering different treatment measures, employing both a long term and a short term perspective (implying respectively a step effect and an impulse effect). This approach has been aimed to consider

different time horizons in evaluating the companies' behaviors and to provide a confirmation of model's robustness.

In the econometric analysis, the treatment coefficients have been found positive and statistically significant in all the models, even if with different magnitudes among the three variants of each regression.

For the models considering the overall sample of Mini-bond issuers, the coefficients of highest magnitude have been observed for the step effect treatment measure for the implementation of risk management procedures (7.050606), for the appointment of a Chief Financial Officer (2.756919), and for the appointment of an investor relations manager (5.725694), whereas for the implementation of a performance-based compensation systems for the top executives the impulse measure related to the issue has been found to have the strongest effect (with a coefficient of 2.941607). The impulse treatment measure related to the logarithm of the issued amount has been instead found to have the lowest impact on the governance choices in all the logistic regressions.

The control variables – i.e. the logarithm of the total assets, the logarithm of the company's age and the presence of institutional investors dummy variable - have been confirmed to provide a positive and statistically significant effect in all the models.

For the models considering the sample of SMEs only, the coefficients of highest magnitude have been observed for the step effect treatment measure for the implementation of risk management procedures (5.347342), for the appointment of a Chief Financial Officer (1.977087), and for the appointment of an investor relations manager (4.763036), whereas for the implementation of performance-based compensation systems for the top executives the impulse measure related to the issue has been found to have the strongest effect (with a coefficient of 3.8196). Also in these models, the impulse treatment measure related to the issued amount logarithm has been instead found to have the lowest impact in all the logistic regressions.

The control variables – i.e. the logarithm of the total assets, the logarithm of the company's age and the presence of institutional investors dummy variable - have been confirmed to provide a positive and statistically significant effect in all the models.

Comparing the two regressions' series, it is noteworthy that for the first two hypotheses the step effect has been observed to be stronger for the overall sample, whereas the impulse effects have been registered to be higher for the sample composed by SMEs only. For the third and the fourth

hypothesis instead, the step and issue impulse measures of the treatment Mini-bond on ExtraMOT PRO have been observed to be higher for the models regarding the total sample rather than the SMEs sample.

The econometric analysis' results have confirmed to encourage the introduction of risk management procedures, the introduction of a performance-based remuneration system for top managers, the appointment of a Chief Financial Officer and the appointment of an investor relations manager both in the long term and in the short term for ExtraMOT PRO Mini-bond issuers.

Accordingly, the listing a Mini-bond on the ExtraMOT PRO market has been confirmed as a crucial discontinuity moment for the company, which offers the occasion for implementing more sophisticated governance practices, gradually approaching the institutional investors' market, acquiring more sophisticated financial skills , improving the visibility on the market, even preparing for more sophisticated operations, such as private equity.

The limitations and recommendations for future developments of the research are the following. Firstly, in the modelling of the information gathered by the treated and the control sample, some information from the former sample has remained unused. This information regarded in particular the intentions of the company to implement a determined governance practice in the future or not, in the cases in which such governance choice had never been implemented. The decision to code the information from both samples in models with a binary choice response variable rather than with an ordered dependent variable has been taken in order to ensure coherence in the information modelling among both the treated sample and the control sample, as for the latter sample it would have been practically impossible to gather information about possible future intentions regarding governance practices implementation both from publicly available information and from Telemaco for all the 415 companies of the control sample. An interesting development for this research could be provided by sending an analogous survey to the companies of the control sample too, in order to gather more detailed information.

Secondly, for some of the companies comprised in the dataset which listed a Mini-bond on ExtraMOT PRO only one year after the issue was available to observe the effectiveness of the treatment. These companies have been therefore able to contribute to the results in a short term perspective only. Moreover, especially for the SMEs' models, the sample size has been relatively limited. Accordingly, further developing this research topic with a greater availability of data

would surely be of value.

Appendix A - ATECO 2007 Framework

Section	Section Title (ATECO 2007)	Title (NACE Rev. 2)	Divisions
A	Agricoltura, silvicoltura e pesca	Agriculture, forestry and fishing	01-03
B	Estrazione di minerali da cave e miniere	Mining and quarrying	05-09
C	Attività manifatturiere	Manufacturing	10-33
D	Fornitura di energia elettrica, gas, vapore e aria condizionata	Electricity, gas, steam and air conditioning supply	35
E	Fornitura di acqua; reti fognarie, attività di gestione dei rifiuti e risanamento	Water supply; sewerage, waste management and remediation activities	36-39
F	Costruzioni	Construction	41-43
G	Commercio all'ingrosso e al dettaglio; riparazione di autoveicoli e motocicli	Wholesale and retail trade; repair of motor vehicles and motorcycles	45-47
H	Trasporto e magazzinaggio	Transportation and storage	49-53
I	Attività dei servizi di alloggio e di ristorazione	Accommodation and food service activities	55-56
J	Servizi di informazione e comunicazione	Information and communication	58-63
K	Attività finanziarie e assicurative	Financial and insurance activities	64-66
L	Attività immobiliari	Real estate activities	68
M	Attività professionali, scientifiche e tecniche	Professional, scientific and technical activities	69-75
N	Noleggio, agenzie di viaggio, servizi di supporto alle imprese	Administrative and support service activities	77-82
O	Amministrazione pubblica e difesa; assicurazione sociale obbligatoria	Public administration and defence; compulsory social security	84
P	Istruzione	Education	85
Q	Sanità e assistenza sociale	Human health and social work activities	86-88
R	Attività artistiche, sportive, di intrattenimento e divertimento	Arts, entertainment and recreation	90-93
S	Altre attività di servizi	Other service activities	94-96
T	Attività di famiglie e convivenze come datori di lavoro per personale domestico; produzione di beni e servizi indifferenziati per uso proprio da parte di famiglie e convivenze	Activities of households as employers; undifferentiated goods and services - producing activities of households for own use	97-98
U	Organizzazione ed organismi extraterritoriali	Activities extraterritorial organizations and bodies	99

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